

CHAPTER - V

SUMMARY OF RESULTS, DISCUSSION AND CONCLUSION

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5.1 INTRODUCTION

This chapter provides reintroduction to the key research constructs identified through literature to understand the context of this research and relate the findings. The finding of the analysis and its theoretical implications and managerial implications are presented in the following section. Further, this chapter provides scope for future research in this area. Finally, this chapter concludes with conclusion statement and limitations of this research.

The rising uncertainty, protectionism, economic instability, increasing costs, increasing competitiveness, and dynamic markets are the factors motivating us to examine the challenges of northeast Indian sports goods retail supply chain environment. The size of the Northeast Indian market, the growth of potential customers, and geographical complexity are other obvious challenges for the sports goods retail supply chain. To manage all these challenges, a sports goods retailer needs to be responsive and efficient in their supply chain. Proper retail supply chain performance gives it the structural ability to meet these challenges. The literature indicates that retail supply chain challenges, components, and concepts were not empirically investigated adequately concerning to SCP and firm performance of northeast sports Industry.

The literature shows that many different components were identified as part of retail supply chain challenges and supply chain performance research. However, many important common factors linking inter-firm activities were not empirically investigated nor identified. The literature indicates that empirical

research on sports industry, retail supply chain challenges, supply chain performance, and firm performance components is not adequately available. Substantial evidence is required to understand its importance, design the sports goods retail supply chain, and make decisions. Many of the research articles tested the impact of retail supply chain challenges on supply chain performance and firm performance. However, it is not sure that all the firm performance indicators are equally affected by retail supply chain challenges. Therefore, it requires empirically investigating different dimensions of retail supply chain challenges, supply chain performance, and firm performance.

5.2 SUMMARY OF RESEARCH RESULTS

This section provides summary of research results related to research questions and research objectives discussed in chapter 1.

The first objective if this research is “To explore the demographic profile of the Northeast sports goods retailer’s” The exploration of the demographic profile of sports goods retailers in Northeast India revealed several key findings. These findings provide a comprehensive overview of the demographic characteristics of sports goods retailers in Northeast India, highlighting the diversity and evolving nature of the industry.

The first research question (RQ) is “What are the supply chain challenges face by sports goods retailers in managing their supply chains effectively?” Systematic literature review identified five retail supply chain challenges facing by sports goods retailers in their supply chain. All the five variables require cross-functional and inter-firm relationships. Relevant literature was collected and analyzed systematically to identify the constructs

for this research. The Identified constructs are very important factor to supply chain of sports goods retailers, but not studied adequately. The constructs identified as to retail supply chain challenges are demand management challenges, distribution management challenges, environmental uncertainty challenges, information management challenges, and sourcing challenges.

The second objective of the study is “To identify the contribution factors of retail supply chain challenges in north east India sports goods retailers”. Using the SPSS 26.0 The details of the measured scale using specific indicators for each dimension are measurement to identified the contribution factors of sports good’s retail supply chain challenges. The result show that the construct variables are significantly contributing factors to retail supply chain challenges. Path diagram was developed and were tested whether the construct variables are a contributing factor to retail supply challenges using PLS-SEM method (figure 4.21). The result shows that the retail supply chain challenges variables are significantly contributing factor. Significance of the path coefficient tested with the t-value obtained through bootstrapping analysis. Blindfold test indicates that all these exogenous variables are having adequate capacity for predictability (figure 4.23). More details are provided in the discussion section 5.3.

Second RQ “Does the study challenges are contributing factors to sports good retail supply chain challenges?” All the five supply chain challenges are linked with the supply chain performance and firm performance indicator in the path diagram. The results of the path diagram indicate significant relationships between the retail supply chain challenges, supply chain performance and firm performance indicators. Firm performance

indicators are delivery performance, financial performance, inventory performance, and customer service and satisfaction. It is confirmed that the study challenges factors are directly contributing to sports goods retail supply chain challenges. Detailed discussion provided in the following section.

Third RQ is “Do the retail supply chain challenges have impact on their firms’ performance? And the third objective is to investigate the impact of retail supply chain challenges on performance. The path diagram has direct link from retail supply chain challenges to SCP and four firm performance indicators. The path coefficient is significant. The result shows that the retail supply chain challenges have positive impact on SCP and firm performance. More details are provided in the following section.

Fourth RQ is “What is the role of retail supply chain performance as mediator in the relationships between retail supply chain challenges and the firm performance? and the fourth objective is to examine the mediation role of SCP between retail supply chain challenges, and firm performance. The result shows the retail supply chain challenges have significant relationships with all the firm performance indicator. Variance accounted for (VAF) value was calculated to find out the mediating effect of SCP in the relationships between retail supply chain challenges and firms’ performance indicator. The VAF value indicates that all the relationships were partially mediated by SCP. It confirms the theoretical assumption that will enhance the relationship between these variables. The following section 5.3 provides more information.

Fifth RQ is “What does retail supply chain management need to develop and leverage in order to achieve excellence in the sports industries?” And the fifth objective is “to establish a theoretical structural model

incorporating the retail supply chain challenges, supply chain performance, and firm performance”. Conceptual model developed through the literature review and the model was tested using SmartPLS-SEM. Data collected from northeast Indian sports goods retailers. Data analysis confirmed the fitness of the model. To confirm the model convergent and discriminant validity was checked. Bootstrapping analysis was performed to check the significance. Blindfolding test conducted to check the predictability and effect size. The results indicate the model is fit. Section 5.3 provides more details on findings related to individual constructs.

5.3 DISCUSSION

This section provides information on the findings related to the individual constructs in the path diagram. Also discusses the results related to the particular hypothesis. Results of this research contribute to understand the existing knowledge base in the supply chain performance of sports goods retailers by providing a model that describes the retail supply chain challenges and the impact on the performance. Further, the findings provide empirical evidence that the challenges such as DeMC, DiMC, EUC, IMC, and SC are significantly associated with supply chain performance and further contributing to firms’ performance indicators. Retail supply chain challenges have a strong impact on the firm’s performance indicator. The impact of retail supply chain challenges on firms’ performance indicators is partially mediated by SCP. So, this study emphasizes that retail supply chain performance is an important factor to drives the sports goods retail supply chain towards sustainability.

5.3.1 Demand Management Challenges Vs Supply Chain Performance Vs Firm Performance

The first construct used in this study to measure the retail supply chain challenge of sports goods is demand management challenges (DeMC). The results finding from this study's hypotheses are:

- Hypothesis 1 indicates that DeMC has a medium ($f^2 = 0.218$) effect size and has a significant impact on SCP.
- Hypothesis 1a shows that DeMC has a significant impact on delivery performance; it indicates that DeMC has a medium effect size ($f^2 = 0.182$) on DP.
- Hypothesis 1b reveals that DeMC has a significant impact on financial performance and has a medium ($f^2 = 0.232$) effect size on FP.
- Hypothesis 1c shows that DeMC has a significant impact on inventory performance, with a medium effect size ($f^2 = 0.306$) on INP.
- Hypothesis 1d finds that DeMC has a significant impact on INP; it indicates that DeMC has a medium effect ($f^2 = 0.176$) on customer service and satisfaction.

Demand management challenges are crucial to transaction value creation and the overall performance of the sports goods retail supply chain. Predicting demand for sports goods is inherently challenging due to the fluctuating nature of consumer preferences, seasonal trends, and the influence of sports events. Effective demand management is crucial as it directly impacts supply chain performance. Efficient demand management processes enhance that the right products are available at the right time and

place, reducing lead times and operational costs, thereby enhancing the ability to meet customer demand promptly and reliably.

A well-managed demand system allows retailers to quickly adapt to changes in market demand, ensuring that inventory levels are aligned with actual customer needs. Effective demand management necessitates close collaboration with suppliers, distributors, and other supply chain partners. The performance of a firm in the sports goods retail sector is significantly affected by how well it manages demand and its subsequent effect on SCP and the firm's performance indicators. Meeting customer demand accurately and consistently boosts customer satisfaction and loyalty, which are vital for sustaining competitive advantage and achieving long-term success.

This study confirmed that demand management plays a significant role in improving SCP, which in turn growth the firm's performance. The result of mediation analysis indicates that supply chain performance partially mediates with the relationship between the DeMC and firms' performance indicators: delivery performance (VAF = 0.439), financial performance (VAF = 0.431), inventory performance (VAF = 0.422), and customer service and satisfaction (VAF = 0.426).

5.3.2 Distribution Management Challenges Vs Supply Chain Performance Vs Firm Performance

The second constructs in the path diagram are DiMC. The test of hypothesis 2 indicate that DiMC strongly correlates with SCP and firms Performance indicator. The results of this study's hypotheses are:

- Hypothesis 2 indicates that DiMC has a medium ($f^2 = 0.341$) effect size and has a significant impact on supply chain performance.
- Hypothesis 2a shows that DiMC has a significant impact on delivery performance; it indicates that DiMC has a medium effect size ($f^2 = 0.247$) on DP.
- Hypothesis 2b reveals that DiMC has a significant impact on financial performance and has a medium ($f^2 = 0.157$) effect size on FP.
- Hypothesis 2c shows that DiMC has a significant impact on inventory performance, with a medium effect size ($f^2 = 0.187$) on INP.
- Hypothesis 2d finds that DiMC has a significant impact on INP; it indicates that DiMC has a medium effect ($f^2 = 0.197$) on customer service and satisfaction.

This study confirms that distribution management plays a significant role in sports retail supply chain, which in turn improves the firm's performance. The result of mediation analysis indicates that SCP partially mediates the relationship between DiMC and firms' performance indicators: delivery performance (VAF = 0.406), financial performance (VAF = 0.448), inventory performance (VAF = 0.402), and customer service and satisfaction (VAF = 0.401).

Within the context of sports goods retail, the research provides critical insights into the interconnection of distribution management, SCP and firm performance, highlighting their collective impact on the overall success of the firms. The study reveals that effective distribution management is important in optimizing supply chain performance, which in turn significantly influences firm performance.

Improved SCP, driven by efficient distribution management, leads to higher sales, reduced operational costs, and ultimately better financial outcomes. The ability to quickly adapt to market trends and customer preferences through agile distribution practices enhances a firm's responsiveness, contributing to sustained growth and competitiveness. Reliable delivery and quality service foster customer loyalty and positive word-of-mouth, further boosting firm performance.

The findings underscore the need for sports goods retailers to invest in advanced distribution management systems and practices. Adopting innovative technologies, improving logistical infrastructure, and fostering strong supply chain partnerships are essential strategies for overcoming distribution challenges. By doing so, sports retailers can enhance their SCP, leading to improved overall firm performance and can achieve sustained competitive advantage and long-term success.

5.3.3 Environmental Uncertainty Challenges Vs Supply Chain Performance Vs Firm Performance

The third construct in the path model is Environmental Uncertainty Challenges (EUC). The test of Hypothesis 3 indicates that EUC strongly correlates with SCP and the firm's performance indicators. The results of the study's hypotheses are as follows:

- Hypothesis 3 indicates that environmental uncertainty challenges significantly impact supply chain performance, with a moderate effect size ($f^2 = 0.224$) on SCP.

- Hypothesis 3a shows that environmental uncertainty challenges significantly impact delivery performance, indicating that the exogenous construct EUC has a medium effect size ($f^2 = 0.198$) on DP.
- Hypothesis 3b reveals that environmental uncertainty challenges significantly impact financial performance, showing that the exogenous construct EUC has a medium effect size ($f^2 = 0.178$) on FP.
- Hypothesis 3c indicates that environmental uncertainty challenges significantly impact inventory performance, with a moderate effect size ($f^2 = 0.218$) on INP.
- Hypothesis 3d finds that environmental uncertainty challenges significantly impact customer service and satisfaction, indicating that the exogenous construct EUC has a medium effect size ($f^2 = 0.285$).

Based to the mediation analysis's results, SCP partially mediates the relationship between EUC and the firm's performance indicators, including delivery performance (VAF = 0.365), financial performance (VAF = 0.429), inventory performance (VAF = 0.448), and customer service and satisfaction (VAF = 0.520).

The sports goods retail supply chain faces significant uncertainty due to unpredictable supply environments, rapid changes in consumer preferences, and demand fluctuations. Seasonal variations and major sporting events further complicate the situation. Agile supply chains can handle environmental uncertainty by improving visibility, monitoring and responding to disruptions, and fostering collaboration with suppliers and partners.

Firms that navigate these uncertainties effectively through agile, transparent, and collaborative practices are better positioned to achieve superior financial and operational outcomes. As the industry evolves, anticipating and responding to uncertainty remains a key determinant of success. By leveraging technology, fostering strong partnerships, and implementing robust risk management strategies, sports goods retailers can enhance their supply chain performance and overall firm performance.

The finding confirmed that the Environmental Uncertainty Challenges (EUC) moderately affect supply chain performance, delivery performance, financial outcomes, inventory management, and customer service and satisfaction. An efficient supply chain partially mitigates these adverse effects. Therefore, strategic investment in agile and resilient supply chain practices is crucial for maintaining operational stability and achieving long-term success.

5.3.4 Information Management Challenges Vs Supply Chain Performance Vs Firm Performance

The fourth construct in the path diagram is Information Management Challenges (IMC). The test of hypothesis 4 indicates that IMC strongly correlates with supply chain performance (SCP) and the firm's overall performance. The findings are detailed as follows:

- Hypothesis 4 indicates that Information Management Challenges significantly impact supply chain performance. The analysis shows a moderate effect size of IMC on SCP ($f^2 = 0.315$).

- Hypothesis 4a find that Information Management Challenges significantly impact delivery performance, indicating that the exogenous construct IMC has a medium effect size ($f^2 = 0.236$) on DP.
- Hypothesis 4b show that Information Management Challenges significantly impact financial performance. The findings show a medium effect size of IMC on financial performance ($f^2 = 0.256$).
- Hypothesis 4c indicates that Information Management Challenges significantly impact inventory performance, showing a moderate effect size of IMC on inventory performance ($f^2 = 0.356$).
- Hypothesis 4d finds that Information Management Challenges significantly impact customer service and satisfaction. The results indicate a medium effect size of IMC on customer service and satisfaction ($f^2 = 0.326$).

Furthermore, the mediation analysis reveals that SCP partially mediates the relationship between IMC and various firm performance indicators. SCP partially mediates the IMC and delivery performance (VAF = 0.399), financial performance (VAF = 0.418), inventory performance (VAF = 0.415), and customer service and satisfaction (VAF = 0.425).

These findings underscore the critical role of effective information management in enhancing various aspects of supply chain performance and overall firm performance. The partial mediation by SCP suggests that while IMC directly influences performance metrics, its impact is further strengthened through improvements in supply chain performance of sports retail industry. Therefore, addressing information management challenges is essential for

sports retail firms seeking to optimize their supply chain and achieve superior operational outcomes.

5.3.5 Sourcing Challenges Vs Supply Chain Performance Vs Firm Performance

The fifth construct in the path diagram is Sourcing Challenges (SC). The test of hypothesis 5 indicates that Sourcing Challenges strongly correlate with supply chain performance (SCP) and the firm's overall performance. The results of the study's hypotheses are as follows:

- Hypothesis 5 indicates that Sourcing Challenges significantly impact supply chain performance, with a moderate effect size ($f^2 = 0.196$) on SCP.
- Hypothesis 5a shows that Sourcing Challenges significantly impact delivery performance, indicating that the exogenous construct SC has a medium effect size ($f^2 = 0.287$) on DP.
- Hypothesis 5b reveals that Sourcing Challenges significantly impact financial performance, showing that the exogenous construct SC has a medium effect size ($f^2 = 0.317$) on FP.
- Hypothesis 5c indicates that Sourcing Challenges significantly impact inventory performance, with a moderate effect size ($f^2 = 0.167$) on INP.
- Hypothesis 5d finds that Sourcing Challenges significantly impact customer service and satisfaction, indicating that the exogenous construct SC has a medium effect size ($f^2 = 0.162$).

The mediation analysis results indicate that SCP partially mediates the relationship between SC and the firm's performance indicators. Specifically,

SCP partially mediates delivery performance (VAF = 0.424), financial performance (VAF = 0.403), inventory performance (VAF = 0.386), and customer service and satisfaction (VAF = 0.410).

These results highlight how important it is to overcome sourcing challenges to improve supply chain performance, which in turn improves various dimensions of a firm's performance. By effectively managing sourcing challenges, firms can achieve better delivery performance, financial outcomes, inventory management, and customer satisfaction.

5.3.6 Supply Chain Performance Vs Firm Performance

Supply Chain Performance (SCP) is the mediating variable enhancing the relationship between retail supply chain challenges and firms' performance. As discussed in Chapter 4, SCP directly influences delivery performance, financial performance, inventory performance, and customer service and satisfaction. The test of hypothesis 6 indicates that SCP strongly correlates with firms' performance. The results findings of the study's hypotheses are as follows:

- Hypothesis 6a is to test the Impact of SCP on delivery performance. Hypothesis test result indicates that the path coefficient is significant.
- Hypothesis 6b is to test the significant impact of SCP on financial performance. Hypothesis test result indicating that the path coefficient is significant.

- Hypothesis 6c is to test the significant impact of SCP on inventory performance. The hypothesis test reveals that the path coefficient is significant.
- Hypothesis 6d is to test the significant impact of SCP on customers service and satisfaction. The hypothesis test reveals supply chain performance of sports goods retailers has significant impact on customers service and satisfaction.

The result confirmed that supply chain performance plays a crucial role as a mediator between retail supply chain challenges and firms' performance. As discussed in the literature, most studies have focused on supply chain practices, challenges, and performance, but few have tested the impact of challenges on supply chain and firm performance. These findings are valuable for future research and for practitioners in the sports goods retail industry. By understanding and leveraging SCP, firms can improve their performance across multiple dimensions, despite the challenges they face in the supply chain.

5.4 CONCLUSION

This research developed a conceptual framework and provided empirical results that offer valuable insights for both academic researchers and Northeast sports goods retailers. The primary findings indicate that sports goods retail supply chain challenges significantly impact SCP, and there are positive relationships between the variables and the firm's performance indicators. The partial mediation effect of SCP in the relationship between sports goods retailers' supply chain challenges and firm performance

confirmed that effective sports retail supply chain architecture design is necessary to withstand the unexpected challenges.

The study highlights that effective retail supply chain management practices can enhance a firm's performance, providing a competitive advantage in northeast India sports market. The research offers significant contributions, and acknowledges certain limitations that future studies could address to extend this work.

5.4.1 Theoretical Contribution

Theories are neither proven nor disproven; instead, they continually evolve, with verification being limited and necessitating further validation and elaboration (Ho et al., 2002). This study has identified the existence challenges and supply chain performance within the northeast India sports goods retail industry. The analysis indicates that a retail supply chain performance and firm's performance could be enhanced by addressing supply chain challenges faced by sports goods retailers in the region, such as demand management, distribution management, information management, environmental uncertainty management, and sourcing. Retail supply chain performance plays a critical role in enhancing a firm's performance indicators, including delivery performance, financial performance, inventory performance, and customer service and satisfaction. The study shows a strong correlation between retail supply chain challenges and firm's performance indicators, with supply chain performance acting as a mediating variable.

Sports goods retailers could manage changes and interruptions in providing direct customer service without affecting the supply chain. These

findings provide valuable insights for supply chain researchers and executives in the sports goods retail industry, highlighting the importance of addressing retail supply chain challenges to improve overall performance. The study also offers guidance for formulating supply chain strategies and identifying research problems for further study. Unlike many studies in supply chain management that focus primarily on practices, challenges, and performance outcomes, this research adopts an alternative approach by using process-oriented variables such as delivery performance, financial performance, inventory performance, and customer service and satisfaction to measure the impact of retail supply chain challenges. This study makes a theoretical contribution to the existing literature on supply chain performance and its relationship with retail supply chain challenges, utilizing value-based variables to measure firm performance.

5.4.2 Methodological Contribution

The use of an empirical research methodology and a survey approach in this study has contributed to expanding the existing knowledge in operations management research methodologies. Empirical research involves collecting and analyzing data through direct and indirect observation or experience, while survey methods allow for the collection of large amounts of data in a short period. These approaches have enhanced understanding of operations management practices by providing reliable and comprehensive data, contributing valuable insights, and advancing the field. Rungtusanatham et al. (2002) stated that only a limited number of operations research articles have utilized empirical research or survey methods. They also highlighted that

empirical research, especially survey research, is instrumental in understanding various issues related to quality management, and supply chain management and performance.

The methodology adhered to the procedures for conducting PLS-SEM analysis as prescribed by Hair et al. (2017), Hair et al. (2014), Peng and Lai (2012), Gefen, Rigdon, and Straub (2011), and Gefen and Straub (2005). The research methodology used in this study offers a comprehensive framework that future researchers in sports goods supply chain management can adopt. The primary objective of this study was to empirically examine and enhance the effectiveness of SCP in sports goods retailers. This involved investigating the challenges, practices, strength, impact and direction of the relationships among various constructs. The findings offer a valuable insight for sports goods retailers and supply chain managers, helping them to understand the variables that contribute to challenges in the sports goods retail supply chain and the impact of these challenges on overall SCP and firm performance.

5.4.3 Managerial Implications

Based on existing literature findings and the results of this study, it is concluded that retail supply chain challenges have a direct and significant impact on SCP and firm performance indicators. Understanding these challenges allows managers to prioritize resources and efforts to improve efficiency and effectiveness. This study highlights the importance of strong relationships and communication channels within the sports goods supply chain, fostering collaboration with suppliers, distributors, and other stakeholders.

To increase their ability to estimate customer demand accurately, managers need to adopt effective demand forecasting techniques and methods. This ensures products are available when needed, reducing lead times and enhancing delivery reliability. Effective demand management minimizes the risks associated with overstocking and stockouts, leading to optimal inventory levels and reduced costs. This improves the firm's financial health and profitability. Accurate demand forecasting helps maintain balanced inventory levels, avoiding both excess stock and shortages, optimizing storage costs, and ensuring a steady supply of products. Consistently meeting customer demand enhances satisfaction and loyalty, which is crucial for long-term business success and customer retention. Streamlining distribution processes, optimizing logistics, and employing efficient transportation strategies are essential for timely deliveries. Managers should focus on reducing delays and improving overall delivery performance. Efficient distribution management reduces transportation and warehousing costs, positively impacting the firm's bottom line. Effective distribution ensures optimal inventory levels across various locations, reducing the risk of stockouts or overstocking, which is vital for smooth operations. Faster and more reliable distribution enhances order fulfillment speed, improving customer satisfaction and trust in the retailer's service.

While adopting sustainable practices can sometimes complicate delivery processes, managers must balance environmental initiatives with efficient delivery performance to meet customer expectations. Sustainable practices may incur initial costs but can lead to long-term savings through energy efficiency and waste reduction, positively affecting financial

performance. Environmental considerations might necessitate changes in inventory practices, such as reducing packaging waste, which can streamline inventory management. Customers increasingly value sustainability, and adopting environmentally friendly processes can ensure the image of a brand and customer satisfaction, leading to competitive advantages. Implementing advanced information systems ensures real-time tracking and better coordination across the supply chain, leading to improved delivery performance. Effective information management reduces errors and inefficiencies, resulting in cost savings and better financial outcomes for the firm. Accurate and timely information supports better inventory control, reducing excess stock and preventing stockouts. Real-time information flow improves transparency and communication with customers, enhancing their overall experience and satisfaction.

Reliable sourcing ensures a steady supply of goods, minimizing disruptions and maintaining consistent delivery performance. Managers should focus on building strong relationships with reliable suppliers. Strategic sourcing from cost-effective suppliers helps manage procurement costs, positively impacting the firm's financial performance. Reliable suppliers ensure timely replenishment of inventory, maintaining optimal stock levels and reducing the risk of shortages. Consistent quality and availability of products from reliable suppliers enhance customer trust and satisfaction, which is vital for maintaining a loyal customer base.

To comprehensively address supply chain challenges and enhance firm performance, managers should encourage collaboration between departments such as procurement, logistics, and sales. This ensures efforts

are aligned towards common goals. Investing in advanced technologies like AI, IoT, and blockchain enhances visibility, efficiency, and responsiveness across the supply chain, providing real-time data and predictive analytics for better decision-making. Building strong relationships with suppliers ensures reliability, quality, and collaboration, leading to better negotiation power and more resilient supply chains. Implementing continuous improvement methodologies like Six Sigma and Lean helps identify and address inefficiencies in the supply chain, with regular assessments and feedback loops driving ongoing enhancements. Keeping customer satisfaction at the core of supply chain strategies ensures that operations align with customer expectations, enhancing their experience and leading to long-term loyalty.

Addressing and overcoming supply chain challenges can give sports goods retailers a competitive edge in the market. This holistic approach ensures better delivery performance, financial performance, inventory performance, and enhanced customer satisfaction. Ultimately, it contributes to the firm's overall performance and success, ensuring they remain competitive and resilient in a dynamic market environment.

5.4.4 Limitations and Future Research

This study aims to enhance the understanding of the supply chain network among the northeast sports good's retailers. While the findings offer significant insights, it is important to recognize the inherent limitations to contextualize the results appropriately. These limitations pertain to various aspects of the research, including data collection, methodology, and

generalizability. By acknowledging these constraints, it can better appreciate the nuances of the study and guide future research endeavors in this field.

The study focusses exclusively on Northeast India sports goods retailers, a region with unique geographical and infrastructural challenges, which may limit the universal applicability of the insights. The study focused only to five challenge variables related to the sports goods retail supply chain and only four variables as firm performance indicators. The data provided by the respondents are only limited to the objective of the study. The findings are based on data provided by respondents, which has its set of limitations. The finding may not be generalized to the broader Indian context or other countries as there were different infrastructural setups. The scope is limited to Northeast India. This reliance on self-reported data from stakeholders of the sports retail industry introduces potential biases that could affect the accuracy and reliability of the conclusions. Additionally, the sample size may not fully represent the entire industry spectrum. The research is further limited by the availability and comprehensiveness of historical data on supply chain challenges and performance in the region. External factors such as governmental policies, economic fluctuations, and global supply chain disruptions were considered only to a limited extent, potentially leading to an incomplete understanding of the supply chain challenges faced by Northeast India sports goods retailers.

Future research could extend this study by conducting comparative analyses of supply chain performance specific to the eight different states in Northeast India. This study employed a convenience sampling technique to collect data, which is known for its inherent weaknesses. Replicating the study

with a probability sampling technique could provide more robust and generalizable results. Additionally, this research has included only five challenge variables related to the sports goods retail supply chain and four variables as firm performance indicators. Many other variables, as stated in the literature, could be tested along with these retail supply chain challenges and should be included in future research.

Another potential area for future research is to assess the aspects related in logistics management since the continuous expansion and change of the global supply chain. Evaluating logistics performance and maintaining the continuity of sports goods retail supply chain flows are also important areas for further study, which could enhance understanding of supply chain flows in the sports industry. As technological changes continue to impact supply chains, the challenges of technology management and the potential effects of adopting new technologies should also be considered in future research.