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Global Journal of Business, Economics & Social Development

Journal homepage: ejournals.scieglobal-academia.com/gjbesd

Review Article

A Review of Supply Chain and Logistics Efficiency in the Fast-Food Industry Literature

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Citations: Nasution, K.A., Hambali, M., Prayoga, F., & Putri, M. (2025). A Review of Supply Chain and Logistics Efficiency in the Fast-Food Industry Literature: Implications for Strategic Fit and Network Optimization. *Global Journal of Business, Economics & Social Development*, 3(1), 19-27.

Academic Editor: Professor Dr. Abdul Talib Bon.

Received: 15 March 2025 Revised: 10 April 2025 Accepted: 11 May 2025 Published: 31 May 2025

Abstract: The rapid expansion of Indonesia's fast-food industry has intensified the need for efficient and strategically aligned supply chain systems, particularly for firms operating across geographically dispersed regions. This study examines FastFood's supply chain and logistics architecture to evaluate its scalability, efficiency, and strategic fit amid nationwide expansion. A descriptive–analytical case study approach was employed, integrating the Supply Chain Management framework of facilities, inventory, transportation, information, sourcing, and pricing. Data were derived from secondary sources, including corporate reports, industry publications, and relevant academic literature, and were analyzed through supply chain driver assessment, comparative benchmarking against best practices, and strategic fit evaluation using the responsiveness efficiency spectrum. The findings indicate that FastFood's centralized kitchen model, integrated cold-chain logistics, and synchronized digital systems effectively ensure product consistency, operational control, and service responsiveness in core urban markets. However, geographic expansion increases transportation costs, lead-time variability, and network complexity, thereby challenging scalability and cost efficiency. The analysis suggests that partial decentralization through regional kitchens, enhanced digital monitoring such as IoT-based cold-chain systems, predictive demand forecasting, and sustainable logistics initiatives could strengthen supply chain resilience. The study concludes that while FastFood's current supply chain configuration supports competitive performance, adaptive structural and technological adjustments are necessary to maintain long-term strategic alignment between responsiveness and efficiency in an expanding market context.

Keywords: Supply Chain Management; Strategic Fit; Logistics Efficiency; Fast-Food Industry.

1. Introduction

The fast-food industry in Indonesia has experienced sustained growth over the past two decades, driven by rapid urbanization, rising disposable income, digital transformation, and shifting consumer lifestyles. Urban concentration has altered eating habits, with consumers increasingly demanding speed, convenience, standardized quality, and affordable pricing (Badan Pusat Statistik, 2023). The expansion of digital platforms, food delivery services, and cashless payment systems has further intensified competition, compelling firms to enhance operational efficiency and responsiveness. In such a dynamic environment, supply chain management (SCM) has emerged as a critical determinant of competitive advantage, particularly in quick-service restaurant industries where product freshness, cost control, and timely delivery are essential (Christopher, 2022). One of the pioneers of Japanese-style quick-service dining in Indonesia is HokBen, formerly known as Hoka Hoka Bento, established in 1985. With more than 370 outlets across major Indonesian cities, HokBen has developed a distinctive operational model characterized by centralized kitchen production, strict cold-chain logistics, standardized menu formulations, and integrated digital systems, including Point-of-Sale (POS) and Enterprise Resource Planning (ERP). The centralized kitchen system enables bulk preparation and standardized quality control, while cold-chain logistics ensure food safety and product consistency across geographically dispersed outlets. This vertically integrated system has enabled HokBen to maintain brand integrity and operational reliability while expanding nationwide.

Despite these strengths, rapid geographic expansion into emerging regions such as Sumatra and Kalimantan presents new strategic challenges. Indonesia's archipelagic geography, infrastructure disparities, and logistical constraints complicate distribution networks, increasing transportation lead times and costs. Maintaining freshness and quality standards across long distances requires robust temperature-controlled logistics and reliable supplier coordination. As Chopra and Meindl (2001) argue, supply chain design must align with a firm's competitive strategy to achieve strategic fit between responsiveness and efficiency. A centralized supply chain structure that performs effectively in densely populated urban centers may face scalability issues when extended to geographically distant markets with limited infrastructure support. From a theoretical perspective, SCM literature emphasizes the importance of balancing the five key supply chain drivers: facilities, inventory, transportation, information, and sourcing (Chopra & Meindl, 2001). Facilities decisions influence proximity to markets; inventory policies determine responsiveness and cost trade-offs; transportation choices affect speed and reliability; information integration enhances visibility; and sourcing strategies shape supplier relationships. In fast-food operations, integrating these drivers must ensure consistent service levels while minimizing operational costs (Heizer et al., 2023). Moreover, digital transformation technologies such as Internet of Things (IoT) monitoring, real-time tracking systems, and predictive analytics increasingly support data-driven supply chain optimization (Ivanov, Tsipoulanidis, & Schönberger, 2019).

However, existing studies on Indonesia's fast-food sector primarily focus on marketing strategies, consumer satisfaction, and service quality rather than on structural supply chain design. Research examining cold-chain integration and centralized production models in emerging economies remains limited. While global fast-food giants such as McDonald's and KFC have been widely studied in the supply chain literature, comparatively less scholarly attention has been devoted to domestic brands like HokBen, particularly regarding how their network configurations adapt to archipelagic distribution challenges. Furthermore, limited empirical research has explored how centralized kitchen systems affect logistics efficiency, cost structures, and scalability during regional expansion within developing countries. Another gap lies in the application of strategic fit theory to fast-food supply chains in Indonesia. Although theoretical frameworks emphasize alignment between competitive priorities and supply chain capabilities (Fisher, 1997; Chopra & Meindl, 2001), few studies empirically evaluate whether centralized kitchen models maintain optimal responsiveness-cost balance as firms expand beyond core metropolitan markets. Additionally, the role of digital integration, such as ERP synchronization, POS-based demand forecasting, and predictive replenishment systems, in improving logistics coordination across dispersed outlets remains underexplored in the Indonesian context.

Given these gaps, several critical problems emerge. First, the scalability of HokBen's centralized kitchen system may be constrained by increased transportation distance and higher cold-chain maintenance costs in outer regions. Second, logistics inefficiencies may arise from longer lead times, volatile fuel prices, and uneven infrastructure development. Third, limited decentralization may reduce responsiveness to localized demand variations, potentially affecting service levels and profitability. These issues highlight the need to reassess whether the current supply chain configuration remains strategically aligned with the company's nationwide growth objectives. Therefore, the central problem addressed in this research is how HokBen can redesign or optimize its supply chain network to maintain strategic fit while achieving logistics efficiency during rapid geographic expansion. Specifically, the study seeks to determine whether the existing centralized model provides optimal balance between cost efficiency and responsiveness, or whether a hybrid or decentralized configuration, such as regional kitchens or distribution hubs would enhance network performance.

In response to these challenges, this research has three primary objectives. First, it aims to evaluate HokBen's current supply chain structure using the Supply Chain Management framework developed by Chopra and Meindl (2001), focusing on the five key drivers: facilities, inventory, transportation, information, and sourcing. Second, it seeks to analyze the degree of strategic fit between HokBen's competitive strategy and its supply chain capabilities, particularly in the context of expansion into geographically distant regions. Third, it proposes evidence-based recommendations for network redesign and technological integration, including potential decentralization strategies, IoT-based cold-chain monitoring, enhanced ERP synchronization, and predictive demand forecasting systems. By addressing these objectives, this study contributes to both theoretical and practical domains. Theoretically, it extends SCM literature by applying strategic fit and supply chain driver analysis to a domestic fast-food chain operating within an archipelagic emerging economy. Practically, it provides actionable insights for managers seeking to optimize logistics performance, maintain product consistency, and ensure cost competitiveness amid rapid expansion. As competition intensifies and customer expectations continue to evolve, the ability to design resilient, scalable supply chains will remain a decisive factor in sustaining long-term growth in Indonesia's fast-food industry.

2. Materials and Methods

This study employs a descriptive–analytical research design, using a qualitative case study approach, to examine FastFood's supply chain configuration through the integration of Supply Chain Management (SCM) theory. The case study method is selected because it enables an in-depth investigation of operational systems within their real organizational context, particularly when evaluating structural efficiency, logistics performance, and strategic alignment. Contemporary supply chain research emphasizes the importance of case-based analysis in understanding how service-oriented firms integrate digital systems, logistics networks, and strategic positioning to enhance overall performance (Lerman et al., 2024).

The analytical framework is grounded in the SCM performance driver model developed by Chopra and Meindl (2020), which identifies six key drivers of supply chain performance: facilities, inventory, transportation, information, sourcing, and pricing. Each of these drivers is systematically examined within FastFood's operational context. Facilities analysis focuses on the centralized kitchen model, production capacity, and distribution network coverage to assess scalability and geographic reach. Inventory analysis evaluates the implementation of Just-In-Time practices, replenishment cycles, safety stock management, and perishability control. Transportation analysis assesses cold-chain logistics efficiency, route reliability, lead-time performance, and associated cost implications, particularly in expansion regions. Information systems analysis reviews the integration of Point-of-Sale data with Enterprise Resource Planning systems to evaluate demand visibility and forecasting capability. Sourcing analysis examines supplier coordination, local procurement strategies, and quality assurance mechanisms, while pricing analysis considers how supply chain cost structures influence menu pricing and competitiveness.

Data for this study are collected from multiple secondary sources to ensure analytical triangulation and reliability. These sources include project documentation, corporate publications, media reports, industry analyses, and peer-reviewed SCM literature published between 2021 and 2024. The use of recent academic research strengthens theoretical consistency and ensures contemporary relevance. All collected data are categorized according to the six SCM performance drivers to facilitate structured evaluation. To identify performance gaps and improvement opportunities, the study conducts a comparative evaluation of FastFood's supply chain practices against established best practices, including Just-In-Time systems, regionalized kitchen models, IoT-enabled cold-chain monitoring, and green logistics initiatives. Finally, strategic fit analysis is applied using the supply chain responsiveness spectrum to assess the alignment between demand characteristics and operational capabilities. Demand uncertainty, service level expectations, and geographic dispersion are compared with responsiveness indicators such as lead time, flexibility, and cost efficiency. Through this integrated analytical approach, the study provides a comprehensive assessment of supply chain performance, scalability, and strategic alignment within the fast-food sector.

3. Results

3.1. Supply Chain Mapping of FastFood

The supply chain mapping analysis reveals that FastFood operates through a vertically coordinated and centrally controlled network designed to ensure product standardization, food safety, and operational consistency across outlets. The upstream segment comprises local certified suppliers that provide core raw materials, such as rice, poultry, meat, and vegetables, as well as packaging materials. These suppliers are selected based on compliance with halal certification requirements, adherence to quality assurance standards, and delivery reliability. In addition to domestic sourcing, specialty Japanese ingredients such as sauces and seasonings are partially imported to preserve brand authenticity and flavor differentiation. This dual-sourcing structure supports both localization and product differentiation. At the core of the network is a centralized kitchen facility that operates under Hazard Analysis and Critical Control Point HACCP and ISO-based food safety standards. The central kitchen performs bulk processing, portioning, marination, semi-cooking, and packaging before dispatch. This centralized processing model allows standardized quality control and economies of scale in procurement and production. Centralized production is commonly adopted in food service chains to reduce variability and maintain consistent product quality across geographically dispersed outlets (Tukamuhabwa, 2023).

Downstream distribution relies on a company-operated cold-chain logistics system. Refrigerated trucks deliver semi-processed products daily from the central kitchen to restaurant outlets. This in-house cold logistics system ensures temperature control compliance and reduces dependency on third-party distributors. However, the cost structure of maintaining refrigerated fleets, fuel consumption, and route management becomes increasingly complex as geographic coverage expands. At the retail level, restaurant outlets conduct final-stage preparation, reheating, frying, plating, and direct customer service through dine-in, takeaway, and online delivery channels. Digital integration through POS systems enhances order visibility, sales tracking, and real-time transaction recording. The ERP system consolidates financial, procurement, and inventory data to provide centralized oversight of operations. The customer interface is further strengthened through online ordering platforms and delivery applications, improving demand transparency and service responsiveness. Thus, the supply chain mapping indicates a highly centralized and vertically integrated configuration optimized for quality control and brand consistency. However, its structural rigidity may constrain scalability when serving geographically distant markets.

3.2. SCM Driver Analysis

A systematic evaluation of the six SCM performance drivers—facilities, inventory, transportation, information, sourcing, and pricing—provides deeper insights into FastFood's operational effectiveness and limitations.

3.2.1. Facilities

The reliance on a single centralized kitchen facility ensures standardized production processes, strict quality control, and efficient capacity utilization. Centralization minimizes duplication of capital investments and reduces operational redundancy. However, from a network design perspective, a single production node increases transportation distances to remote regions and increases vulnerability to disruption. As expansion extends to Sumatra and Kalimantan, lead times increase and logistics complexity intensifies. Research suggests that centralized networks may become less efficient when distribution distances exceed optimal cost thresholds (Sabri et al., 2017, and AlHusain & Khorramshahgol, 2018).

3.2.2. Inventory

FastFood implements a Just-In-Time JIT inventory model characterized by frequent replenishment and minimal buffer stock at outlets. This approach reduces storage costs and product obsolescence while maintaining freshness. The JIT model supports high inventory turnover and aligns with the requirements of perishable food management. Nevertheless, the effectiveness of JIT depends heavily on the accuracy of demand forecasting and on reliable transportation schedules. Any disruption in distribution could immediately impact outlet operations due to limited safety stock. Empirical studies highlight that JIT systems in food supply chains require strong information integration and real-time coordination to mitigate stock-out risks (Zhang & Mohammad, 2024; Chen et al., 2022; and Khalid et al., 2024).

3.2.3. Transportation

The use of company-operated refrigerated trucks enhances responsiveness and reliability of temperature control. In-house logistics enable better coordination between production schedules and delivery routes. However, transportation costs constitute a significant portion of total supply chain expenses, particularly in expansion regions requiring inter-island shipments or extended road transport. Fuel price volatility and infrastructure disparities further increase cost unpredictability. As geographic dispersion increases, transportation efficiency becomes a critical constraint on network scalability.

3.2.4. Information

Integrated POS and ERP systems provide strong operational control. Sales data are recorded in real time, allowing centralized monitoring of inventory levels and revenue performance. Information integration supports demand forecasting, procurement planning, and production scheduling. The digitalization of transactions enhances data visibility and reduces manual reporting errors. Studies indicate that digital supply chain integration significantly improves performance through enhanced coordination and decision-making speed (Lerman et al., 2024). FastFood's information infrastructure represents one of its strongest competitive assets.

3.2.5. Sourcing

Local halal-certified suppliers strengthen traceability, regulatory compliance, and supply reliability. Local sourcing also reduces reliance on imports and shortens procurement lead times for core materials. However, supply variability in agricultural products may affect price stability and availability. Imported specialty ingredients introduce additional lead-time uncertainty and exposure to exchange rate fluctuations. Thus, while sourcing supports brand authenticity and compliance, it introduces variability that must be managed through careful coordination.

3.2.6. Pricing

FastFood adopts competitive menu pricing aligned with middle-income urban consumers. Economies of scale from centralized production help maintain cost efficiency. However, rising logistics costs associated with geographic expansion may pressure margins if not offset by operational optimization. Pricing sustainability is therefore directly linked to supply chain efficiency. SCM driver analysis indicates that FastFood's supply chain performs strongly in quality control and information integration but faces increasing cost pressures and scalability challenges as expansion continues.

3.3 Network Design Considerations

As FastFood expands into Sumatra and Kalimantan, logistical costs, travel distances, and lead times increase significantly. Geographic dispersion across Indonesia's archipelagic landscape intensifies complexity in cold-chain maintenance and route optimization. Transportation accounts for a growing share of operational costs, while service responsiveness risks decline due to extended distribution cycles. Network design evaluation suggests that partial decentralization may improve strategic alignment. Establishing regional kitchens or distribution hubs based on gravity location analysis can reduce transportation distance and improve service responsiveness. Gravity models optimize facility placement by balancing transportation costs, demand density, and service level requirements. Decentralized nodes would reduce dependency on a single central facility and enhance resilience against disruptions. However, decentralization requires capital investment and managerial coordination. The trade-off between facility duplication and transportation savings must be carefully analyzed. Research on network optimization indicates that hybrid supply chain models, combining centralized production for core items with regional processing for high-demand markets, can enhance both efficiency and responsiveness (Sabri et al., 2017, and AlHusain & Khorramshahgol, 2018). Thus, regional kitchen development may represent a strategic evolution rather than a complete structural overhaul.

3.4. Strategic Fit Evaluation

Strategic fit analysis assesses alignment between supply chain capabilities and demand characteristics. FastFood primarily targets urban consumers who demand freshness, consistent taste, and quick service. Such demand characteristics imply moderate to high implied demand uncertainty due to promotional cycles, daily demand fluctuations, and digital ordering variability. A responsive supply chain is therefore essential. The centralized kitchen and JIT inventory system support responsiveness in dense urban clusters near the production facility. Daily replenishment cycles and integrated information systems enhance service reliability. However, as expansion moves farther from the central kitchen, responsiveness declines due to longer lead times and higher transportation variability. The supply chain gradually shifts from a responsive, efficient balance toward a cost-intensive model.

Empirical research emphasizes that achieving strategic fit requires continuous alignment between competitive strategy and supply chain configuration (Tukamuhabwa, 2023). In the current configuration, FastFood demonstrates strong strategic alignment in core metropolitan markets but faces diminishing alignment in remote regions. Without structural adjustment, the efficiency–responsiveness balance may weaken as expansion accelerates. Thus, the results indicate that FastFood's supply chain is highly effective in ensuring product consistency, food safety, and operational control within centralized geographic clusters. However, network scalability challenges arise in distant regions due to transportation costs, longer lead times, and structural rigidity. Strategic redesign through selective decentralization, enhanced forecasting, and route optimization is therefore essential to sustain long-term competitiveness.

4. Discussion

The findings of this study highlight that FastFood's supply chain configuration demonstrates a high degree of internal integration across facilities, information systems, sourcing, and distribution operations. The centralized kitchen model, supported by integrated POS and ERP systems, reflects a coordinated supply chain structure that prioritizes product standardization, quality assurance, and operational control. Such integration is particularly critical in the fast-food industry, where consistency, food safety, and responsiveness directly influence customer satisfaction and brand reputation. Prior research confirms that supply chain integration significantly enhances firm performance by improving coordination, reducing uncertainty, and strengthening responsiveness capabilities (Tukamuhabwa, 2023). In this regard, FastFood's integrated model aligns well with established SCM theory and provides a strong strategic fit in densely populated urban markets.

However, the results also reveal structural vulnerabilities associated with scalability and geographic expansion. While centralized production offers economies of scale and uniform quality control, it simultaneously increases transportation distance, logistics complexity, and exposure to disruption risks as the firm expands into outer regions. The dependency on a single production hub intensifies cost pressures in remote markets such as Sumatra and Kalimantan, where infrastructure disparities and inter-island transportation constraints increase lead-time variability. This outcome reflects the trade-off between efficiency and responsiveness emphasized in supply chain strategy literature. Sabri et al. (2017) and AlHusain & Khorramshahgol (2018) argue that centralized supply chain systems may initially maximize efficiency but eventually encounter limitations in responsiveness when market dispersion exceeds optimal geographic thresholds. The present findings confirm this theoretical proposition in the context of Indonesia's archipelagic distribution environment.

From a strategic fit perspective, FastFood's supply chain appears well aligned with demand characteristics in metropolitan regions characterized by high order volumes, predictable consumption patterns, and strong digital integration. The Just-In-Time inventory system reduces holding costs and ensures freshness, consistent with the competitive priority of quality and speed. However, the effectiveness of JIT depends heavily on accurate demand forecasting and reliable transportation scheduling. As geographic dispersion increases, the margin for error narrows, and supply disruptions become more consequential due to limited safety stock. This suggests that strategic fit is dynamic rather than static; alignment achieved in one geographic cluster may not automatically translate to expansion regions.

The discussion also highlights the importance of network redesign considerations. Partial decentralization through regional kitchens or satellite processing hubs could enhance responsiveness and reduce transportation costs in outer regions. A hybrid supply chain structure in which core items are produced centrally while region-specific or high-demand items are processed locally may offer a balanced approach between efficiency and flexibility. Empirical research on food supply chains demonstrates that decentralized or semi-decentralized models improve service levels in geographically dispersed markets while mitigating distribution risk (Zhang & Mohammad, 2024; Chen et al., 2022; Khalid et al., 2024). Thus, adopting a gravity-based facility location analysis to determine optimal regional production sites could enhance long-term scalability.

Digital transformation emerges as a critical enabler of supply chain resilience and optimization. The current integration of POS and ERP systems provides strong transactional visibility; however, advanced digital tools, such as IoT-enabled cold-chain monitoring and AI-driven demand forecasting, can further enhance coordination and predictive accuracy. IoT sensors embedded in refrigerated trucks and storage units would allow real-time temperature tracking, reduce spoilage risk and ensure compliance with food safety standards. Meanwhile, AI-based demand analytics can improve forecasting precision by incorporating historical sales data, promotional patterns, and seasonal fluctuations. Research indicates that digital supply chain capabilities significantly enhance performance outcomes, particularly in developing economies where infrastructure variability increases operational uncertainty (Lerman et al., 2024). Therefore, technology adoption is not merely an operational enhancement but a strategic necessity.

Sustainability considerations also warrant attention. Green logistics initiatives, including route optimization to reduce fuel consumption, energy-efficient refrigeration systems, and reverse logistics for waste cooking oil recycling, deliver dual benefits: cost savings and environmental responsibility. As consumers become more environmentally conscious, integrating sustainability into supply chain strategy can strengthen brand positioning. Reverse logistics systems for waste cooking oil, for example, may generate additional revenue streams through biodiesel conversion partnerships while reducing environmental impact. Sustainable supply chain practices have been shown to improve operational efficiency and stakeholder trust simultaneously (Tukamuhabwa, 2023). Consequently, sustainability integration aligns with both cost-control and corporate responsibility objectives.

Another important implication concerns risk management. Heavy reliance on a single centralized production facility increases exposure to operational disruptions such as equipment failure, regulatory shutdowns, or transportation interruptions. Establishing regional backup facilities or contingency distribution hubs enhances supply chain resilience. In volatile environments, resilience becomes a key dimension of strategic fit, complementing efficiency and responsiveness. Geographic diversification of production capacity may therefore serve not only to optimize costs but also to mitigate risk. In relation to the research objectives, the discussion confirms that FastFood's current supply chain structure performs effectively in quality assurance and operational integration but faces growing challenges in logistics scalability and cost control as expansion progresses. The SCM driver analysis demonstrates strengths in facilities coordination and information integration, while identifying transportation and geographic dispersion as critical constraints. The strategic fit evaluation further reveals that alignment with demand characteristics weakens in distant markets due to extended lead times and higher logistics costs. These findings underscore the need for adaptive supply chain redesign rather than incremental adjustments.

Managerially, the study suggests three priority actions. First, conduct a comprehensive network optimization study using gravity modeling to evaluate the feasibility of establishing a regional kitchen. Second, invest in IoT-enabled monitoring and AI-driven forecasting to strengthen predictive accuracy and reduce JIT vulnerability. Third, integrate green logistics initiatives to improve sustainability performance while lowering operational costs. These actions collectively enhance responsiveness, efficiency, and resilience. FastFood's supply chain reflects strong foundational integration and strategic alignment in core markets but requires structural and technological evolution to sustain competitiveness during nationwide expansion. By combining selective decentralization, digital transformation, and sustainability integration, the firm can maintain strategic fit across diverse geographic contexts and secure long-term operational excellence.

5. Conclusions

This study concludes that FastFood's supply chain and logistics architecture has been instrumental in sustaining its competitive leadership within Indonesia's fast-food sector. The centralized kitchen model, integrated cold-chain logistics, and synchronized digital systems have collectively enabled product standardization, operational efficiency, and service consistency. These strengths reflect a well-structured alignment between facilities, inventory management, sourcing coordination, and information integration. In densely populated urban markets, the existing configuration demonstrates strong strategic fit by balancing responsiveness with cost control, thereby supporting reliable service delivery and customer satisfaction. However, the findings also indicate that continued geographic expansion introduces structural pressures that require proactive strategic adaptation. As distribution networks extend to more distant regions, transportation costs, lead-time variability, and infrastructure disparities increase operational complexity. The reliance on a single centralized production facility heightens vulnerability to disruptions and may gradually erode the efficiency gains achieved through economies of scale. Additionally, growing attention to environmental sustainability and regulatory compliance requires firms to reconsider traditional logistics models in favor of greener and more resilient practices.

To address these challenges, several strategic adjustments are recommended. First, establishing regional kitchens or satellite production hubs could significantly reduce transportation burdens, shorten delivery cycles, and enhance responsiveness in remote regions. A hybrid network configuration would allow centralized control over standardized processes while enabling localized agility. Second, implementing real-time IoT-based cold-chain monitoring would strengthen quality assurance, minimize spoilage risk, and enhance operational transparency. Third, integrating predictive analytics into demand forecasting and distribution planning would improve replenishment accuracy, support Just-In-Time reliability, and reduce the risk of stock-outs or overstock. Fourth, investment in reverse logistics systems and eco-friendly operational processes, such as waste cooking oil recycling and energy-efficient refrigeration, would enhance environmental alignment while potentially generating cost efficiencies and strengthening brand reputation.

Despite its contributions, this study has several limitations. The analysis is primarily qualitative and based on secondary data sources, which may limit empirical generalizability. Future research could incorporate quantitative cost modeling, simulation-based network optimization, or multi-case comparisons to provide more robust statistical validation. Additionally, the study focuses on a single fast-food firm operating in Indonesia, and the findings may not be directly transferable to other national contexts with different geographic or regulatory characteristics. Furthermore, while technological and sustainability initiatives are proposed, the research does not empirically measure implementation costs or return on investment. Future studies could examine financial feasibility, organizational readiness, and the barriers to technology adoption in greater detail.

From a theoretical perspective, this study reinforces the importance of dynamic strategic fit in supply chain management. It demonstrates that alignment between supply chain structure and demand characteristics must evolve as geographic expansion and market complexity increase. The findings contribute to SCM theory by highlighting how centralized production models, while efficient in concentrated markets, may require hybrid adaptation in archipelagic and infrastructure-variable environments. This extends existing supply chain design frameworks to contexts characterized by geographic dispersion and logistical uncertainty.

From a managerial and policy standpoint, the study emphasizes the need for proactive network planning and digital transformation to sustain long-term competitiveness. Managers should prioritize investment in data-driven forecasting, decentralized logistics nodes, and sustainable operations to maintain operational resilience. Policymakers can support industry development by improving transportation infrastructure, facilitating cold-chain innovation, and promoting green logistics standards that enhance national supply chain efficiency. FastFood's current supply chain architecture has effectively supported its market leadership; long-term growth will depend on its ability to adapt structurally and technologically. By embracing selective decentralization, digital innovation, and sustainability-oriented logistics practices, the firm can maintain a balance between responsiveness and efficiency, ensuring a resilient, competitive supply chain performance in an evolving market landscape.

Author Contributions: Conceptualization, K.A.N. and M.H.; methodology, K.A.N.; validation, M.H., F.P. and M.P.; formal analysis, K.A.N.; investigation, K.A.N. and M.H.; resources, K.A.N.; data curation, M.H., F.P. and M.P.; writing—original draft preparation, K.A.N. and M.H.; writing—review and editing, M.H., F.P. and M.P.; project administration, K.A.N.; funding acquisition, K.A.N. All authors have read and agreed to the published version of the manuscript.

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Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Not applicable.

Acknowledgments: The authors would like to thank Universitas Pakuan, Indonesia, for its support of this research and publication. We also thank the reviewers for their constructive comments and suggestions.

Conflicts of Interest: The authors declare no conflict of interest.

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