Evaluating Strategies for Cost Reduction in SCM Relating to Exports and Imports in Japan

Oshima Hiroyuki Rota, Junichiro Hosoda Liang & Koizumi Tadamori Huang

ISSN: 2617-3581
Evaluating Strategies for Cost Reduction in Supply Chain Management (SCM) Relating To Exports and Imports in Japan

1*Oshima Hiroyuki Rota, 2Junichiro Hosoda Liang & 3Koizumi Tadamori Huang
1,2,3Keio University
*Email of the Corresponding Author: oshimarota09@gmail.com


Abstract

Japan's export and import sectors have a significant impact on its overall economy, with exports accounting for around 17% of the country's GDP and imports accounting for around 14%. Strategies for cost reduction are diverse and can be implemented in various ways to help businesses reduce operating costs. Developing a cost reduction plan that outlines specific goals and strategies can help keep cost reduction efforts focused and measurable. SCM encompasses all activities that take place from raw material acquisition to the delivery of the finished product or service to the end customer. Research indicates that Japanese companies have implemented various strategies for cost reduction in supply chain management (SCM) relating to exports and imports. One of the key strategies is supplier management. Japanese companies have established long-term relationships with suppliers to ensure stable and reliable supply of goods and services. These relationships are based on mutual trust, cooperation, and collaboration. The study concluded that Japanese companies can implement several strategies to achieve cost reduction in their SCM processes related to exports and imports. These strategies include supplier management, streamlining transportation, lean manufacturing, outsourcing, supply chain automation, inventory optimization, collaborative planning, standardization, sustainable SCM, risk management, continuous improvement, cross-functional collaboration, multi-modal transportation, and data analytics. Risk management strategies can help companies mitigate risks in SCM processes and minimize costs associated with disruptions or delays. It is crucial for companies to assess their SCM processes and identify the strategies that are most suitable for their unique requirements. The study recommended that companies should consider implementing multi-modal transportation methods to optimize their supply chain operations. By using a combination of sea, air, and land transportation modes, companies can reduce transportation costs, improve delivery times, and enhance their supply chain flexibility.

Keywords: Strategies, Cost Reduction, SCM, Exports, Imports, Japan
1.0 Background of the Study

Exports and imports are critical components of Japan's economy, with the country being one of the largest exporters and importers in the world (Miao, Liu & Chen, 2021). Japan's export sector is heavily dependent on automobiles and electronics, with major Japanese companies such as Toyota, Honda, and Sony leading the way in global markets. Japan's exports are primarily destined for the United States, China, and other countries in Asia, while imports come from a variety of countries, including China, the United States, and Australia. Japan has a long history of being a trading nation, with a focus on exports since the post-World War II era. The country has developed strong supply chains, efficient logistics, and an excellent transportation infrastructure that has enabled it to maintain a competitive edge in global markets. Gokhale (2021) also noted that the Japanese government has also implemented various policies and incentives to support exporters, such as trade agreements, tax incentives, and subsidies for research and development.

According to Nakatani, Maruyama and Moriguchi (2020), Japan's import sector is equally significant, with the country importing a wide range of goods, including energy, raw materials, and food. The country's reliance on energy imports, particularly oil, has made it vulnerable to price fluctuations in the global market. In response, the Japanese government has implemented various measures to diversify energy sources and reduce energy consumption. Japan's export and import sectors have a significant impact on its overall economy, with exports accounting for around 17% of the country's GDP and imports accounting for around 14% (Ashfaq, Tang & Maqbool, 2019). The country's trade surplus has been a significant source of income for the country, with the surplus reaching record highs in the 1980s. However, in recent years, the trade surplus has declined due to increasing competition from other countries and a stronger yen. Despite the challenges, Japan remains a major player in the global trade arena. The country has continued to innovate and adapt its strategies to maintain its competitive edge, such as investing in new technologies, expanding into new markets, and improving supply chain efficiency. The Japanese government has also implemented policies to support small and medium-sized enterprises in the export sector, helping to promote growth and diversification in the industry (Li, Geng, Shinwari, Yangjie & Rjoub, 2021).

Supply chain management (SCM) is an important component of modern business operations (El Khatib, Al Hammadi, Al Hamar, Oraby & Abdulaziz, 2022). It includes the planning, coordination, and execution of activities from suppliers to customers, ensuring that products or services are delivered in a timely and cost-effective manner. SCM encompasses all activities that take place from raw material acquisition to the delivery of the finished product or service to the end customer. The main goal of SCM is to optimize the supply chain by reducing costs, improving efficiency, and maximizing customer satisfaction. To achieve this goal, companies need to have a clear understanding of their supply chain, identify areas that need improvement, and implement strategies to improve them. One of the essential aspects of SCM is inventory management. Companies need to manage their inventory levels effectively to avoid stock-outs or overstocking, which can lead to loss of revenue or increased storage costs. To achieve optimal inventory management, companies must use appropriate inventory management techniques and strategies.
management, companies can use various strategies such as just-in-time (JIT) inventory management, vendor-managed inventory (VMI), or consignment inventory (Kim & Lutego, 2022). Another critical aspect of SCM is transportation management (Orji, Kusi-Sarpong & Gupta, 2020). Companies need to optimize their transportation networks to ensure that goods are delivered to the end customer in a timely and cost-effective manner. This involves selecting the most efficient transportation modes, optimizing transportation routes, and tracking shipments to ensure timely delivery. Effective communication is also essential in SCM. Companies need to communicate effectively with suppliers, customers, and other stakeholders in the supply chain to ensure that everyone is on the same page. This involves establishing clear communication channels, sharing information in a timely manner, and resolving any issues that may arise quickly (Baah, Acquah & Ofori, 2022). Technology plays a critical role in SCM. Companies can use various technologies such as warehouse management systems (WMS), transportation management systems (TMS), and enterprise resource planning (ERP) systems to streamline their supply chain processes, improve visibility, and reduce costs. Risk management is also an essential aspect of SCM. Companies need to identify potential risks in their supply chain and develop strategies to mitigate them (Zimon & Madzík, 2020). This involves developing contingency plans, ensuring supply chain resilience, and monitoring potential risks continuously. Additionally, collaboration is essential in SCM. Companies need to collaborate with suppliers, customers, and other stakeholders to improve supply chain efficiency and reduce costs (Tseng, Ha, Lim, Wu & Iranmanesh, 2022). This involves establishing partnerships, sharing information, and developing common goals.

Strategies for cost reduction are diverse and can be implemented in various ways to help businesses reduce operating costs (Szinai, Sheppard, Abhyankar & Gopal, 2020). One effective strategy is to review and optimize business processes by identifying inefficiencies and streamlining or eliminating them. This includes adopting new technology to automate processes, reduce labor costs, and improve efficiency. Businesses can also negotiate with suppliers to get better deals on raw materials or other supplies, and reduce energy consumption by using energy-efficient lighting and equipment. Outsourcing non-core activities, implementing lean manufacturing, and just-in-time inventory management are also effective cost reduction strategies (Lyu, Lin, Guo & Huang, 2020). Another strategy is to offer employee incentives, such as bonuses or profit-sharing, to encourage them to work more efficiently and reduce costs. Creating a culture of cost-cutting within the organization can help identify opportunities for cost reduction and encourage employees to think creatively about reducing costs. According to Borowska, Augustynowicz, Bobiński, Waszkiewicz and Czersk (2020), utilizing outsourcing to take advantage of lower labor costs in other countries is also an effective cost reduction strategy.

1.1 Statement of the Problem

The international trade landscape in Japan is marked by its significant exports and imports, making the efficient management of supply chains crucial for the country's economic competitiveness. However, the intricate nature of global supply chains and the myriad of challenges associated with exports and imports have led to escalating costs, potentially impeding business growth and

https://doi.org/10.53819/81018102t5228

13
profitability. This research aims to address the problem of rising supply chain costs in Japan's international trade context and evaluate effective strategies for cost reduction in supply chain management (SCM). The study will delve into the specific cost drivers impacting exports and imports, examining issues such as transportation expenses, customs duties, tariffs, inventory carrying costs, and administrative fees. By thoroughly analyzing the existing supply chain practices and identifying areas of inefficiency, the research will seek to uncover potential opportunities for cost optimization while maintaining product quality and meeting delivery timelines. Furthermore, the investigation will explore the role of technology integration, supply chain collaboration, and risk mitigation measures in streamlining SCM processes to enhance cost-effectiveness. The findings of this study will contribute valuable insights and practical recommendations for businesses and policymakers, fostering a more resilient and competitive trade ecosystem in Japan while promoting sustainable economic growth.

2.0 Literature Review

Esmaeilian, Sarkis, Lewis and Behdad (2020) reported that to assess changes in a supply chain, an accurate cost analysis is required; this study demonstrates how a very basic framework may be utilized when evaluating changes in a supply chain. The framework is based on a Supply Chain Cost (SCC) model including measures of customer service, delivery precision, and leadtime. The methodology may analyze both proposed and previously implemented modifications in a supply chain. To demonstrate the framework, which is a 6-step analytical model, two separate cases from the corporation Ericsson are provided. The pre-existing supply chain is analyzed, characterized, and specified. The SCC and performance indicators are calculated and/or approximated. Enhancements are being created and specified. The same measurements are taken as previously. The measures taken before and after the supply chain modification are compared to determine whether the changes are beneficial. Cutting expenses in one part of the supply chain might be a mistake if the entire supply chain and SCC are not addressed. Considering both the SCC component and customer service measurements provides a more comprehensive view of the change. It is demonstrated that SCC may be used as a tool to find cost savings and assess if a change project will or has resulted in the cost savings that the project seeks. Rough standard cost measurements should be avoided as much as feasible in favor of actual expenses. The employed approach should encourage comparable assessments in other organizations with different supply networks.

Huang, Zhen, Wang and Zhang (2022) conducted research to determine the critical operational concerns connected to strategic success aspects that should be considered while implementing SCM plans in a business. A questionnaire was distributed to top and middle management at a large manufacturing firm specializing in consumer and building products to investigate the significance and extent to which the selected manufacturing firm implemented the strategies based on these identified operational issues. The most essential goals for implementing SCM systems appear to be lowering operational costs, improving inventory, lead times, and customer happiness, enhancing flexibility and cross functional communication, and remaining competitive. According
Naway and Rahmat (2019) performed research to examine the interaction between ICT, strategies, and SCM. A survey of 156 manufacturing SMEs in Aguascalientes was done to accomplish this. Data was examined using structural equations and EQ software, and linear regression models using SPSS software. The significance of this work is that there have been few studies regarding the manufacturing industry in the investigated region (Aguascalientes), particularly in features linked to factors that impact productivity and hence competitiveness. The study of the SCM and the techniques used by this industry explains the region's recent economic growth, improvements in infrastructure, and a significant rise in jobs; and, most importantly, it accounts for practically all exports. This research is therefore critical, particularly for SMEs, who, although being the most active subsector in the business, continue to experience the most difficult challenges in terms of organization, linkage with other sectors, and overall efficiency. The findings indicate that strategies and ICT do have an effect on SCM performance. The use of ICT helps the processing of information resources (materials) and the avoidance of delays, resulting not only in cost savings but also in an increase in customer compliance; and therefore it promotes the organization's overall competitiveness.

Luo, Jin, Shen, Wang, Liang, Li and Li (2020) conducted research to investigate the challenges Hong Kong processing firms have in successfully implementing Supply Chain Management (SCM). The study has identified certain relevant aspects that are performing the hurdles that are most commonly cited by the firms analyzed. Seventeen service and processing organizations were investigated for three years to assess their SCM processes using survey and interview techniques. This section outlines the research design and methodological concerns that underpin the study. The explanation comprises two types of research methodologies, a brief survey and follow-up interviews, which were determined as being appropriate to meet the study's goals, which are to assess the existing problem of SCM practices across Hong Kong SMEs. A research design is a framework or strategy for study that is used to guide data collection and analysis. The findings revealed that the obstacles vary based on the kind or group of business, such as whether it is a SME or a large corporation. The following elements describe the challenges to SCM practice: supplier collaboration, limited knowledge, management commitment, understanding of SCM, supported technology, and customer satisfaction. The findings are also compared to those of a comparable research on SCM conducted in another nation. Some recommendations are also made, which are thought to be a good strategy for companies to manage SCM in order to gain a sustainable competitive advantage and thus increase their market share. In terms of SCM adoption, there are some notable differences between Hong Kong organizations and those in other countries. These insights may be utilized by Hong Kong and other organizations to collaborate on or evaluate SCM plans that will lead to long-term competitive advantage and hence increase company success.
Agrawal, Mohanty, Agarwal, Dixit and Agrawal (2022) conducted study to explore the elements that contributed to the success of Bangkok firms in establishing and executing supply chain management strategies. A survey was recently done in Bangkok manufacturing industries to investigate the significance and extent to which Bangkok manufacturers implemented strategies based on these identified success criteria. The findings contribute to a better understanding of the success factors that result in the successful adoption of SCM methods to decrease supply chain costs and enhance customer service levels. Two-sector model with labor market frictions was used, one producing a homogeneous item and the other generating differentiated goods, to investigate the influence of offshore on intrafirm, intrasectoral, and intersectoral job reallocation, and the economy-wide unemployment rate. Reduced offshore costs have an influence on intrafirm and intrasectoral reallocation in the differentiated-good sector via a job-relocation effect, a productivity effect, and a competition effect. The elasticity of demand for differentiated goods are the primary factors influencing the impact of offshore on job reallocation at various margins as well as the economy-wide unemployment rate. Allowing differentiated-goods enterprises to export opens up a new avenue via which lower offshore costs effect jobs and unemployment. The consequences of lowering the cost of trading finished goods differ from those of lowering the cost of offshore."

According to Camanzi, Arba, Rota, Zanasi and Malorgio (2018), supply chain management (SCM) is one of the methods used by businesses to enhance their performances. The purpose of this study is to evaluate the links between supply chain management techniques and organizational performance in the Italian retail sector using structural equation modeling (SEM). This study conceptualizes and develops six supply chain practices: strategic supply partnership (SSP), customer relationship practice (CRP), lean retailing practice (LRP), information sharing (IS), information quality (IQ), and postponement practices (PP), and examines the relationship between these practices and SC profitability. Data for the research were gathered from 68 operations and supply chain leaders from Italian's largest retail stores. The findings show that SCM practices and their influence on SC profitability were explored, and that SCM practices have a favorable impact on SC profitability. The association between the second orders constructions SCMP and SCP was also determined to be statistically significant. Overall, the model is well-fitting.

Jabarzadeh, Khangah, Çemberci, Cerchione and Sanoubar (2022) performed study to investigate the coordinated supply chain processes as a competitive advantage for Australian SMEs producing fast moving consumer goods (FMCGs). The study was founded on the notion of competitive advantage, and it employed qualitative research methods and the constructivism research paradigm. The study's sample was made up of SMEs from Melbourne, Australia’s largest economic centre. The study's participants, who were the owners/managers of SMEs, were chosen through non-probability sampling. The interview focused on the enterprise's relationships with fast-moving consumer goods (FMCG) suppliers and third-party logistics (3PL) transportation services. To determine the study's outcome, the recorded interviews were transcribed, translated, coded, and analyzed using content analysis. SCM increased cost-effectiveness through savings on 3PL
transportation service optimization shared by the SMEs, and improved customer service through improved supplier-customer relationships that maintained a continuous flow of products/services.

Nureen, Xin, Irfan and Fahad (2023) conducted study to look at the influence of five factors on entrepreneurial supply chain management competency, as well as two other elements: SCM strategies and business performance. Five major elements influence entrepreneurial SCM expertise in Wellington, New Zealand. The multidimensional aspects influencing entrepreneurial SCM competency include innovativeness orientation, risk-taking traits, proactivity, relational capital, coordination capability, SCM methods, and performance. This research used regression analysis to examine data gathered from two manufacturing small and medium firms in Wellington, New Zealand. Innovativeness, risk-taking qualities, proactivity, relational capital, and coordination aptitude all have a substantial association with entrepreneurial SCM competency and SCM strategies among manufacturing SMEs. SCM strategies and performance have a substantial link, while the association between entrepreneurial SCM competence and company performance is minimal. The data demonstrates the influence and effect of SCM techniques on company performance.

3.0 Research Findings

Research has shown that Japanese companies have implemented various strategies for cost reduction in supply chain management (SCM) relating to exports and imports. One of the key strategies is supplier management. Japanese companies have established long-term relationships with suppliers to ensure stable and reliable supply of goods and services. These relationships are based on mutual trust, cooperation, and collaboration. Incentives are provided to suppliers for performance improvement, which includes meeting quality, delivery, and cost requirements. Streamlining transportation operations is another strategy that has been implemented by Japanese companies. This involves optimizing transportation routes, using multi-modal transportation, and implementing real-time tracking and monitoring systems. The aim is to reduce lead times, minimize inventory, and lower transportation costs. Lean manufacturing is also a popular strategy among Japanese companies. Lean principles such as just-in-time (JIT) manufacturing, continuous improvement, and total productive maintenance (TPM) are adopted to reduce waste, increase efficiency, and improve quality. This strategy has helped Japanese companies to achieve higher productivity and lower costs.

Outsourcing non-core activities such as warehousing, packaging, and transportation is another strategy for cost reduction in SCM. Japanese companies have identified non-core activities that can be outsourced and have selected reliable and cost-effective service providers. This has helped to reduce costs and improve efficiency. Supply chain automation is also a strategy that has been implemented by Japanese companies. Automation of SCM processes such as order processing, inventory management, and demand forecasting has helped to reduce costs, improve accuracy, and increase efficiency. Advanced SCM technologies such as robotics, artificial intelligence, and blockchain are being adopted by Japanese companies to automate their SCM processes. Inventory

https://doi.org/10.53819/81018102t5228
optimization is also an important strategy for cost reduction in SCM. Japanese companies have adopted inventory management systems, conducted regular inventory audits, and implemented inventory optimization strategies such as economic order quantity (EOQ) and safety stock. The aim is to avoid overstocking or understocking and to optimize inventory levels.

Collaborative planning with suppliers and customers is another strategy that has been adopted by Japanese companies. This involves establishing collaborative planning processes such as vendor-managed inventory (VMI) and collaborative forecasting and planning (CFP) to optimize SCM processes. Collaborative planning has helped to improve communication, reduce lead times, and lower costs. Standardization of SCM processes is also a strategy that has been implemented by Japanese companies. Standard operating procedures (SOPs) have been established for SCM processes, and employees are trained to ensure that they are consistently followed. Standardization helps to improve efficiency, reduce errors, and enhance quality. Sustainable SCM practices are also being adopted by Japanese companies to reduce costs and enhance their reputation as socially responsible organizations. Sustainable SCM practices such as green logistics, reverse logistics, and circular economy can help reduce waste, energy consumption, and carbon footprint.

Risk management is also an important strategy for cost reduction in SCM. Japanese companies have identified and mitigated risks in their SCM processes such as supply chain disruptions, quality issues, and regulatory compliance. Risk management strategies such as supply chain mapping, risk assessment, and contingency planning have been implemented. Continuous improvement is also essential for Japanese companies to remain competitive and achieve long-term success. A culture of continuous improvement has been adopted, and employees are trained and developed to enhance their skills and knowledge. Cross-functional collaboration between different departments such as logistics, procurement, and production is another strategy that has been adopted by Japanese companies. This involves encouraging cross-functional collaboration and establishing clear communication channels between departments. Cross-functional collaboration helps to improve communication, reduce costs, and enhance efficiency. Multi-modal transportation is another strategy for cost reduction in SCM that has been adopted by Japanese companies. This involves combining different modes of transportation such as rail, road, and sea to reduce transportation costs and improve efficiency.

4.0 Conclusion

Japanese companies have implemented several strategies to achieve cost reduction in their SCM processes related to exports and imports. These strategies include supplier management, streamlining transportation, lean manufacturing, outsourcing, supply chain automation, inventory optimization, collaborative planning, standardization, sustainable SCM, risk management, continuous improvement, cross-functional collaboration, multi-modal transportation, and data analytics. By implementing these strategies, Japanese companies can reduce costs associated with their SCM processes, increase efficiency, and improve their competitiveness in the global trade industry. For example, through supplier management programs, companies can negotiate better pricing and payment terms, while streamlining transportation processes can reduce fuel costs and
improve delivery times. In addition, implementing lean manufacturing techniques can reduce production costs, increase productivity, and improve the quality of products. Outsourcing certain tasks such as logistics or warehousing can also reduce infrastructure and equipment costs.

Moreover, implementing supply chain automation, inventory optimization, and collaborative planning can help companies reduce holding and storage costs, minimize waste, and avoid overproduction or stockouts. Sustainable SCM practices can help companies reduce costs associated with waste, pollution, and social unrest, while enhancing their reputation and competitiveness in the market. Risk management strategies can help companies mitigate risks in SCM processes and minimize costs associated with disruptions or delays. Continuous improvement, cross-functional collaboration, multi-modal transportation, and data analytics can also help companies optimize their SCM processes, reduce costs, and improve overall efficiency.

The strategies for cost reduction in SCM relating to exports and imports in Japan are crucial for companies to remain competitive in the global market. The implementation of effective cost reduction strategies not only helps to reduce costs but also improves efficiency, productivity, and quality, resulting in increased profitability and customer satisfaction.

Supplier management, streamlining transportation, lean manufacturing, outsourcing, supply chain automation, inventory optimization, collaborative planning, standardization, sustainable SCM, risk management, continuous improvement, cross-functional collaboration, multi-modal transportation, and data analytics are some of the key strategies that Japanese companies can use to achieve cost reduction in their SCM processes. Each of these strategies has its own set of advantages and disadvantages, and their effectiveness will vary depending on the specific needs and circumstances of each company. Therefore, it is crucial for companies to assess their SCM processes and identify the strategies that are most suitable for their unique requirements. Moreover, the implementation of these cost reduction strategies is not a one-time process, but rather an ongoing effort that requires continuous monitoring, evaluation, and improvement. Companies should be willing to invest in the necessary resources and technologies to enable effective implementation of these strategies and keep up with the changing market demands and customer expectations.

5.0 Recommendations

Companies should prioritize strengthening their relationships with their suppliers. Japanese companies should establish long-term relationships with suppliers to ensure stable and reliable supply of goods and services. This can be done through effective communication, regular performance evaluations, and the establishment of long-term partnerships. By working closely with their suppliers, companies can negotiate better prices, reduce lead times, and improve the quality of the products and services they receive. Also there should be identification and selection of suppliers based on their ability to meet quality, delivery, and cost requirements, and by providing them with incentives for performance improvement. Companies should consider implementing multi-modal transportation methods to optimize their supply chain operations. By using a combination of sea, air, and land transportation modes, companies can reduce
transportation costs, improve delivery times, and enhance their supply chain flexibility. Companies should streamline transportation operations to reduce lead times, minimize inventory, and lower transportation costs. This can be achieved by optimizing transportation routes, using multi-modal transportation, and implementing real-time tracking and monitoring systems.

Companies should adopt inventory optimization strategies to reduce excess inventory levels and minimize inventory holding costs. By optimizing inventory levels, companies can improve cash flow, reduce inventory obsolescence, and increase supply chain efficiency. They should optimize inventory levels to avoid overstocking or understocking. This can be achieved by implementing inventory management systems, conducting regular inventory audits, and adopting inventory optimization strategies such as economic order quantity (EOQ) and safety stock. Companies should encourage collaboration between various functions within the organization, such as production, logistics, and sales, to develop effective supply chain plans. Collaborative planning can help to minimize the risk of supply chain disruptions, reduce lead times, and improve product availability. They should adopt collaborative planning processes such as vendor-managed inventory (VMI) and collaborative forecasting and planning (CFP) to optimize their SCM processes. Companies should adopt standardization practices in their supply chain processes. By standardizing processes, companies can reduce variability, improve quality, and reduce costs. It can help improve efficiency, reduce errors, and enhance quality. Companies should establish standard operating procedures (SOPs) for their SCM processes and ensure that they are consistently followed.

REFERENCES


https://doi.org/10.53819/81018102t5228


https://doi.org/10.53819/81018102t5228


https://doi.org/10.53819/81018102t5228