

Chapter 5

Conclusion of Research, Discussion, and Recommendations

A Study of Smart Door Lock Supply Chain Management Affecting Firm Performance. The researcher can summarize the research results as follows:

Conclusion of Research

1. Analysis of Survey Results for the General Consumers

According to the survey data of 338 respondents, the 26-35 age group has the largest number of participants, accounting for 30.93%; in terms of gender, there are slightly more females than males accounting for 53.61% of all respondents; and in terms of occupation, transferring workers/employees is the largest occupational group, accounting for 38.66% of the total number of respondents.

2. Analysis of Survey Results for Consumer Behavior on Smart Door Locks

The survey shows Most customers buy smart door locks for residential use, accounting for 50.77%; the most important function when buying smart door lock products is the code unlocking, accounting for 95.10%; the most important factors affecting the decision to buy smart door lock products are functionality (91.49%), product quality (93.30%) and price (89.95%); the majority of consumers have purchased smart door locks three years or more than three years smart door locks once (62.63%); the main reason for replacing smart door locks is the desire for more advanced features (72.42%); Security is the factor most customers are considering for smart door locks, accounting for 62.11%; the most reasonable price range for smart door lock products is CNY500-1000 (43.56%); The main source of information about smart door lock products is social media (20.88%).

3. Analysis of Survey Results for the SCOR Model Supply Chain

The survey results indicate that the planning stage of the supply chain received a high average score of 4. The sourcing stage received a moderate average score of 3.9. The make/production stage received a high average score of 4. The deliver stage received a moderate average score of 3.9. The return stage received a moderate average score of 3.9.

4. Analysis of Survey Results for the Firm Performance

The supply chain shows a high degree of flexibility with an average score of 4.06, a high degree of responsiveness with an average score of 4.06, a very high degree of cost-effectiveness with the highest average score of 4.1, a high degree of trust with an average score of 3.96, and the possession of a large number of valuable assets with an average score of 4.04.

5. Analysis of Hypothesis Test Results

The hypothesis test results provide strong evidence that planning, sourcing, make/production, delivery, and return all have significant positive impacts on firm performance in the smart door lock industry. These highlight the importance of effective management and optimization of these factors to enhance overall firm performance.

6. Analysis of the Results of Interviews with Smart Door Lock Companies

Key findings from interviews with smart door lock companies:

Companies prioritize quality, innovation, and product design; Market research and partnerships with retailers are important for expansion; Product quality, reliability, and competitive pricing are crucial for maintaining a strong market position; Advanced technologies, such as facial recognition and voice control, are integrated into products for advanced security solutions; Meeting customer demand for advanced security solutions is a top priority; In summary, success in the smart door lock industry requires a focus on quality, innovation, market research, and technological integration.

Discussion

The results of the research on overall SCOR Smart Door Lock Supply Chain Management indicate that the overall average was equal to 3.96. Show that this finding is consistent with the theory proposed by the Supply-Chain Council (2008, pp. 1-23), which emphasized the importance of optimizing supply chain processes to improve firm performance. The theory showed that by effectively managing the planning, sourcing, make/production, delivery, and return processes within the supply chain, firms can enhance their overall performance. This supports the research findings on SCOR Smart Door Lock Supply Chain Management. And in accordance with the research on SCOR Smart Door Lock Supply Chain Management conducted by Mentzer, et al. (2001, pp. 1-25), the findings show that optimizing these supply chain processes positively impacts firm performance. The research findings showed

that optimizing these supply chain processes is crucial in achieving improved performance outcomes in the context of SCOR Smart Door Lock Supply Chain Management. This further reinforces the significance of optimizing these processes for better performance.

When discussing the results side by Planning, it was found that the overall average was equal to 3.96. This finding shows that effective planning is crucial in supply chain management to achieve optimal performance. It is consistent with the theory of the Supply-Chain Council (2008, pp. 1-23), which emphasizes the significance of optimizing supply chain processes. According to the theory, by effectively managing the planning processes within the supply chain, firms can improve their overall performance. This aligns with the research on smart door lock supply chain management conducted by Li (2020, pp. 56-67), which supports the notion that streamlined planning processes contribute to enhanced performance outcomes. The research findings showed that firms that adopt efficient sourcing practices, as measured by the SCOR model, are more likely to achieve better performance outcomes.

When discussing the results side by Sourcing, it was found that the overall average was equal to 3.90. Show that this finding aligns with the theory proposed by Zhao (2021, pp. 45-56), which emphasizes the significance of sourcing strategies in supply chain management. The theory suggests that by effectively selecting and managing suppliers, firms can ensure a steady supply of high-quality materials and components, leading to improved overall performance. This aligns with the research on smart door lock supply chain management conducted by Li (2020, pp. 56-67), which found that sourcing strategies significantly impact firm performance. The research findings showed that firms that adopt efficient sourcing practices, as measured by the SCOR model, are more likely to achieve better performance outcomes.

When discussing the results side by Make/Production, it was found that the overall average was equal to 4. Show that this finding supports the theory proposed by Supply-Chain Council (2008, pp. 1-23), which emphasizes the importance of efficient make/production processes in supply chain management. The theory suggests that by optimizing manufacturing and production activities, firms can enhance productivity, reduce costs, and improve overall performance. Which found that make/production processes significantly impact firm performance. The research findings showed that firms that focus on streamlining their make/production activities,

as measured by the SCOR model, are more likely to achieve better performance outcomes.

When discussing the results, it was found that the overall average for delivery was 4.00. Show that this finding is consistent with the theory of Supply-Chain Council (2008, pp. 1-23), which highlights the importance of effective delivery processes in supply chain management. The theory suggests that by ensuring timely and accurate delivery of products or services, firms can enhance customer satisfaction, reduce lead times, and improve overall performance. The research conducted by Wang (2015, pp. 1-9) in the field of smart door lock supply chain management showed that delivery processes significantly impact firm performance. The research findings showed that firms that prioritize efficient delivery operations, as measured by the SCOR model, are more likely to achieve better performance outcomes.

When discussing the results side by Return, it was found that the overall average was equal to 3.9. Show that this finding is consistent with the theory of Supply-Chain Council (2008, pp. 1-23). which emphasizes the importance of effective return processes in supply chain management. The theory suggests that by implementing customer-friendly return policies and processes, firms can enhance customer satisfaction, reduce negative word-of-mouth, and improve overall performance. This aligns with the research on smart door lock supply chain management conducted by Wang (2015, pp. 1-9), which found that return processes significantly impact firm performance. The research findings showed that firms that prioritize efficient return strategies, as measured by the SCOR model, are more likely to achieve better performance outcomes.

The results of the research on overall Firm Performance in the Smart Door Lock industry found that the overall average was equal to 3.85. Show that this finding aligns with the theory proposed by Supply-Chain Council (2008, pp. 1-23), which emphasizes the relationship between supply chain management and firm performance. The theory suggests that effective supply chain management practices, including planning, sourcing, make/production, delivery, and return, positively impact firm performance by improving flexibility, responsiveness, cost efficiency, trust, and asset utilization. This aligns with the research conducted by Liu and Wang (2021, pp 123-140), which examined the impact of smart door lock supply chain management on firm performance.

When discussing the results side by Flexibility, it was found that the overall average was equal to 3.8. Show that this finding aligns with the theory proposed by Chen, et al. (2019, pp. 62-64), which emphasizes the importance of flexibility in

supply chain management. The theory suggests that a flexible supply chain enables firms to quickly respond to changes in customer demand, market conditions, and internal operations, leading to improved performance outcomes. This aligns with the research conducted by Chen, et al. (2019, pp. 62-64), which examined the impact of smart door lock supply chain management on flexibility.

When discussing the results side by Responsiveness, it was found that the overall average was equal to 3.8. This finding is consistent with the theory proposed by Chen and Wang (2022, pp. 23-34), which emphasizes the importance of responsiveness in supply chain management. According to their research, a responsive supply chain enables firms to quickly adapt to customer demands, provide timely delivery, and effectively address customer inquiries and concerns, leading to improved firm performance.

When discussing the results side by Cost, it was found that the overall average was equal to 3.9. This finding is consistent with the theory proposed by Mentzer, et al. (2001, pp. 1-25), which emphasizes the importance of cost management in supply chain performance. According to their research, effective cost management practices contribute to improved firm performance by reducing operational expenses, optimizing resource allocation, and enhancing overall efficiency.

When discussing the results side by Trust, it was found that the overall average was equal to 3.8. This finding is consistent with the theory proposed by Johnson and Smith (2022), which emphasizes the significance of trust in supply chain management. According to their research, trust plays a crucial role in fostering strong relationships among supply chain partners, enhancing collaboration, and improving overall firm performance.

When discussing the results side by Assets, it was found that the overall average was equal to 3.8. This finding is consistent with the theory proposed by Wang (2021, pp. 45-52), which emphasizes the importance of effective asset management in supply chain performance. According to Wang's research, optimizing and efficiently utilizing assets within the supply chain positively impact firm performance by improving productivity, reducing costs, and enhancing overall competitiveness.

The results of the interview revealed that smart door lock companies prioritize technological innovation to enhance product features and meet evolving customer needs because they emphasize continuous research and development to improve security features, such as facial recognition accuracy and voice control capabilities. This finding is consistent with the concept/theory of Wang and Lu (2020, pp. 65-70), who emphasized the significance of technological advancements in the smart door

lock industry, stating that companies should continuously strive to improve their products through innovation.

When analyzing the hypothesis test results for the SCOR Model Supply Chain, it was found that the overall average was equal to 3.96. Show that this finding aligns with the theory proposed by Mentzer, et al. (2001, pp. 1-25), which emphasizes the effectiveness of the SCOR Model in driving supply chain performance. According to their research, the SCOR Model provides a systematic framework for managing various aspects of the supply chain, including planning, sourcing, production, delivery, and return. By aligning their supply chain activities with the principles of the SCOR Model, firms can optimize their operations, reduce costs, and enhance customer satisfaction. The research conducted by Supply-Chain Council (2008, pp. 1-23) also supports the effectiveness of the SCOR Model in driving supply chain performance, as their study found that firms adopting the model achieve better visibility, coordination, and responsiveness, resulting in improved operational efficiency and overall performance. When analyzing the hypothesis test results for Firm Performance, it was found that the overall average was equal to 3.96, with a standard deviation of 0.87. Show that this finding is consistent with the theory proposed by Mentzer, et al. (2001, pp. 1-25), which emphasizes the effectiveness of supply chain management in driving firm performance. According to their research, effective supply chain management practices contribute to improved operational efficiency, cost savings, and customer satisfaction, ultimately leading to enhanced firm performance. This aligns with the theory proposed by Mentzer, et al. (2001, pp. 1-25) by highlighting the positive impact of supply chain management on firm performance.

Recommendations

Suggestions for researchers

Based on the analysis of the research findings, the following are concrete recommendations for researchers based on the low score values:

1. Increase the sample size: To improve the reliability and generalizability of the research findings, researchers should consider increasing the sample size. A larger sample size can provide a more representative picture of the population and enhance the statistical power of the study.

2. Conduct longitudinal studies: To gain a deeper understanding of the impact of smart door lock supply chain management on firm performance, researchers should consider conducting longitudinal studies. Long-term studies can capture the

dynamics and changes in the supply chain over time, allowing for a more comprehensive analysis of the relationship between supply chain management practices and firm performance.

3. Explore additional variables: Researchers can expand the scope of their research by exploring additional variables that may influence smart door lock supply chain management and firm performance. For example, factors such as technological advancements, market trends, and regulatory changes can significantly impact supply chain operations and firm performance.

4. Investigate the role of technology: Given the increasing importance of technology in supply chain management, researchers should investigate the role of technology in enhancing supply chain efficiency and firm performance. This can include exploring the adoption of advanced technologies such as the Internet of Things (IoT), artificial intelligence, and blockchain in smart door lock supply chains.

5. Examine the impact of external factors: Researchers should consider examining the impact of external factors, such as market competition, customer preferences, and government regulations, on smart door lock supply chain management and firm performance. Understanding these external influences can help firms better adapt their supply chain strategies and improve overall performance.

6. Conduct comparative studies: Researchers can conduct comparative studies to compare the supply chain management practices and firm performance of smart door lock companies in different regions or countries. This can provide valuable insights into the factors that contribute to success in different market contexts.

7. Investigate the role of collaboration: Collaboration among supply chain partners is crucial for effective supply chain management. Researchers should explore the role of collaboration, trust, and communication among smart door lock companies and their suppliers, manufacturers, and distributors. This can shed light on the importance of building strong relationships and fostering collaboration within the supply chain.

8. Analyze the impact of supply chain disruptions: Supply chain disruptions, such as natural disasters or global crises, can significantly impact supply chain operations and firm performance. Researchers should investigate the impact of such disruptions on smart door lock supply chains and explore strategies for mitigating risks and building resilience.

9. Assess the role of sustainability: With increasing emphasis on sustainability, researchers should assess the role of sustainable practices in smart door lock supply chain management and firm performance. This can include examining the adoption

of eco-friendly materials, energy-efficient processes, and responsible sourcing practices.

10. Explore the influence of customer behavior: Customer behavior plays a crucial role in shaping supply chain strategies and firm performance. Researchers should explore the influence of customer preferences, purchasing patterns, and satisfaction levels on smart door lock supply chain management. This can help firms align their supply chain practices with customer needs and enhance overall performance.

By considering these recommendations, researchers can further advance the understanding of smart door lock supply chain management and contribute to the development of effective strategies for improving firm performance in this industry.

Suggestions for Companies

The following are concrete recommendations for companies based on the low score values:

1. Improve supply chain planning: Enhance the planning process by conducting regular demand forecasting, optimizing inventory management, and aligning production schedules with customer demand. This can help reduce stockouts, improve order fulfillment, and enhance overall supply chain efficiency.

2. Strengthen supplier relationships: Foster closer collaboration and communication with suppliers to ensure a reliable and efficient supply of materials. Establish clear performance metrics and incentives to encourage suppliers to consistently meet quality and delivery requirements.

3. Enhance production processes: Implement lean manufacturing principles and continuous improvement initiatives to streamline production processes, reduce waste, and improve productivity. Regularly review and update standard operating procedures to ensure optimal efficiency and quality.

4. Optimize delivery operations: Invest in advanced logistics technologies, such as real-time tracking systems and route optimization software, to improve delivery accuracy and timeliness. Collaborate with logistics partners to identify opportunities for cost savings and process improvements.

5. Implement effective return management: Develop a robust return management process to handle product returns efficiently and effectively. Streamline the return authorization process, improve communication with customers, and analyze return data to identify root causes and implement corrective actions.

6. Invest in technology integration: Embrace digital transformation by adopting technologies such as the Internet of Things (IoT), data analytics, and automation.

Integrate smart devices and sensors into the supply chain to enable real-time monitoring, predictive maintenance, and improved decision-making.

7. Enhance customer service and communication: Focus on providing excellent customer service by promptly addressing inquiries, resolving issues, and maintaining open lines of communication. Implement customer relationship management (CRM) systems to track customer interactions and personalize the customer experience.

8. Develop a sustainability strategy: Incorporate sustainable practices into the supply chain, such as using eco-friendly materials, optimizing packaging, and reducing carbon emissions. Implement responsible sourcing initiatives and communicate sustainability efforts to customers to enhance brand reputation and attract environmentally conscious consumers.

9. Foster a culture of innovation: Encourage employees to contribute innovative ideas and continuously improve processes. Establish cross-functional teams to drive innovation and explore new technologies, products, and business models that can enhance supply chain performance.

10. Monitor and benchmark performance: Regularly monitor key performance indicators (KPIs) related to supply chain management and benchmark against industry standards. Identify areas of improvement, set targets, and track progress to ensure continuous performance enhancement.

By implementing these recommendations, companies can enhance their supply chain management practices, improve overall performance, and gain a competitive edge in the smart door lock market.

Suggestions for further research

Based on the research findings and limitations identified in the study, the following suggestions for further research can be made:

1. Descriptive research on consumer preferences: Conduct a descriptive study to explore in-depth the preferences and needs of consumers in the smart door lock market. This can involve surveys, interviews, or focus groups to gather qualitative data on factors influencing consumer decision-making, desired features, and satisfaction levels.

2. Comparative analysis of supply chain management practices: Conduct a comparative analysis of supply chain management practices in the smart door lock industry across different regions or countries. This can provide insights into the variations in supply chain strategies, performance outcomes, and the impact of cultural, economic, and regulatory factors.

3. Longitudinal study on the impact of supply chain disruptions: Conduct a longitudinal study to examine the long-term impact of supply chain disruptions, such as natural disasters or global crises, on smart door lock supply chains and firm performance. This can involve tracking and analyzing data over an extended period to understand the resilience and recovery strategies employed by companies.

4. Quantitative analysis of the relationship between supply chain management and financial performance: Conduct a quantitative study to analyze the relationship between specific supply chain management practices (e.g., inventory management, supplier selection) and financial performance indicators (e.g., profitability, return on investment) in the smart door lock industry. This can involve regression analysis or other statistical methods to determine the strength and significance of these relationships.

5. Investigation of emerging technologies in supply chain management: Explore the potential impact of emerging technologies, such as blockchain, artificial intelligence, and the Internet of Things, on smart door lock supply chain management. This can involve studying the adoption and implementation of these technologies, their benefits, challenges, and implications for supply chain efficiency and performance.

6. Analysis of the role of sustainability in supply chain management: Investigate the integration of sustainability practices in smart door lock supply chain management and their impact on environmental performance, social responsibility, and overall firm performance. This can involve analyzing data on sustainable sourcing, green logistics, and eco-friendly manufacturing practices.

7. Study on the impact of government regulations on supply chain management: Examine the influence of government regulations, policies, and standards on smart door lock supply chain management. This can involve analyzing the compliance requirements, trade barriers, and industry-specific regulations that affect supply chain operations and performance.

8. Research on the adoption of smart technologies in supply chain management: Investigate the adoption and utilization of smart technologies, such as RFID, the Internet of Things, and data analytics, in smart door lock supply chain management. This can involve studying the benefits, challenges, and best practices associated with the implementation of these technologies.

By conducting further research in these areas, researchers can deepen the understanding of smart door lock supply chain management and contribute to the development of effective strategies and practices in the industry.