

**Thesis Report**  
**on**  
**“Cost Minimization in RMG Sector by Supply Chain”**

**Submitted by:**

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Program: MBA in Supply Chain Management (MSCM)  
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**Submitted to:**

Department of Business Administration  
Faculty of Business  
Sonargaon University (SU)  
Submitted for the partial fulfillment of the degree  
of MBA in Supply Chain Management (MSCM)



**Sonargaon University (SU)**  
**147/1 Green Road, Panthapath, Tejgaon, Dhaka**

Date of Submission: January 3, 2026

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of MBA in Supply Chain Management (MSCM)



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**147/1 Green Road, Panthapath, Tejgaon, Dhaka**

Date of Submission: January 03, 2026

## Letter of Transmittal

January 03, 2026

**Mst. Marium Akter**

Lecturer

Department of Business Administration

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**Subject:** Submission of thesis report on “**Cost Minimization in RMG sector by Supply Chain**”.

Dear Madam,

With most respectfully to state that I am pleased to submit my thesis report titled “**Cost Minimization in RMG sector by Supply Chain**”. This report is an essential part of my MBA degree requirements, and I had the privilege of completing my Thesis at Cost Minimization in RMG Sector by Supply Chain under your guidance. This report reflects the Cost Minimization in RMG Sector by Supply Chain essential for organizations in our country.

I honestly, not only anticipate that my analysis will provide a clear idea about Customer Relationship Management in the Garments Industry in Bangladesh but also optimistic enough to believe that you will find this research paper’s worth for all the labor I have put into it. I welcome your entire query & and take pride in answering them.

Yours Sincerely

---

**Md. Hasibul Islam**

ID: MSCM2401031005

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Major: Supply Chain Management

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## **Declaration of Student**

I am **Md. Hasibul Islam**, a student in the MBA in Supply Chain Management (MSCM) program with ID: MSCM2401031005 at Sonargaon University. I want to sincerely state that the report titled “**Cost Minimization in RMG sector by Supply Chain**” has been genuinely created by me. During the preparation of this report, I ensured full compliance with international copyright regulations. I was inspired and instructed by **Mst. Marium Akter**, Lecturer, Department of Business Administration, Sonargaon University (SU). I also want to clarify that this report has not been submitted anywhere else for the purpose of obtaining a degree.

Yours Sincerely

---

**Md. Hasibul Islam**

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### **Letter of Authorization**

I hereby confirm that the project report titled "**Cost Minimization in RMG sector by Supply Chain**" is a genuine effort by **Md. Hasibul Islam** bearing student ID-**MSCM2401031005** prepare this research was conducted under my guidance & Supervision. I also affirm that, to the best of my knowledge, the content presented in this report has not been included in any other project report or dissertation that led to the award of a degree to any candidate earlier, whether in the same context or a different one.

---

**Mst. Marium Akter**

Lecturer

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## Acknowledgment

I would like to extend my gratitude for the invaluable assistance and sincere cooperation provided by various individuals in the preparation of this report. It's impossible to adequately thank all the wonderful people who directly or indirectly contributed to the successful completion of this report. I am deeply appreciative of their kind collaboration and support.

First and foremost, I would like to express my thanks to the divine power. Additionally, my foremost appreciation goes to my supervisor, **Mst. Marium Akter**, Lecturer at Sonargaon University (SU), for her crucial guidance, scholarly insights, and unwavering support throughout my study period.

Moving forward, I am grateful to **Md. Shamim Reza**, Assistant General Manager-Store at FCI Group, from whom I gained significant knowledge. I also extend special thanks to Supply Chain Director & Head **Mr. Anila Kularatne**, along with heartfelt gratitude to all the other individuals at FCI Group main branch. I am thankful to the various staff members from different departments who generously contributed their valuable time and assistance in helping me gather data for this report.

## Abstract

The core objective of the dissertation is to fulfill the requirement of the MSCM program as prescribed by the Sonargaon University. I have been working as a Store department of supply chain professional at FCI Group Ltd in the last 2 years. The main objective of the dissertation is to get hands-on experience in a real-world organization.

The dissertation was completed to get practical knowledge of the Supply Chain Management department of FCI Group. **Cost Minimization in RMG sector by Supply Chain** is the consideration of ready-made garments sector in supply chain management. I have to participate in a lot of supply chain management work for the organization. I realized that I was successful in gathering a lot of significant learning experiences which would be helpful in my future career. The supply chain profession with store department of FCI Group. Offered me ample space and opportunities, not only to learn but also to exhibit my skills as a part of the supply chain management store department. I could use my theoretical knowledge of **Cost Minimization in RMG sector by Supply Chain** in real practice while participating in many discussions. I was actively involved in the department meetings where I shared my knowledge and views regarding Implementation of **Cost Minimization in RMG sector by Supply Chain** Practices of FCI Group. I also attempted to gather more information on the basic job functions of other departments to have a better understanding of the relationship between them and the supply chain management department. It was commendable to see how wholeheartedly they welcomed, Acknowledged and appreciated new ideas and knowledge. I have provided a few recommendations based on my understanding and knowledge.

I successfully completed all the assigned duties and handed them over to the senior supervisor at the end of the dissertation. I thoroughly enjoyed the challenges that came along every single day. I could also bring some minor improvisations during my professional life which were able to leave their marks. These lessons that I have learned will be valuable for my future endeavors.

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## LIST OF ACRONYMS

<b>ACRONYMS</b>	<b>ABBREVIATION</b>
SCM	Supply chain Management
JIT	Just-In-Time
RMG	Ready-Made Garments
SRM	Supplier Relationship Management
CAD	Computer-Aided Design
ERP	Enterprise Resource Planning
IoT	Internet of Things
KPI	Key Performance Indicators
ACR	Achieving Cost Reductions

# **Chapter: One**

## **Introduction**

## **1.1 Introduction**

Supply chain management (SCM) in the garments manufacturing industry involves the coordination and oversight of various interconnected processes, from raw material sourcing to the delivery of finished products to retailers or consumers. In Bangladesh, one of the world's leading garment producers, SCM is especially complex due to the intricate network of suppliers, manufacturers, and logistics partners. The process typically starts with the procurement of raw materials, like cotton or synthetic fibers, often sourced from both domestic and international suppliers. These raw materials are then sent to textile mills, where they are spun, dyed, and woven into fabrics. Following this, the fabrics are transported to garment factories where they undergo cutting, sewing, and assembly into finished clothing items.

Effective SCM in this sector requires close collaboration with suppliers to ensure timely and high-quality material deliveries, which directly impacts production schedules and inventory levels. Additionally, the industry relies heavily on just-in-time (JIT) inventory systems to reduce warehousing costs and improve responsiveness to fast-changing fashion trends. Given the labor-intensive nature of garment production, workforce management is also a significant aspect of SCM, involving workforce training, safety compliance, and productivity optimization. The industry's focus on cost control further extends to logistics, where companies aim to minimize transit times and optimize routes for shipping finished products to international markets. Digital transformation, particularly with Enterprise Resource Planning (ERP) systems, has improved SCM efficiency by enabling real-time tracking, demand forecasting, and supplier performance evaluation. However, the sector faces challenges, such as fluctuating raw material prices, lead-time variability, and compliance with global sustainability standards. Sustainable supply chain practices are increasingly gaining attention as brands and consumers demand eco-friendly products, driving manufacturers to adopt practices like waste reduction, energy efficiency, and fair labor practices. In Bangladesh, SCM in garments manufacturing is also influenced by government policies, trade agreements, and global market dynamics. Import tariffs, export incentives, and labor regulations directly affect the industry's supply chain costs and operational efficiency. Moreover, supply chain visibility has become crucial for addressing issues related to child labor, fair wages, and worker safety, which are under scrutiny from international regulatory bodies and advocacy groups. Technologies like blockchain are emerging as potential solutions to enhance transparency, although widespread adoption remains in its early stages. In summary, SCM in the Garments manufacturing industry is a highly dynamic and strategic function, balancing cost reduction, agility, sustainability, and compliance to meet the demands of a globalized and rapidly evolving marketplace. With rapidly

changing fashion trends and fluctuating demand, a well-managed supply chain enables manufacturers to respond quickly to market changes, adjust production volumes, and introduce new styles efficiently.

## **1.2 Background of the study**

The ready-made garments (RMG) sector in Bangladesh is a cornerstone of the nation's economy, contributing significantly to GDP and employment while positioning Bangladesh as one of the top apparel exporters worldwide. Over the past decades, the RMG industry has undergone rapid growth due to a combination of low labor costs, supportive government policies, and the country's strategic position within global supply chains. However, in recent years, this sector has faced increasing challenges due to rising operational costs, stringent environmental and social compliance standards, fluctuating raw material prices, and heightened competition from other low-cost manufacturing countries.

In this highly competitive environment, controlling costs has become essential for sustaining profitability and ensuring long-term survival. Efficient supply chain management has emerged as a critical factor in achieving these goals, especially as companies strive to streamline operations, optimize resource utilization, and minimize wastage. Cost Minimization in RMG Sector by Supply Chain not only enhance an organization's efficiency but also provide it with the agility required to respond to market changes and customer demands. These strategies often encompass a range of practices, from lean manufacturing and waste minimization to just-in-time inventory management and energy-efficient production processes. Within the Bangladeshi context, FCI Group serves as a prominent example of a company that has successfully navigated the complexities of supply chain management in the RMG sector. Established as a forward-thinking and sustainability-driven organization, FCI Group has Continuously adapted its supply chain strategies to balance quality with cost-effectiveness. The company is renowned for its investments in technology, sustainability initiatives, and advanced production methods, which have collectively enabled it to maintain a competitive edge in the global market. Given the operational scale and international reach of FCI Group, exploring its cost reduction strategies within the supply chain can provide valuable insights into effective practices and innovations in the RMG industry.

This study focuses specifically on FCI BD Limited, a key division within FCI Group that specializes in denim and woven apparel manufacturing. As one of the group's largest and most influential business units, FCI BD Limited has implemented various cost minimization techniques that are central to its supply chain management. By conducting a detailed analysis of these strategies, the study seeks to understand how FCI BD Limited.

### **1.3 Scope of the Study**

This study focuses on analyzing cost reduction strategies within the supply chain of FCI BD Limited, a key entity under FCI Group in Bangladesh's ready-made garments sector. It will examine the methods used by FCI BD Limited to minimize production costs, improve operational efficiency, and enhance resource utilization without compromising quality. Key areas of analysis include procurement, inventory management, production planning, and logistics. The findings aim to provide insights into effective cost management practices that could benefit similar manufacturing firms in Bangladesh's competitive garment industry. In recent years, there has been a growing recognition of the significance of SCM practices in driving organizational performance. Effective supply chain management (SCM) plays a critical role in enhancing organizational performance by reducing operational costs, improving process efficiency, increasing responsiveness to customer demands, and ultimately boosting overall profitability. In the highly competitive garment manufacturing industry, efficient coordination of supply chain activities is essential for sustaining market competitiveness. This study examines a range of cost reduction strategies implemented within the supply chain of a garment factory, with a particular focus on key functional areas such as procurement of raw materials, production operations, inventory control, and distribution management. By systematically analyzing these processes, the study seeks to identify opportunities for minimizing operational costs while maintaining product quality standards and ensuring timely delivery to customers. One of the primary contributions of efficient supply chain management in the RMG sector is cost reduction. By optimizing procurement processes, reducing material wastage, improving production planning, and minimizing inventory holding costs, firms can significantly lower overall operational expenses. This is particularly important in price-sensitive export markets where competitive pricing is crucial for securing and retaining buyers.

Another key importance of SCM in the RMG sector is timely delivery and lead time reduction. International fashion brands demand short lead times and fast order fulfillment. Effective supply chain coordination helps manufacturers manage production schedules, transportation, and logistics efficiently, thereby reducing delays and ensuring on-time delivery. This enhances buyer satisfaction and strengthens long-term business relationships. Effective SCM enhances flexibility and responsiveness in the RMG sector. With rapidly changing fashion trends and fluctuating demand, a well-managed supply chain enables manufacturers to respond quickly to market changes, adjust production volumes, and introduce new styles efficiently. RMG sector is a major contributor to economic growth and employment, strong supply chain management is essential for maintaining global competitiveness.

## 1.4 Objectives of the Study

### **Broad Objective:**

The broad objective of the report is the partial fulfillment of the degree of a Regular MBA in Supply Chain Management (MSCM).

### **Specific Objectives:**

The Specific Objective is to prepare & submit report on the topic “**Cost Minimization in RMG sector by Supply Chain, FCI BD Limited at FCI Group**”.

- **Cost drivers:** To identify key cost drivers in FCI BD Limited’s supply chain and assess their impact on overall production costs.
- **Existing cost reduction methods:** To explore existing cost reduction methods and their effectiveness in the company’s supply chain processes.
- **Strategic improvements for optimizing resources:** To recommend strategic improvements for optimizing resources, reducing waste, and improving cost efficiency in supply chain operations.
- **Cost-saving strategies:** To examine how these cost-saving strategies contribute to the company’s sustainability and profitability.
- **Evaluate the Current Cost Structure:** Analyze the existing cost structure of FCI BD Limited’s supply chain to identify major cost drivers and inefficiencies.
- **Identify Key Cost Reduction Areas:** Pinpoint specific areas within the supply chain, such as procurement, production, and logistics, where cost reduction strategies can be most effective.
- **Explore Inventory Management Optimization:** Investigate how strategies like Just-In-Time (JIT) and Vendor Managed Inventory (VMI) can help minimize inventory costs.
- **Analyze Supplier Relationships:** Assess how FCI BD Limited can reduce procurement costs through improved supplier negotiation and collaboration.

## 1.5 Objective of the Research

The ready-made garments (RMG) sector constitutes a fundamental pillar of Bangladesh’s economy, making substantial contributions to gross domestic product (GDP) and employment, while establishing the country as one of the leading apparel exporters in the global market. Over the past few decades, the industry has experienced significant growth driven by factors such as comparatively low labor costs, favorable government policies, and Bangladesh’s strategic integration into global supply chains. Despite these achievements, the RMG sector has recently encountered mounting challenges, including increasing operational and production costs, stricter environmental and social compliance requirements, volatility in raw material prices, and intensified competition from other

low-cost manufacturing countries. These challenges highlight the need for greater efficiency and strategic improvements within the industry to ensure its long-term sustainability and competitiveness. Cost minimization strategies through supply chain management not only enhance overall productivity but also equip organizations with the flexibility needed to adapt to dynamic market conditions and evolving customer expectations. These strategies typically involve practices such as lean manufacturing, waste reduction initiatives, just-in-time inventory systems, and the adoption of energy-efficient production technologies. By this thesis we can analyze how effective supply chain management practices can contribute to cost minimization in the Ready-Made Garments (RMG) sector. Particular emphasis is placed on analyzing cost minimization strategies related to procurement, production processes, inventory management, and distribution activities. Additionally, the research evaluates the impact of supplier management and sourcing decisions on reducing material costs, as well as the role of inventory control and logistics optimization in lowering overall operational expenses. The study also identifies key challenges and constraints faced by RMG firms in implementing cost-effective supply chain practices and, based on the findings, proposes practical recommendations to improve supply chain efficiency and achieve sustainable cost reduction.

## 1.6 Limitations of the Study

During the course of my study, I encountered certain challenges that can be characterized as limitations or shortcomings of the research. These include:

- **Limited Timeframe:** The study was conducted within a restricted period, which may limit the depth of analysis and the ability to track long-term outcomes of cost reduction strategies.
- **Insufficient Data Availability:** Due to confidentiality or company policies, access to certain financial or operational data critical to the study was limited, potentially impacting the comprehensiveness of the findings.
- **Incomplete and Ambiguous Data:** One of the major limitations of this study was the availability of incomplete and ambiguous data, where certain data points were missing, inconsistent, or unclear. This limitation reduced the precision of the analytical outcomes and may have affected the overall reliability and interpretability of the insights drawn from the study.
- **Uncooperativeness of Key Individuals:** A major limitation encountered in this research was the uncooperativeness of certain key individuals within the organization. In several instances, staff members or management were either unwilling or unable to share detailed information, which significantly restricted access to critical operational and

financial data. This limitation not only hindered a complete understanding of the company's internal cost-reduction strategies but also affected the depth and comprehensiveness of the analysis, potentially impacting the reliability of the study's findings.

- **External Factors:** Additional challenges, such as external economic fluctuations or shifts in market demand, may have influenced the supply chain costs during the study period, potentially skewing findings related to cost-reduction effectiveness.
- **Inadequate Records:** The study faced significant limitations due to the inadequate records available for analysis. Many of the historical financial and operational documents needed to trace cost reduction strategies were either incomplete or not well-documented, making it difficult to conduct a thorough evaluation. Key records related to production costs, inventory management, and raw material sourcing were either missing or insufficiently detailed, which hindered the accuracy of the data analysis. Furthermore, the absence of consistent record-keeping practices over the years prevented the identification of long-term trends in cost reduction efforts.
- **Lack of Comprehensive Data:** The lack of comprehensive data on previous supply chain performance also limited the ability to assess the full impact of past cost reduction initiatives. In some cases, records were outdated, and there was a lack of clear documentation regarding process changes or efficiency improvements. As a result, the study could not fully account for the broader context or past challenges faced by FCI BD Limited in their supply chain. This limitation made it more difficult to identify precise correlations between implemented cost-saving strategies and measurable outcomes, ultimately affecting the depth and reliability of the findings.
- **Geographical regions:** Additional challenges, such as external economic fluctuations or shifts in market demand, may have influenced the supply chain costs during the study period, potentially skewing findings related to cost-reduction effectiveness.

## **1.7 Structure of the Thesis**

This thesis is divided into Seven chapters. The Chapter-1 deals with the Background of the study, Scope of the study, Objectives of the study, Limitations of the study & Structure of the Thesis. Meanwhile, Chapter-2 presents the framework of relevant literature which gives an overview of previous research on financial literacy and related investment behaviors, Strategies & Research Gap. The Theoretical framework & hypothesis is shown in Chapter-3. Chapter-4 represent Research Methodology, Data collection. The data analysis and Results of the Thesis are presented and discussed in Chapter-5, where the challenge faced issues related to Supply Chain disruption or inefficiencies between financial literacy and investment behavior of young adults in Bangladesh are explored. In chapter-6, Summary of key findings are identified & discuss. Lastly, in Chapter-7 discuss for recommendations and conclusion for this thesis.

# **Chapter: Two**

## **Literature Review**

## 2.1 Introduction

The global textile and garment industry is characterized by intense competition and cost pressures, driving companies to implement efficient cost reduction strategies to maintain profitability and sustainability. As part of the larger ready-made garments sector in Bangladesh, FCI Group's FCI BD Limited operates within this highly competitive landscape.

The literature on cost management in the Ready-Made Garments (RMG) sector, particularly through supply chain management, underscores the critical importance of minimizing waste, optimizing inventory, enhancing supplier relationships, and leveraging technology to improve overall efficiency. Numerous studies have demonstrated that apparel manufacturers often achieve significant cost reductions through the implementation of lean manufacturing principles, just-in-time (JIT) inventory systems, and strategic sourcing practices, which collectively help minimize excess inventory, reduce holding costs, and streamline production processes. Recent research further highlights the necessity for firms to design supply chains that are agile, flexible, and responsive to rapidly changing market demands, thereby allowing them to maintain operational efficiency while meeting buyer expectations for speed and quality.

Within the context of Bangladesh's garment sector, which serves as a cornerstone of the national economy and a leading exporter in the global apparel market, effective cost management is particularly critical. International clients in this sector are highly price-sensitive, while fluctuations in raw material costs and global market conditions impose additional financial pressures on manufacturers. Prior studies emphasize that rising labor costs, increased energy consumption, and escalating transportation expenses have driven firms to adopt a variety of cost-saving techniques across production, logistics, and procurement functions. Moreover, there is a growing recognition that sustainable practices, including recycling, waste reduction, and resource-efficient processes, can simultaneously reduce costs and align with global environmental standards, reflecting the increasing integration of sustainability into supply chain strategies. The literature also highlights the transformative role of technology in cost management. Automation, digital tracking systems, and advanced analytics have been identified as powerful tools for minimizing operational costs, improving productivity, and enhancing decision-making. However, researchers caution that the substantial upfront investment required for technology adoption can be a significant barrier, particularly for manufacturers in developing countries like Bangladesh, where capital constraints may limit large-scale implementation. Despite these challenges, there is broad consensus among scholars that integrating cost reduction initiatives into supply chain management not only enhances financial performance but also strengthens competitiveness in an increasingly globalized market.

FCI BD Limited presents an interesting case study to examine the effectiveness of various cost minimization strategies. This study aims to bridge the gap in literature by providing an in-depth analysis of how FCI BD Limited manages its supply chain costs through specific cost minimization techniques. By exploring the practical application of these strategies in a real-world setting, this study will add to the understanding of cost management practices within the garment industry in Bangladesh. Moreover, the findings are expected to shed light on challenges and best practices that other companies in the sector can adopt, ultimately contributing to the industry's sustainable growth.

## **2.2 Overview of Cost Minimization in RMG sector by Supply Chain**

Cost Minimization in RMG sector by Supply Chain is a strategic imperative for businesses striving to enhance profitability and competitiveness, particularly in cost sensitive industries like ready-made garments. Theories such as Lean Manufacturing, and Just-in-Time (JIT) form the backbone of modern cost reduction strategies. Lean Manufacturing focuses on minimizing waste be it in materials, time, or processes-by optimizing operations and ensuring every resource adds value. JIT, on the other hand, seeks to align production schedules with demand forecasts, reducing inventory holding costs while maintaining operational flexibility. The Theory of Constraints (TOC) also plays a vital role, emphasizing the identification and resolution of bottlenecks to improve overall system efficiency. Practical applications of these theories in supply chains include supplier relationship management, where businesses negotiate better pricing and delivery terms to ensure cost-effective procurement. FCI BD Limited exemplifies this by fostering long-term partnerships with key suppliers to stabilize material costs. The integration of technology, such as predictive analytics and supply chain management systems, further enhances cost reduction by improving forecasting accuracy and enabling data-driven decision-making. Another critical practice is process automation, which reduces manual errors, speeds up production, and cuts labor costs. Additionally, adopting sustainable practices like recycling waste and energy-efficient operations aligns with cost reduction goals by lowering utility expenses and meeting environmental compliance, which can attract cost-conscious global brands. In light of these findings, FCI BD Limited offers a compelling case study to explore the practical application and effectiveness of various cost minimization strategies within the RMG sector, providing valuable insights into how supply chain practices can be optimized to achieve both efficiency and profitability. In the case of FCI BD Limited, these theories and practices are applied cohesively to streamline production, minimize waste, and enhance operational efficiency, ultimately

achieving a robust cost-effective supply chain. The integration of these strategies demonstrates how cost minimization is not just about cutting expenses but optimizing the entire value chain to create sustainable competitive advantages.

## **2.3 Cost Components in the Apparel Industry**

The apparel industry is characterized by several key cost components that significantly influence overall profitability, including labor, raw materials, logistics, and inventory management. In the case of FCI BD Limited, as explored in the thesis "Cost Minimization in RMG sector by Supply Chain," these components are critically analyzed to identify areas for cost optimization. Labor costs, which encompass wages, training, and worker benefits, represent a substantial portion of expenses, particularly in Bangladesh's labor-intensive ready-made garments sector. Efficient workforce management and up skilling programs are essential to maintaining productivity while controlling costs.

Raw material costs, encompassing fabric, trims, and accessories, represent one of the most significant cost drivers in the Ready-Made Garments (RMG) sector. These costs are highly susceptible to fluctuations in global market prices, exchange rates, and disruptions in the supply chain, which can substantially affect overall production expenses. FCI BD Limited addresses these challenges by cultivating strategic relationships with reliable suppliers, negotiating favorable long-term contracts, and leveraging bulk purchasing to achieve economies of scale. Such proactive supplier management not only reduces procurement risks but also ensures a stable and cost-efficient supply of high-quality raw materials. In addition to raw materials, logistics costs constitute another major component of overall expenditure, particularly due to the export-oriented nature of the apparel industry. Transportation, warehousing, customs clearance, and distribution expenses can escalate rapidly if not carefully managed, directly impacting profitability. FCI BD Limited strategically optimizes transportation routes, consolidates shipments, and employs advanced logistics technologies, such as real-time tracking systems and digital inventory management, to enhance operational visibility and efficiency. These measures help reduce delays, prevent unnecessary handling costs, and improve coordination across the supply chain. By integrating technological solutions with strategic logistics planning, the company is able to not only minimize costs but also strengthen its responsiveness to international buyer demands, ensuring timely delivery and maintaining competitive advantage in a highly dynamic market. Inventory management costs, including storage and obsolescence, require careful control to avoid

overstocking or stock outs. By implementing just-in-time practices and digital inventory systems, the company ensures cost efficiency while meeting production demands. Together, these components underscore the importance of an integrated cost-reduction strategy in achieving competitive advantage.

## **2.4 Strategies for Cost Minimization**

The thesis "Cost Minimization in RMG sector by Supply Chain: A Case Study on FCI Group Ready-Made Garments Sector in Bangladesh" highlights several key strategies to minimize costs while maintaining operational efficiency. Lean management plays a pivotal role, focusing on eliminating waste, streamlining production processes, and enhancing resource utilization. By adopting lean principles, FCI BD Limited reduces unnecessary expenditures and improves workflow efficiency. The Just-in-Time (JIT) approach complements this strategy by ensuring materials are procured and utilized precisely when needed, minimizing inventory holding costs and reducing wastage. Process optimization is another cornerstone, involving the identification and refinement of bottlenecks in production and logistics to achieve seamless operations. FCI BD Limited employs advanced tools and techniques to enhance production cycles, minimize downtime, and improve product quality. Digital transformation further amplifies these efforts, with investments in supply chain analytics, automation, and real-time monitoring systems. These technologies enable data-driven decision-making, predictive demand forecasting, and efficient resource allocation, resulting in significant cost savings.

Collectively, these strategic initiatives enable FCI BD Limited to significantly reduce operational costs while simultaneously enhancing flexibility, agility, and responsiveness across the entire supply chain. By effectively implementing cost reduction and efficiency-driven measures, the company strengthens its position as a competitive and reliable player in the global ready-made garments market. These strategies not only support immediate cost savings but also contribute to sustainable growth and long-term profitability by creating a more resilient and adaptable operational framework. Automation, for instance, plays a pivotal role in improving production efficiency by minimizing manual errors, streamlining repetitive tasks, and accelerating workflow processes. The adoption of real-time data analytics facilitates accurate forecasting, better resource allocation, and optimized utilization of raw materials, machinery, and labor. Together, these technology-driven and process-oriented initiatives not only generate substantial cost reductions but also enhance operational reliability, improve supply chain visibility, and enable quicker responses to fluctuations in market demand. By integrating such comprehensive strategies, FCI BD Limited achieves a synergistic balance between cost efficiency, productivity, and service excellence, reinforcing its capacity to compete effectively in the highly dynamic international apparel industry.

## 2.5 Cost Minimization in the Apparel Sector

The thesis "Cost Minimization in RMG Sector by Supply Chain" A Case Study on FCI Group Ready-Made Garments Sector in Bangladesh" draws upon key insights from existing research on cost reduction in the global apparel sector. Studies reveal that lean manufacturing practices are widely regarded as one of the most effective methods for minimizing production costs while maintaining quality.

This includes strategies like reducing waste, optimizing production lines, and implementing just-in-time inventory systems to lower holding costs. Research also highlights the importance of strategic supplier partnerships, where long-term contracts and bulk purchasing agreements help companies negotiate better pricing and ensure material availability. Digital transformation is another critical trend, with case studies showcasing the role of data analytics and automation in improving efficiency and reducing human error. For instance, apparel companies leveraging predictive analytics have optimized demand forecasting, thereby reducing overproduction and inventory write-offs. Sustainable practices, such as recycling waste materials and using energy-efficient machinery, have also been identified as dual-purpose strategies for cost reduction and environmental compliance. These findings underscore the universal applicability of streamlined operations, technological adoption, and sustainability as pillars of cost reduction, aligning with the strategies implemented by FCI BD Limited to remain competitive in the ever-demanding apparel market.

## 2.6 Research Gaps

Identifying Research Gaps in Supply Chain Management for FCI BD Limited Industry.

Here are some potential research gaps in the literature on Supply Chain Management & (SCM) practices in the FCI BD Limited.

- **Impact of Digital Technologies on SCM Performance**

Digital technologies are revolutionizing Supply Chain Management (SCM) in the Ready-Made Garments (RMG) sector, driving unprecedented improvements in efficiency, agility, and strategic decision-making. By leveraging advanced tools such as Enterprise Resource Planning (ERP) systems, Radio-Frequency Identification (RFID) tags, big data analytics, and integrated digital communication platforms, RMG firms can achieve end-to-end visibility across their supply chains. These technologies enable real-time tracking of raw materials, precise demand forecasting, and rapid, data-driven decision-making, allowing businesses to proactively address disruptions and optimize operations. Consequently, manufacturers can significantly reduce lead times, lower inventory holding

costs, enhance product quality, and consistently meet the strict delivery schedules of global buyers. Beyond operational gains, digital transformation empowers RMG companies to respond swiftly to market trends, improve collaboration among suppliers, manufacturers, and retailers, and gain a competitive edge in an increasingly dynamic global marketplace. Ultimately, embracing digital SCM solutions is not just a technological upgrade it is a strategic pathway to sustainable growth, resilience, and long-term competitiveness in the RMG industry.

- **Risk Management and Resilience in RMG SCM**

Effective risk management and resilience are critical for the Ready-Made Garments (RMG) supply chain due to its high exposure to disruptions such as demand volatility, supplier delays, compliance issues, and global crises. By adopting proactive risk assessment, supplier diversification, contingency planning, and digital monitoring tools, RMG firms can identify potential vulnerabilities and respond quickly to disruptions. Strengthening supply chain resilience enables firms to maintain operational continuity, protect buyer relationships, and sustain long-term performance in an increasingly uncertain global market.

- **Integration of SCM with Other Functional Areas**

Integration with human resources ensures the availability of skilled personnel to manage complex supply chain activities. Training, workforce planning, and performance management aligned with SCM goals enhance operational efficiency and adaptability. Additionally, collaboration with the information technology (IT) function plays a vital role in enabling system integration through ERP, SCM software, and data analytics platforms, ensuring real-time information sharing and transparency. Overall, integrating SCM with other functional areas promotes cross-functional collaboration, reduces operational silos, and enhances organizational agility.

- **Customer-Centric Supply Chain Strategies**

Customer-centric supply chain strategies focus on designing and managing supply chain activities to meet customer needs efficiently and consistently. By aligning procurement, production, inventory, and distribution decisions with customer expectations for quality, cost, customization, and delivery speed, firms can enhance customer satisfaction and loyalty.

# **Chapter -Three**

## **Theoretical Framework & Hypothesis**

### **3.1 FCI BD Limited Supply Chain Practice**

The strategic focus of the thesis report, "Cost Minimization in RMG Sector by Supply Chain" of FCI BD Limited in the FCI Group Ready-Made Garments Sector in Bangladesh," revolves around identifying and implementing innovative approaches to minimize operational costs while maintaining product quality and supply chain efficiency. FCI BD Limited operates within a competitive global apparel market where cost pressures from raw materials, labor, logistics, and compliance are significant.

The study emphasizes the adoption of lean manufacturing practices, supplier relationship management, and process automation as key strategies. By streamlining procurement processes and fostering partnerships with reliable suppliers, the company aims to reduce material costs and enhance supply continuity. The introduction of just-in-time inventory management and data-driven decision-making has further minimized wastage and optimized resource utilization. Additionally, the focus extends to analyzing the impact of cost reduction on production timelines, product quality, and customer satisfaction. Despite these efforts, the study recognizes challenges such as fluctuating raw material prices, dependency on global supply chains, and internal resistance to change. It advocates for investment in technology, such as supply chain analytics tools and digital transformation, to create a resilient and agile supply chain. The thesis also highlights the importance of training employees and aligning cost-reduction initiatives with the company's long-term sustainability goals. Ultimately, this strategic focus aims to position FCI BD Limited as a competitive leader in the ready-made garments sector while reinforcing its commitment to operational excellence and sustainable growth.

### **3.2 Lean Manufacturing and Process Optimization in FCI Group**

The FCI Group operates in a highly competitive electronics manufacturing environment where cost, quality, delivery, and flexibility are critical. Lean Manufacturing and Process Optimization play a key role in improving operational excellence, reducing waste, and enhancing customer value across FCI's global operations.

#### **▪ Lean Manufacturing Objectives at FCI Group**

The primary objectives of Lean implementation within FCI Group include:

- Reducing manufacturing lead time.
- Eliminating non-value-added activities (waste).
- Improving product quality and process consistency.
- Increasing productivity and capacity utilization.
- Lowering operational and inventory costs.
- Strengthening a culture of continuous improvement.

- **Key Lean Manufacturing Principles Applied**

- Waste Reduction (Muda Elimination)
- Value Stream Mapping (VSM)
- 5S Workplace Organization
- Standardized Work
- Process Optimization Techniques
- Quality and Continuous Improvement Culture

- **Benefits to FCI Group**

- Reduced manufacturing costs.
- Improved on-time delivery performance.
- Higher product quality and reliability.
- Better utilization of labor and equipment.
- Enhanced customer satisfaction.
- Stronger competitive position in global markets.

### **3.3 Supplier Relationship Management Strategic Sourcing and Negotiation with Suppliers.**

Supplier Relationship Management (SRM) is a cornerstone of FCI BD Limited's cost reduction strategies, as emphasized in the thesis "Cost Minimization in RMG Sector by Supply Chain: A Case Study on FCI Group Ready-Made Garments Sector in Bangladesh." At the heart of FCI BD Limited's approach is strategic sourcing, which focuses on optimizing procurement costs while ensuring the uninterrupted availability of high-quality raw materials. By cultivating strong, long-term partnerships with key suppliers, the company not only enhances its bargaining power but also secures competitive pricing, favorable payment terms, and dependable delivery schedules. Supplier engagement at FCI BD Limited goes beyond transactional interactions; it is a continuous, collaborative process. The company invests time in understanding market dynamics, assessing supplier capabilities, and maintaining transparent and open communication channels. These efforts allow for effective negotiation of bulk purchasing discounts, flexible delivery arrangements, and proactive risk management, which collectively reduce lead times, minimize inventory holding costs, and prevent production disruptions. Moreover, SRM at FCI BD Limited plays a critical role in aligning operational practices with broader cost-saving objectives. By mitigating supply chain risks, reducing material wastage, and enhancing overall process efficiency, the company strengthens its operational resilience while maintaining high-quality standards. In a highly competitive global apparel market, such strategic supplier partnerships not only reinforce cost efficiency but also elevate FCI BD Limited's reliability, agility, and long-term competitive advantage.

### **3.4 Importance of Long-Term Relationships for Cost Minimization**

In the context of “Cost Minimization in RMG Sector by Supply Chain: A Case Study on FCI Group Ready-Made Garments Sector in Bangladesh,” Supplier Relationship Management (SRM) emerges as a cornerstone of FCI BD Limited’s cost optimization and operational excellence strategies. By fostering long-term, strategic relationships with key suppliers, the company ensures a consistent flow of high-quality materials at competitive prices, mitigating risks associated with supply chain disruptions, price volatility, and market fluctuations. These enduring partnerships enable FCI BD Limited to negotiate favorable terms, such as bulk purchasing discounts, shorter lead times, and reduced transaction costs, which directly contribute to lower procurement expenses. Beyond transactional benefits, strong supplier relationships create a mutually advantageous ecosystem. Suppliers benefit from a stable and reliable customer base, which incentivizes investments in process improvements, technological upgrades, and innovative solutions that further reduce operational costs for FCI BD Limited. Moreover, trust-based collaboration enhances communication, enabling better demand planning, minimizing excess inventory, reducing storage costs, and facilitating joint problem-solving to resolve production challenges quickly and efficiently. This proactive coordination ensures that both parties’ strategic objectives are aligned, creating a win-win environment that strengthens resilience, responsiveness, and overall supply chain efficiency. Complementing these SRM strategies, FCI BD Limited has embraced digital technologies to further enhance supply chain performance. Tools such as Enterprise Resource Planning (ERP) systems, RFID tracking, data analytics, and integrated digital communication platforms provide real-time visibility across the supply chain, enabling faster, data-driven decision-making. These technologies allow the company to track materials accurately, forecast demand with precision, optimize inventory levels, and respond swiftly to market fluctuations, thereby reducing lead times, minimizing costs, and ensuring timely delivery to global buyers. The integration of SRM and digital supply chain practices creates a synergistic effect, where strategic partnerships and technological innovation together drive operational efficiency, enhance competitiveness, and support sustainable growth in the dynamic global apparel market. Ultimately, FCI BD Limited’s approach demonstrates that cost minimization in the RMG sector is not solely about cutting expenses; it is about strategically leveraging supplier relationships and digital technologies to create a resilient, agile, and high-performing supply chain. Through SRM and digital transformation, the company achieves both immediate cost savings and long-term value creation, positioning itself as a competitive leader in the global apparel industry.

### **3.5 Inventory Management and JIT**

At FCI BD Limited, strategic supply chain management is the engine of cost efficiency and competitive advantage in the highly competitive ready-made garments sector. Central to this strategy is Supplier Relationship Management (SRM), which fosters long-term, trust-based partnerships with key suppliers. Complementing SRM, FCI BD Limited has embraced digital supply chain technologies as a force multiplier. Tools like ERP systems, RFID tracking, data analytics, and integrated communication platforms provide real-time visibility and actionable insights across the supply chain. This allows for accurate demand forecasting, proactive risk management, optimized inventory control, and rapid, data-driven decision-making. The combination of SRM and digital technologies creates a synergistic effect, enhancing operational agility, shortening lead times, and ensuring timely delivery to global buyers. A critical component of this integrated strategy is lean inventory management, anchored in Just-In-Time (JIT) principles. By aligning raw material procurement with production schedules, FCI BD Limited minimizes storage costs, reduces waste, and prevents overproduction or obsolescence. JIT ensures the right materials are available at the right time, streamlining operations, improving cash flow, and boosting overall supply chain responsiveness. Close coordination with suppliers and continuous monitoring of production cycles further enhance efficiency, enabling the company to produce the right quantity of goods at the right time, every time.

### **3.6 Inventory Optimization Techniques to Reduce Excess Stock and Storage Costs.**

Effective inventory management is crucial for reducing operational costs in the supply chain, and FCI BD Limited has adopted several strategies to optimize inventory levels. One of the most significant techniques employed is Just-In-Time (JIT) inventory management, which focuses on ordering and receiving materials only when they are needed in the production process. This approach minimizes the need for excessive stock, thereby reducing storage costs and the risk of obsolete inventory. JIT allows FCI BD Limited to align inventory levels more closely with actual demand, eliminating the inefficiencies caused by overstocking or understocking. By implementing JIT, the company improves cash flow as resources are not tied up in large quantities of unsold inventory. The company also collaborates closely with suppliers to ensure timely deliveries and maintain a smooth flow of materials, thus minimizing the lead time and keeping inventory at optimal levels. The integration of advanced forecasting tools and data-driven insights further enhances the accuracy of demand predictions, ensuring that only the required materials are ordered. This combination of JIT principles and inventory optimization techniques has significantly contributed to cost reduction efforts at FCI BD Limited.

### **3.7 Foundation of Hypothesis Formulation in Supply Chain Management**

In SCM studies, hypotheses are formulated through an extensive review of existing literature, the identification of research gaps, and the analysis of how various supply chain practices influence organizational outcomes. For example, researchers may investigate whether strong supplier partnerships lead to improved delivery performance or whether effective information sharing contributes to greater operational efficiency. These observed relationships are then translated into measurable hypotheses that can be empirically tested. Moreover, the development of hypotheses is supported by well-established theoretical perspectives such as the Resource-Based View (RBV), Transaction Cost Theory (TCT), and Supply Chain Integration Theory. Linking theoretical frameworks with practical insights allows researchers to systematically test assumptions and evaluate the impact of SCM practices on organizational performance, competitiveness, and long-term sustainability. Consequently, the background of hypotheses development in SCM provides a clear and structured approach that bridges conceptual theory and empirical analysis, ensuring that research findings are credible, evidence-driven, and valuable to the advancement of supply chain knowledge.

### **3.8 Significance of the Background for Hypothesis Development**

#### **Use of Automated Systems to Reduce Labor Costs and Enhance Productivity**

Automation and advanced technologies serve as a powerful catalyst for cost reduction and productivity enhancement at FCI BD Limited, as highlighted in the thesis “Cost Minimization in RMG Sector by Supply Chain: A Case Study on FCI Group Ready-Made Garments Sector in Bangladesh.” By integrating computer-aided design (CAD) systems, automated cutting machines, and robotics for material handling, the company has significantly reduced dependence on manual labor for repetitive, time-intensive operations. This transformation has resulted in lower labor costs, higher output consistency, and faster production cycles. Automation has also driven substantial gains in precision, quality, and operational speed, minimizing errors, rework, and material wastage while accelerating throughput. Complementing shop-floor automation, the deployment of Enterprise Resource Planning (ERP) systems and Internet of Things (IoT) technologies has streamlined end-to-end supply chain operations. Real-time data visibility enables tighter inventory control, improved demand synchronization, and proactive decision-making, all of which reduce waste and enhance responsiveness. By strategically leveraging automation and digital technologies, FCI BD Limited consistently meets tight delivery deadlines for high-volume global orders while

maintaining strict cost discipline. This technology-driven operating model transforms manufacturing efficiency into a sustainable competitive advantage, positioning the company for long-term success in a global apparel market where speed, precision, and cost efficiency define industry leadership.

### **3.9 Integration of Technology in Tracking, Reporting, and Supply Chain Visibility**

In the case study “Cost Minimization in RMG Sector by Supply Chain: A Case Study on FCI Group Ready-Made Garments Sector in Bangladesh,” automation and digital integration emerge as core enablers of supply chain efficiency and cost leadership at FCI BD Limited. Through the implementation of Enterprise Resource Planning (ERP) systems, cloud-based platforms, and advanced SCM software, the company has achieved real-time visibility across inventory, production, procurement, and order fulfillment. This end-to-end transparency allows FCI BD Limited to precisely balance inventory levels, minimizing costly stockouts and overstocking while maintaining uninterrupted production flows. Automated tracking systems and data analytics tools further strengthen operational control by continuously monitoring key performance indicators (KPIs) such as lead times, production efficiency, and cost per unit. Access to real-time, actionable data enables rapid decision-making and proactive issue resolution, ensuring supply chain disruptions, delays, or inefficiencies are identified and addressed before they escalate into major cost drivers. Technology also plays a vital role in enhancing supplier collaboration, streamlining communication, reducing lead times, and improving coordination across the supply network. As a result, FCI BD Limited consistently delivers high volumes of garments to global buyers with speed, accuracy, quality, and compliance, while keeping operational costs firmly under control. By embedding advanced technologies into its supply chain, the company transforms digital capability into a sustainable competitive advantage, reinforcing its position as a cost-efficient, reliable, and globally competitive leader in the ready-made garments industry. Advanced SCM software helps predict future demand, enabling the company to optimize production planning and inventory levels. By analyzing historical data and real-time demand signals, SCM software helps minimize stock outs and excess inventory. These tools optimize transportation routes and schedules, reducing logistics costs and improving delivery times. By analyzing sensor data, the company can identify potential equipment failures and schedule preventive maintenance, reducing downtime. By analyzing large datasets, the company can identify trends, patterns, and anomalies, enabling data-driven decision-making.

### **3.10 Energy Efficiency and Sustainability Energy-saving initiatives waste recycling, and resource-efficient practices**

#### **Energy-saving initiatives, waste recycling, and resource-efficient practices**

In the context of the thesis "Cost Minimization in RMG Sector by Supply Chain: A Case Study on FCI Group Ready-Made Garments Sector in Bangladesh," energy efficiency and sustainability are critical components of the company's cost reduction strategy. FCI BD Limited has implemented several energy-saving initiatives to reduce operational costs and minimize its environmental footprint. This includes the adoption of energy-efficient machinery and equipment in its manufacturing processes, such as low-energy consumption sewing machines and automated lighting systems, which help to reduce electricity usage. Furthermore, the company has invested in renewable energy sources like solar panels to partially power its operations, thus reducing dependence on grid electricity and mitigating energy cost fluctuations. In terms of waste management, FCI BD Limited actively engages in recycling initiatives by reprocessing textile waste into usable raw materials. Scraps from production are repurposed for smaller items, while excess fabric is collected for recycling or donation, reducing landfill waste. Resource-efficient practices are also embedded in the supply chain, such as the use of water-saving technologies in dyeing processes and optimized raw material usage to minimize wastage.

### **3.11 Impact of Sustainability on Reducing Operational Costs**

In the context of the thesis "Cost Minimization in RMG Sector by Supply Chain: A Case Study FCI Group Ready-Made Garments Sector in Bangladesh," energy efficiency and sustainability emerge as crucial components in reducing operational costs. The ready-made garments industry is energy-intensive, with significant costs associated with electricity, water, and fuel consumption. By adopting energy-efficient practices, FCI BD Limited has made considerable strides in lowering energy costs, which directly impacts the company's bottom line. Implementing energy-saving technologies, such as LED lighting, energy-efficient machines, and renewable energy sources like solar panels, has reduced electricity consumption, helping the company cut utility bills. Furthermore, optimizing the use of water and other resources through recycling and conservation programs has contributed to overall cost savings. Sustainability efforts not only reduce immediate operational expenses but also foster long-term financial benefits by enhancing the company's reputation among international clients who prioritize environmental responsibility. Additionally, compliance with global sustainability standards reduces the risk of penalties and enhances access to eco-conscious buyers. By integrating energy-efficient technologies and sustainable practices, FCI BD Limited not only lowers costs

but also positions itself as an industry leader in environmental responsibility, aligning with both cost reduction goals and the growing global demand for sustainable production practices. The study focuses on key SCM areas such as supplier relationship management, inventory management, information sharing, logistics and transportation management, and customer relationship management. Through both qualitative and quantitative data, this chapter highlights how effective SCM practices contribute to cost reduction, improved productivity, and higher customer satisfaction within the RMG manufacturing process.

# **Chapter -Four**

## **Research Methodology**

## 4.1 Research Design

The study follows a descriptive and analytical research design. The descriptive part focuses on describing the existing supply chain management (SCM) practices at FCI BD Limited, while the analytical part examines how these practices impact the company's operational performance. Both qualitative and quantitative approaches were used to collect and analyze data from different departments such as Production, Store, Merchandising, and Commercial.

## 4.2 Research Methodology

To achieve the objectives, this study will utilize a comprehensive research methodology combining both qualitative and quantitative approaches, such as Primary Source and Secondary Source.

### ▪ Primary Sources of Data

Data will be collected directly from the organization's stakeholders, including managers, employees, and supply chain partners, using the following methods:

- ✓ **Surveys:** Structured questionnaires will be distributed among employees and supply chain partners to collect quantitative data on SCM practices, such as procurement efficiency, logistics management, inventory control, and customer satisfaction.
- ✓ **Experiments:** Observations and practical assessments will be conducted to evaluate how changes in supply chain operations—like lead time reduction or vendor collaboration—impact production efficiency and overall performance.
- ✓ **Personal Interviews:** In-depth interviews will be held with department heads, managers, and senior officials to obtain qualitative insights about SCM strategies, challenges, and future improvements within FCI BD Limited.

### ▪ Secondary Sources of Data

Existing literature, reports, and industry data will be analyzed to supplement primary findings and provide a broader context:

- ✓ **Books, manuals:** Academic and professional books on Supply Chain Management, logistics, procurement, and operations management will be reviewed to understand theoretical frameworks and best practices relevant to the RMG industry. Manuals from industry experts and institutions will also provide guidelines for efficient SCM implementation.
- ✓ **Journals:** Peer-reviewed journals such as the International Journal of Supply Chain Management, Journal of Operations Management, and Bangladesh Textile Today will be consulted to gather updated research findings and case studies related to SCM performance in the garment industry.

- ✓ **Non-government documents:** Internal company documents such as purchase records, production schedules, and delivery reports will be examined to verify the accuracy of survey and interview data.
- ✓ **Statistical data:** Various operational data such as order fulfillment rate, cost of logistics, and supplier performance metrics will be collected and analyzed to measure SCM effectiveness.
- ✓ **Research reports:** Recent studies and internal research conducted by FCI BD Limited. or the Bangladesh Garment Manufacturers and Exporters Association (BGMEA) will be used to support the analysis and validate the study's findings.
- ✓ **Official publications:** Publications from government bodies, such as the Bangladesh Bureau of Statistics (BBS), Export Promotion Bureau (EPB), and Bangladesh Garment Manufacturers and Exporters Association (BGMEA) will provide statistical data and policy-related insights about the RMG sector and its supply chain environment.
- ✓ **Web sites:** Company websites, industry portals, and professional networks will be used to collect information on current SCM trends, digital transformation, and sustainability practices. Websites of organizations like BGMEA, BKMEA, and ILO Bangladesh will also support the study with credible data and reports.
- ✓ **Relevant industry reports:** Reports published by consulting firms, research institutions, and trade associations will offer comprehensive data on SCM performance benchmarks, global supply chain challenges, and competitive analysis of the RMG sector.
- ✓ **Scholarly articles:** Academic research papers and dissertations focusing on supply chain efficiency, information sharing, logistics, and supplier relationship management will be reviewed to identify key variables and strengthen the conceptual foundation of the study.

### **4.3 Research Instruments**

A structured questionnaire was the main research instrument used in this study. It consisted of both closed-ended and Likert scale questions designed to measure the perception of employees regarding SCM practices and their impact on operational performance. Interviews were also conducted to gather additional qualitative insights.

### **4.4 Data Analysis Technique**

The collected data were analyzed using descriptive statistical methods such as frequency distribution, percentage, and mean analysis to interpret the responses. In addition, correlation and regression analysis were applied to test the relationship between SCM practices (like inventory management, supplier relationship, logistics, and information sharing) and the performance outcomes of FCI BD Limited. Data analysis was conducted using Microsoft Excel and Oracle software for accuracy and reliability.

### **4.5 Time & Location**

The research was conducted at FCI BD Limited, located in Dhaka EPZ, Ashulia, Savar, Bangladesh. The study was carried out over a period of three months (October to December-2025). This time frame allowed sufficient opportunity to collect, verify, and analyze relevant data related to supply chain operations. Also keep this survey data at Google form.

### **4.6 Limitations**

- ✓ Despite careful planning, the research faced a few limitations:
- ✓ Limited access to confidential company data due to privacy policies.
- ✓ Time constraints restricted the number of respondents and site visits.
- ✓ The study focuses only on one RMG company, so the findings may not fully represent the entire industry.
- ✓ Respondents' opinions might carry personal bias, which could slightly affect data accuracy.

# **Chapter-Five**

## **Data Analysis & Results**

## 5.1 Introduction

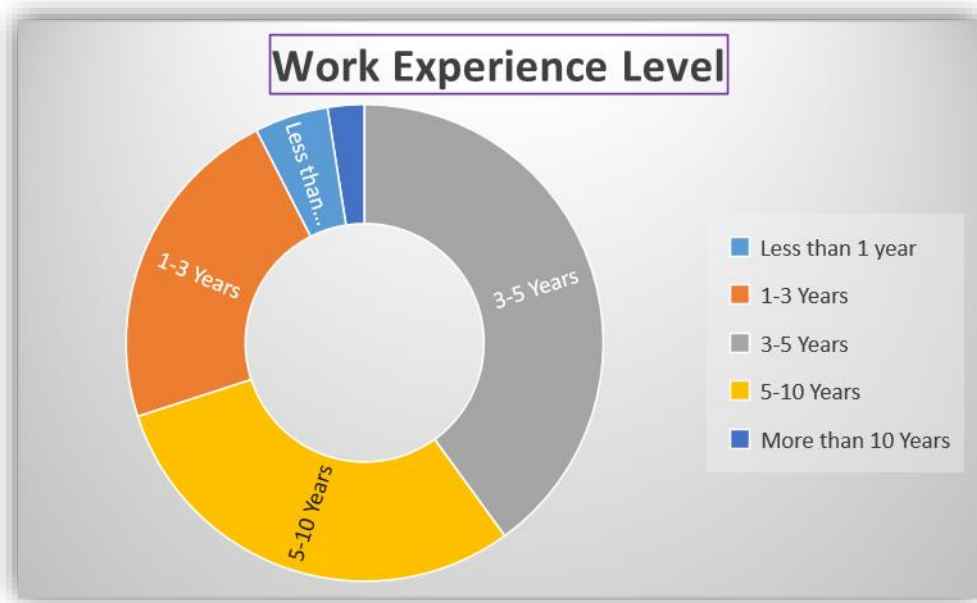
This chapter presents a detailed analysis and interpretation of the data collected from different functional departments of FCI BD Limited. The objective of this analysis is to evaluate the impact of Supply Chain Management (SCM) practices on the operational efficiency and performance of the company within the Ready-Made Garments (RMG) sector. The study focuses on key SCM areas such as supplier relationship management, inventory management, information sharing, logistics and transportation management, and customer relationship management. Through both qualitative and quantitative data, this chapter highlights how effective SCM practices contribute to cost reduction, improved productivity, and higher customer satisfaction within the RMG manufacturing process.

## 5.2 Analysis of FCI BD Employee Work Experience Level

The highest share of participants, 40.00%, possess (3-5) years of professional experience, indicating that many respondents have deep expertise and long-standing familiarity with organizational and supply chain operations. Their responses are therefore likely to be well informed, drawing on both past developments and strategic insights into operational practices. Additionally, 22.50% of respondents have between (1-3) years of experience, while 30.00% fall within the (5-10) years category. Those with less than one year of experience make up 5.00%, and a smaller group of 2.50% has more than 10 years of experience. Overall, this composition reflects a healthy blend of senior, mid-level, and newer employees, offering a comprehensive range of viewpoints on current practices and ongoing changes within the organization.

### ❖ Data Analysis & Result-

Work Experience Level	Frequency	Percentages
Less than 1 year	2	5.00%
1-3 Years	9	22.50%
3-5 Years	16	40.00%
5-10 Years	12	30.00%
More than 10 Years	1	2.50%
<b>Total</b>	<b>40</b>	<b>100%</b>



*Fig: Graphical Presentation of Work Experience Level*

### **5.3 Analysis of FCI BD Limited Employee Position Levels**

The highest share of participants belongs to the “Executive” category, accounting for 35%, which likely represents operational and support personnel engaged in routine supply chain and organizational tasks. Team Leader & Asst Manager both make up 17.50% of the respondents, representing the second-largest segment. Sr. Executive comprise 12.50% of the run the operation, providing viewpoints that connect frontline operations with management oversight. The remaining respondents include Jr. Executive (10%), along with Manager (5%) and Sr. Manager at 2.50% each. Although smaller in number, these groups enrich the analysis by adding important top-level administrative and operational perspectives.

#### **❖ Data Analysis & Result-**

Position Level	Frequency	Percentages
Team Leader	7	17.50%
Jr. Executive	4	10%
Executive	14	35%
Sr. Executive	5	12.50%
Asst. Manager	7	17.50%
Manager	2	5%
Sr. Manager	1	2.50%
<b>Total</b>	<b>40</b>	<b>100%</b>



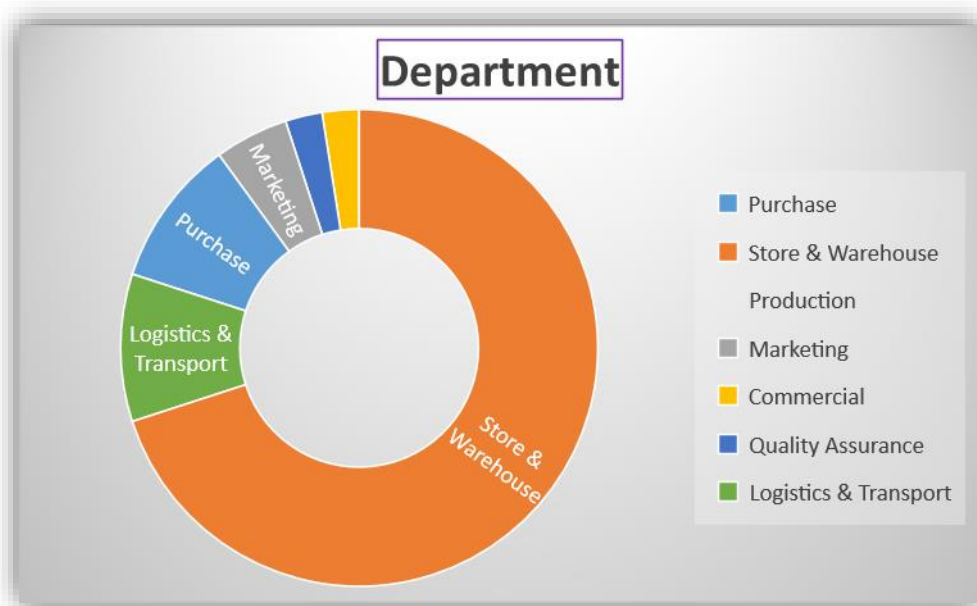
*Fig: Graphical Presentation of Employee Position Level*

#### **5.4 Analysis of FCI BD Limited Departmental Distribution.**

The distribution of respondents by department reveals that the largest share of participants belongs to the Store & Warehouse department, representing 70% of the total respondents. This dominant proportion suggests that the majority of opinions, experiences, and feedback in the study are provided by employees who are closely engaged in inventory control and routine material management operations. Their substantial involvement implies that conclusions related to supply chain functions, stock management practices, and overall logistics activities are grounded in practical, operational experience. A smaller percentage of respondents are drawn from other departments such as Purchase (10%), Logistics and Transport (10%), Marketing (5%), Commercial (2.50%), and Quality Assurance (2.50%). Although these groups are represented to a lesser extent, their inclusion contributes varied viewpoints from different functional areas within the supply chain. Nevertheless, the lack of participation from the Production department may restrict direct understanding of manufacturing operations and production scheduling aspects. This limitation suggests that while the study effectively captures downstream and inventory-related processes, it may not fully reflect production-level dynamics within the overall supply chain framework.

### ❖ Data Analysis & Result-

Department	Frequency	Percentages
Purchase	4	10%
Store & Warehouse	28	70%
Production	0	0%
Marketing	2	5%
Commercial	1	2.50%
Quality Assurance	1	2.50%
Logistics & Transport	4	10%
<b>Total</b>	<b>40</b>	<b>100%</b>



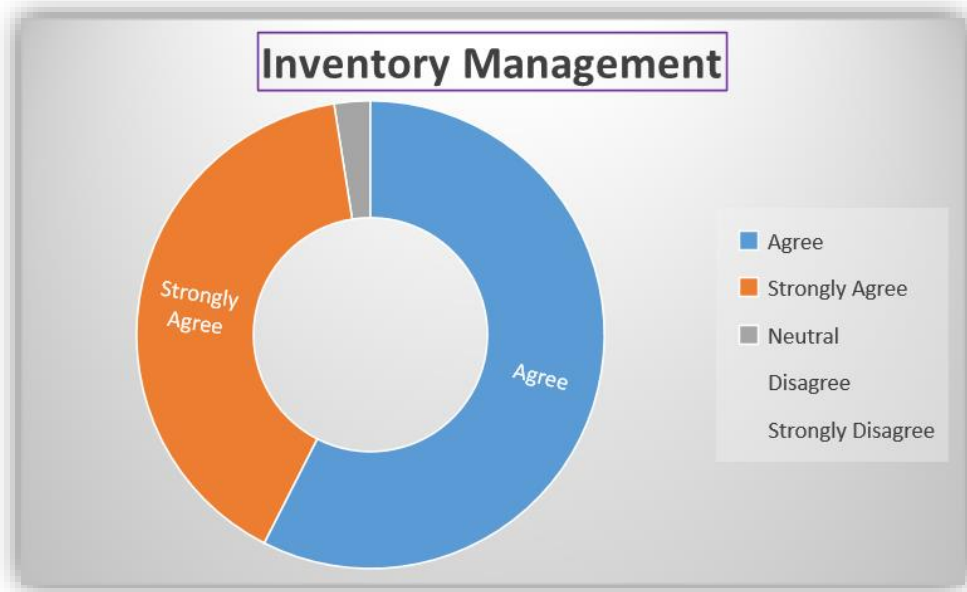
*Fig: Graphical Presentation of Departmental Distribution*

## 5.5 Analysis of Inventory Management

The findings reflect an overwhelmingly favorable view of the organization's inventory management practices. Overall, 97.2% of participants expressed positive agreement, with 57.50% agreeing and 40.00% strongly agreeing that the organization has effective inventory systems and procedures in place. This strong level of approval suggests a high degree of trust in the organization's capability to manage inventory efficiently, prevent stock shortages. The remaining 2.50% of respondents chose a neutral position, indicating limited uncertainty or minimal involvement in inventory-related functions. Notably, there were no negative responses, highlighting the absence of dissatisfaction and underscoring the consistent and positive perception of the organization's inventory control mechanisms.

❖ **Data Analysis & Result-**

Inventory Management	Frequency	Percentages
Agree	23	57.50%
Strongly Agree	16	40.00%
Neutral	1	2.50%
Disagree	0	0%
Strongly Disagree	0	0%
<b>Total</b>	<b>40</b>	<b>100%</b>



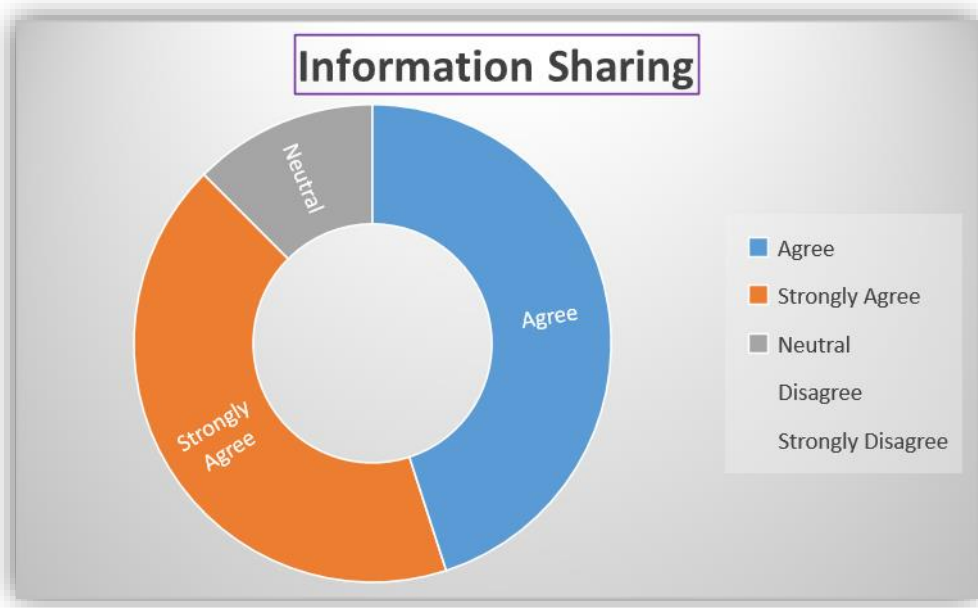
*Fig: Graphical Presentation of Inventory Management*

## **5.6 Analysis of Information Sharing**

The results show a very favorable outlook among respondents regarding information-sharing practices in the organization. An overwhelming 91.43% expressed positive agreement, with 65.20% agreeing and 30.10% strongly agreeing that information is shared effectively. This strong consensus implies that the organization has well-developed communication systems that enable timely, accurate, and transparent information flow among departments and supply chain partners. A small proportion of respondents (4.70%) remained neutral, which may indicate limited involvement in or awareness of information-sharing activities. Notably, there were no negative responses, highlighting the absence of dissatisfaction and suggesting that employees generally perceive information sharing as dependable and beneficial for effective coordination and decision-making.

❖ **Data Analysis & Result-**

Information Sharing	Frequency	Percentages
Agree	18	65.20%
Strongly Agree	17	30.10%
Neutral	5	4.70%
Disagree	0	0%
Strongly Disagree	0	0%
<b>Total</b>	<b>40</b>	<b>100%</b>



*Fig: Graphical Presentation of Information Sharing*

**Chapter – Six**  
**Discussion**

## 6.1 Summary of Key Findings

- One of the major findings indicates that FCI BD Limited faces challenges in ensuring uniform quality among its suppliers. Differences in the quality of raw materials have a direct impact on production efficiency and the standard of finished products.
- FCI BD Limited places strong importance on sustainable sourcing, such as the adoption of organic and environmentally friendly materials; however, monitoring supplier adherence to sustainability requirements remains a significant challenge.
- Local sourcing of raw materials has helped FCI BD Limited minimize lead times and transportation expenses. Despite these benefits, procurement efficiency is still affected by seasonal supply variations, market uncertainty, and fluctuating prices.
- FCI BD Limited has adopted advanced technological systems to enhance supply chain transparency, enabling more accurate demand forecasting, effective inventory control, and real-time monitoring of raw material deliveries.
- Procurement activities at FCI BD Limited are shaped by compliance with both domestic and international regulatory standards. The extensive documentation and certification processes required for compliance often result in procurement delays.
- Sourcing materials from multiple suppliers has led to higher procurement costs for FCI BD Limited; however, establishing long-term partnerships and utilizing bulk purchasing arrangements have helped reduce some of these additional expenses.
- The findings reveal that FCI BD Limited depends on a broad network of both local and international suppliers to obtain raw materials, which helps maintain a steady supply of high-quality inputs.
- The study underscores the importance of strengthening risk management practices at FCI BD Limited, particularly to mitigate supply chain disruptions caused by natural disasters, geopolitical uncertainties, and supplier financial instability.

## **6.2 Assessment of Supplier Relationship Practices**

Supplier Relationship Management (SRM) plays a critical role in the cost reduction strategies of FCI BD Limited, as highlighted in the thesis “Cost Minimization in the RMG Sector through Supply Chain Management. Strategic sourcing lies at the core of the company’s procurement approach, enabling FCI BD Limited to optimize costs while ensuring the timely supply of high-quality raw materials. By developing strong, long-term partnerships with key suppliers, the company strengthens its bargaining position, leading to competitive pricing, favorable payment terms, and dependable delivery performance. Supplier negotiations at FCI BD Limited are continuous and collaborative, focusing on mutual value creation. These negotiations are supported by a thorough understanding of market dynamics, supplier capabilities, and transparent communication practices. The company leverages bulk purchasing agreements and flexible delivery schedules to reduce lead times and inventory holding costs. This strategic supplier management approach not only ensures uninterrupted material flow but also supports broader cost-saving objectives by reducing risks, minimizing waste, and improving overall operational efficiency. Consequently, effective SRM enhances FCI BD Limited’s competitiveness in the global apparel market.

## **6.3 Assessment of Inventory Management, Logistics Efficiency, and Information Systems**

Inventory management, logistics, and information sharing function as a tightly integrated performance system that directly drives supply chain efficiency and cost optimization at FCI BD Limited. The deployment of ERP-enabled inventory management delivers real-time visibility across material flows, enabling the company to dramatically reduce inventory obsolescence, minimize waste, and unlock stronger working capital efficiency. Simultaneously, intelligent logistics planning strengthens supply chain reliability by optimizing transportation routes, reducing delivery delays, and maintaining tight control over distribution costs. This operational precision is reinforced by structured, real-time information sharing across functional units, which eliminates data silos, enhances cross-departmental alignment, and accelerates data-driven decision-making at every level of the organization. The findings clearly demonstrate that technology-enabled supply chain integration at FCI BD Limited is a strategic capability—not merely an operational tool. By synchronizing inventory, logistics, and information flows, the company enhances organizational agility, strengthens cost discipline, and sharpens its competitive positioning in the fast-moving global ready-made garments industry.

## **6.4 Examination of Customer Relationship Strategies and Organizational Performance**

Customer Relationship Management (CRM) is a strategic growth driver at FCI BD Limited, directly shaping buyer trust, market credibility, and long-term profitability. Through consistent communication, rigorous quality assurance, and on-time delivery performance, the company reinforces customer confidence and satisfaction across its global buyer network. Rapid response to customer feedback enables FCI BD Limited to strengthen long-term international partnerships, secure repeat orders, and ensure stable revenue growth. Beyond customer retention, effective CRM empowers the company to anticipate shifting fashion trends and buyer expectations, allowing for faster adaptation in a highly dynamic market. This customer-centric operating model aligns with global supply chain best practices, which consistently demonstrate that strong CRM enhances brand reputation, operational resilience, and financial performance. By embedding CRM into its core supply chain strategy, FCI BD Limited converts customer insight into a sustainable competitive advantage, reinforcing its leadership position in the international ready-made garments industry.

## **6.5 Analysis of Risk Management in Supply Chain Processes**

The analysis demonstrates that adopting effective supply chain management (SCM) practices significantly enhances the performance of FCI BD Limited and, more broadly, strengthens the RMG sector in Bangladesh. Key SCM components, including supplier relationship management, inventory optimization, logistics coordination, seamless information flow, and customer engagement work together to lower costs, boost operational efficiency, and improve client satisfaction. The findings highlight that SCM serves not only as an operational efficiency tool but also as a strategic capability that reinforces competitiveness in the global apparel market. Therefore, implementing robust SCM strategies is critical for achieving sustainable growth and leadership

# **Chapter -Seven**

## **Recommendations & Conclusion**

## 7.1 Recommendations

- **Streamline Production Processes:** Implement lean manufacturing techniques to eliminate waste, reduce defects, and enhance operational efficiency across all production stages.
- **Adopt Just-In-Time Inventory:** Align raw material procurement with production schedules to minimize inventory holding costs and reduce unnecessary storage expenses.
- **Enhance Supplier Negotiations:** Build long-term relationships with suppliers to negotiate bulk discounts, secure better pricing, and ensure consistent raw material quality.
- **Leverage Automation Technology:** Invest in automated machinery and supply chain software to minimize manual errors, improve accuracy, and enhance operational speed.
- **Optimize Transportation Costs:** Use route optimization tools and consolidate shipments to reduce freight costs and improve distribution efficiency.
- **Upgrade Energy Efficiency:** Install energy-efficient machinery and lighting systems to reduce electricity costs and support environmentally sustainable production practices.
- **Provide Workforce Training:** Regularly train employees to improve productivity, minimize errors, and ensure effective utilization of advanced machinery and tools.
- **Standardize Quality Controls:** Implement strict quality checks during production to reduce rework and maintain compliance with customer specifications.
- **Diversify Supplier Sources:** Reduce dependency on single suppliers by diversifying procurement to minimize risks of price hikes and supply chain disruptions.
- **Outsource Non-Core Operations:** Delegate secondary activities, like IT and packaging, to third-party providers to reduce operational overhead costs.
- **Recycle Production Waste:** Implement waste recycling practices to reduce material costs and align with global sustainability goals in the garments industry.
- **Implement Bulk Purchasing:** Procure raw materials in bulk quantities to reduce per-unit costs and take advantage of economies of scale.
- **Monitor Industry Trends:** Stay updated on industry innovations and market dynamics to adopt cost-effective technologies and maintain a competitive advantage.
- **Develop Cross-Functional Teams:** Establish cost reduction teams to identify inefficiencies and implement innovative cost-saving solutions across all organizational departments.

## 7.2 Conclusion

The case study on "Cost Minimization in RMG Sector by Supply Chain: A Case Study on FCI Group Ready-Made Garments Sector in Bangladesh" reveals several crucial findings about the company's current efforts to manage costs effectively. Firstly, FCI BD Limited has successfully implemented lean manufacturing practices, which have contributed to reducing waste and optimizing production processes. However, there remains significant potential for cost savings through the adoption of more advanced automation and digital technologies, which could further streamline operations and reduce labor costs.

Secondly, while the company has made strides in managing its procurement costs through strategic supplier partnerships, there are opportunities to leverage bulk purchasing and explore alternative suppliers to further negotiate better terms. Thirdly, inventory management has improved with just-in-time systems, but better forecasting and demand planning could reduce excess inventory costs and improve stock turnover. Lastly, FCI BD Limited should invest in workforce development to foster a culture of continuous improvement, where employees are engaged in identifying cost-saving measures at all levels. Implementing these recommendations would not only enhance cost efficiency but also position the company for long-term sustainable growth in the competitive global garment industry. Evaluation of the Overall Effectiveness of the Strategies in Achieving Cost Reductions Based on the findings in the thesis, it is recommended that FCI BD Limited continues to build on its existing cost reduction strategies, particularly in lean manufacturing, supplier relationship management, and just-in-time inventory. The evaluation indicates that while these strategies have led to noticeable reductions in material costs, production inefficiencies, and inventory holding costs, there is room for further improvement. Investing in automation and advanced supply chain analytics could enhance decision making and operational efficiency. Additionally, enhancing workforce training and adopting sustainable sourcing practices will not only reduce costs but also strengthen the company's long-term competitiveness and sustainability.

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# Appendices:

## Appendix: Survey Questionnaire

### Survey on Cost Minimization by Supply Chain in RMG Sector

This survey is part of a thesis titled "Cost Minimization by Supply Chain in RMG Sector". Your responses will remain confidential and used only for academic purposes.

- Q.1: How many years' Experience you have in RMG sector?
  - a) Less than 1 year
  - b) 1–3 years
  - c) 3–5 years
  - d) 5–10 years
  - e) More than 10 years
- Q.2: What is your Position/Designation in your company?
  - a) Team Leader
  - b) Jr. Executive
  - c) Executive
  - d) Sr. Executive
  - e) Asst. Manager
  - f) Manager
  - g) Sr. Manager
- Q.3: What is your department name?
  - a) Purchase
  - b) Store & Warehouse
  - c) Production
  - d) Marketing
  - e) Commercial
  - f) Quality Assurance
  - g) Logistics & Transport
- Q.4: ERP/SAP is useful & effective for Stock data maintain?
  - a) Agree
  - b) Strongly Agree
  - c) Neutral
  - d) Disagree
  - e) Strongly Disagree
- Q.5: ERP/SAP software can able to share the real time stock data remotely?
  - a) Agree
  - b) Strongly Agree
  - c) Neutral
  - d) Disagree
  - e) Strongly Disagree