UNIVERSITY OF CO-OPERATIVE AND MANAGEMENT, SAGAING
DEPARTMENT OF STATISTICS
HUMAN RESOURCE DEVELOPMENT PROGRAMME
MASTER OF APPLIED RESEARCH

THE EFFECTS OF LOGISTICS ACTIVITIES ON FIRM PERFORMANCE OF MYANMAR INDO BEST COMPANY LIMITED

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This thesis is submitted to the Board of Examiners in partial fulfillment of the requirements for the degree of Master of Applied Research.

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ACCEPTANCE

This is to certify that this paper entitled "**The Effects of Logistics Activities on Firm Performance of Myanmar Indo Best Company Limited**" submitted as a partial fulfillment towards the degree of Master of Applied Research has been accepted by Board of Examiners.

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ABSTRACT

In today's interconnected world, logistics activities are indispensable for optimizing business, enabling global trade, and meeting rapidly evolving consumer demands for speed, efficiency, and reliability in product delivery. This study focused on logistics practices and the performance of Myanmar Indo Best Company. The objectives of this study are to identify the logistics activities and to analyze the effects of logistics activities on the firm performance of Myanmar Indo Best Company. To accomplish these objectives, primary and secondary data are used in this study. The primary data were collected from 178 respondents by using a stratified random sampling method. Descriptive statistics, correlation analysis, and multiple regression analysis were used in this study. Based on the correlation results, transportation activity demonstrates a strong positive correlation with firm performance, while all other logistics activities such as warehousing, communication, order processing and fulfillment exhibit moderate correlations. According to multiple regression analysis results, all logistics activities show positive and significant effects on firm performance. Transportation is the most influential factor, order processing and order fulfillment are the second most influential, warehousing is the third most influential, communication is the fourth most influential, and demand forecasting is the least influential factor for firm performance. The result showed that the logistics activities are important to increase the firm's performance. These activities can provide several benefits for the company. Therefore, MIB Company should focus on these logistics activities to enhance organizational performance.

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LIST OF ABBREVIATIONS

3PL	Third-Party logistics
AI	Artificial Intelligence
FMCG	Fast Moving Consumers Goods
EDI	Electronic Data Interchange
ERP	Enterprise Resource Planning
GIS	Geographic Information System
JIT	Just-In-Time inventory management
KPI	Key Performance Indicator
MIB	Myanmar Indo Best Company Limited
RBV	Resource-Based View
RFID	Radio Frequency Identification
SCM	Supply Chain Management
TCE	Transition Cost Economics
VRIN	Valuable, Rare, Inimitable and Non-substitute
WMS	Warehouse Management Systems

CHAPTER 1
INTRODUCTION

The rapid advancement of technology has made the world seem increasingly accessible, breaking down barriers and reshaping the way people think and interact. Distances are becoming less significant, and the future may see desires fulfilled almost instantaneously. As these changes unfold, the traditional concepts of waiting and delays are being redefined, emphasizing the need for immediacy and proximity in meeting consumer demands. In this evolving landscape, production processes alone can no longer secure a competitive edge.

The old strategies of lowering prices, offering small gifts, or marginally improving products are no longer sufficient. Entities relying solely on these methods risk being left behind, expending resources while progressively losing ground in the market. In contrast, success now requires delivering the best, fastest, and most precise solutions to consumers. This is where logistics plays a crucial role. Far from being a new concept, logistics has long been an integral part of human activity, though its value often went unrecognized. High-quality products alone are not enough without logistics the product cannot reach the end users.

The preferred definition of logistics is that it is a process of moving and handling goods and materials, from the beginning to the end of the production and sale process and waste disposal, to satisfy consumers (Tseng et al., 2005). While its modern application has grown significantly, its origins can be traced back to ancient civilizations. The Roman legions stood out for the effective use of transportation routes, which enabled them to conquer vast territories. Similarly, China's Great Wall was not merely a defensive structure but was also designed to facilitate the swift movement of troops and the efficient transportation of military supplies. The term "logistics" is derived from the Greek word “logistike,” which translates to "the art of calculation and planning." It emerged from ancient Greek military practices, where it referred to the organization and transportation of weapons, provisions, and reinforcements, laying the foundation for its modern-day application.

Logistics primarily consists of two main components: inbound logistics and outbound logistics. Inbound logistics involves the transportation and procurement of goods and raw materials into the organization. It focuses on activities such as purchasing materials and managing relationships with suppliers. Outbound logistics, on

the other hand, deals with the distribution and sale of finished goods from the organization to users, focusing on delivery efficiency. This is just a theoretical distinction; in practice, the two components are closely interconnected. Meeting demands requires seamless coordination between purchasing (from suppliers) and distributing (to customers). Without such integration, achieving operational efficiency is impossible.

1.1 Rationale of the Study

Logistics has become an indispensable process for every country in today's era. As countries are made up of businesses and people, the development of businesses is crucial. The global competition among individuals and nations has shifted towards excelling in logistics activities. Logistics is no longer an auxiliary function but a core strategy for businesses to thrive in an increasingly competitive world, especially in Myanmar. The nation's progress relies on the success of businesses, which can elevate the standard of living for its people. Therefore, it is essential to ensure effectiveness in all aspects.

The logistics industry serves as a critical driver in enhancing the efficiency and competitiveness of businesses by contributing significantly to product quality improvement while also representing one of the largest cost areas, particularly in terms of expansion and investment. A major focus of logistics lies in streamlining transportation to maintain and improve the quality of goods delivered. Given the evolving economic landscape in Myanmar, investigating this sector is both relevant and timely. This research aims to pinpoint the most essential logistics activities that influence operational success. Importantly, the study emphasizes the value of incorporating the perspectives of individuals who are directly involved in logistics operations. Their practical experience provides insights that go beyond theoretical or external analyses and can offer grounded understanding crucial for sectoral improvements.

Moreover, it is essential to explore how logistics activities affect overall business performance. Understanding this relationship requires examining the link between operational logistics functions and organizational outcomes. In this regard, distribution intermediaries play a vital role by ensuring products move efficiently from manufacturers to final consumers. These intermediaries bridge the gap between supply and demand by overseeing functions such as transport, storage, and inventory control.

Their contributions not only simplify distribution processes but also improve reliability and accessibility, thereby easing the workload of producers and enhancing product availability for the market.

Another significant advantage of using intermediaries lies in their capacity to reduce distribution-related costs. By leveraging economies of scale, intermediaries are able to streamline transportation and warehousing expenses, ultimately lowering the cost of goods for end consumers. Their established distribution networks and industry expertise further help minimize inefficiencies, enabling a more seamless flow of products throughout the supply chain. Beyond cost efficiency, intermediaries also play a vital role in risk management by taking on responsibilities such as inventory storage and handling surplus or unsold stock, thereby lessening the uncertainties faced by producers and ensuring a consistent supply of goods in the market.

In addition, intermediaries serve as valuable sources of market intelligence. Their direct engagement with consumers allows them to collect feedback and monitor trends, which can be instrumental in helping producers refine their product offerings. By maintaining optimal stock levels and forecasting demand, intermediaries help avoid both stockouts and excess inventory, contributing to steady product availability and improved customer satisfaction. These functions collectively position intermediaries as indispensable agents in ensuring efficient distribution, enhancing accessibility, and supporting overall supply chain effectiveness.

In the context of Myanmar, where production capabilities remain limited, effective management and distribution of existing goods become critically important. By optimizing logistics operations, the country can reduce waste, preserve product quality, and lower distribution costs, all of which can benefit consumers, businesses, and the broader economy. This study focuses on examining whether logistics activities that are not directly tied to production such as transportation, warehousing, and inventory control can contribute indirectly to enhancing product value and improving supply chain performance. Specifically, the research aims to address the questions.

The first one is which logistics activities are most effective in supporting product distribution under existing production constraints? The second is in what ways can optimized logistics practices contribute to improved operational performance and create benefits for all supply chain stakeholders? Gaining insights into these relationships may offer practical strategies for enhancing supply chain resilience, supporting business growth, and contributing to Myanmar's economic development.

Logistics plays a pivotal role in Myanmar's development, particularly in light of the country's production limitations. Given the existing constraints on domestic manufacturing capacity, it becomes increasingly important to focus on the efficiency and integrity of logistics systems. Ensuring that raw materials are properly handled and that finished goods reach consumers without deterioration is essential. Reducing product damage, waste, and other forms of loss during transportation and handling not only minimizes operational costs but also delivers broader benefits for consumers, businesses, and the national economy. These often-overlooked aspects emphasize the strategic importance of robust logistics processes in achieving sustainable development goals.

This study concentrates on the logistics activities that influence operational performance at Myanmar Indo Best, a logistics company in Upper Myanmar that is primarily engaged in the distribution and sale of consumer goods. As a distribution-focused organization, Myanmar Indo Best places significant emphasis on transportation efficiency, warehousing, inventory management, and the effective deployment of its workforce. The company presents a compelling case through which the relationship between logistics practices and business performance can be explored in detail. In particular, the study seeks to understand how logistics operations shape employee perceptions and how those perceptions, in turn, affect operational outcomes and overall performance.

Despite the growing recognition of logistics as a strategic business function, there remains limited empirical research within the Myanmar context, context especially concerning how internal logistics processes influence organizational effectiveness. While previous studies often concentrate on external supply chain factors, fewer have addressed how the daily activities within logistics departments directly impact performance at both the operational and employee levels. This gap in the literature creates uncertainty about which specific logistics functions are most influential and how they can be optimized in resource-constrained environments.

Therefore, the core research problem addressed in this study is the lack of contextualized understanding of how logistics activities, particularly transportation, warehousing, and inventory control affect employee perceptions and business performance in distribution-focused firms within Myanmar. Gaining insights into these relationships is essential for developing evidence-based strategies that can improve not only firm-level outcomes but also contribute to broader economic efficiency.

1.2 Objectives of the Study

The objectives of the study are:

(1) to identify the socio-economic, economic condition and logistics activities of Myanmar Indo Best Company and

(2) to analyze the effects of logistics activities on the firm performance of Myanmar Indo Best Company.

1.3 Method of Study

The study involves data collection from 178 employees, determined using Krejcie and Morgan's (1970) sample size table, out of a total of 319 employees in these branches by using the stratified random sampling method. Primary data was collected using a structured questionnaire. Descriptive statistics are used to examine the demographic and socio-economic characteristics of the respondents and their perceptions of logistics activities on operational performance. In addition, multiple regression analysis is employed to investigate which factors are influencing operational performance.

1.4 Scope and Limitations of the Study

This paper focuses on examining the logistics activities and their effects on operational performance within three key branches of Myanmar Indo Best. The paper concentrates on logistics activities actively utilized by Myanmar Indo Best, ensuring relevance and applicability to the organization's current operations. As a limitation in the study, only three of the company’s six branches were collected.

1.5 Organization of the Study

This paper is comprised of five chapters. Chapter 1 includes the introduction, rationale of the study, objectives of the study, methods of the study, scope and limitation of the study, and organization of the paper. Chapter 2 presents a literature review. Chapter 3 describes research methodology. Chapter 4 analyzes the relationship between logistics activities and the operational performance of Myanmar Indo Best Company. Finally, Chapter 5 is the conclusion, which describes findings and discussions, suggestions and recommendations, and limitations and needs for further study.

CHAPTER 2
LITERATURE REVIEW

Logistics is a foundational element of contemporary business strategy, playing a vital role in ensuring operational effectiveness and long-term organizational success. It facilitates the smooth flow of goods, supports timely delivery, and promotes optimal resource utilization across the supply chain. Key logistics functions including warehousing, transportation, communication, order fulfillment, and demand forecasting are widely recognized for their contribution to enhancing firm efficiency, reducing operational costs, and improving customer satisfaction (Christopher, 2016). When managed effectively, these activities can provide firms with a competitive edge by streamlining supply chain processes, minimizing lead times, and elevating the quality of service delivery (Mentzer et al., 2001).

From a performance standpoint, logistics activities exert a direct influence on various dimensions of organizational success, including financial outcomes, process efficiency, and customer service quality. Warehousing, for instance, supports consistent product availability, while transportation ensures effective distribution and timely delivery. Communication plays a critical role in coordinating logistics activities across departments, and efficient order fulfillment strengthens responsiveness to customer needs. Moreover, demand forecasting enables firms to anticipate market trends and align inventory levels accordingly, thereby minimizing uncertainty and reducing supply chain disruptions (Bowersox et al., 2013).

Empirical research suggests that organizations that adopt a strategic approach to logistics management often achieve measurable improvements in profitability, customer loyalty, and overall market competitiveness. For example, Gunasekaran et al. responsiveness is a key driver of sustainable growth in dynamic business environments. This chapter presents a review of existing literature related to the impact of logistics activities on firm performance. The review outlines the theoretical underpinnings of logistics management, explores its practical implications, and synthesizes key findings from prior empirical studies. These insights provide a conceptual basis for investigating logistics operations at Myanmar Indo Best Company (MIB) and help inform the development of the study's research framework.

2.1 Concepts of Logistics

Logistics represents a central component of supply chain management (SCM), encompassing the planning, execution, and oversight of the efficient movement and storage of goods, services, and related information from their point of origin to the point of final consumption (Bowersox et al., 2013). The fundamental objective of logistics is to deliver the right products to the right locations at the right time while simultaneously managing costs and enhancing customer satisfaction (Christopher, 2016). Within this scope, logistics activities include several core functions such as warehousing, transportation, communication, order fulfillment, and demand forecasting, all of which play a crucial role in driving overall firm performance.

Logistics functions are typically divided into two broad categories: inbound logistics and outbound logistics. Inbound logistics refers to the flow of raw materials, components, and supplies from external suppliers into the organization, supporting uninterrupted production and operational readiness (Ballou, 2007). Conversely, outbound logistics focuses on delivering finished products to customers, including activities such as product handling, packaging, warehousing, and distribution (Mentzer et al., 2001). Effective integration and coordination between these two streams are vital for maintaining operational efficiency and achieving cost-effectiveness across the supply chain.

Moreover, logistics is intricately tied to the broader concept of supply chain management. While logistics primarily concerns the physical distribution and storage of goods, SCM encompasses a wider array of functions including procurement, supplier relationship management, production planning, demand forecasting, inventory control, and customer service (Lambert & Cooper, 1998). Strategic alignment between logistics and SCM processes enhances organizational agility and resilience, enabling firms to deliver customer value while controlling costs. Research shows that firms leveraging integrated logistics strategies often realize superior performance outcomes such as improved service levels, streamlined operations, and higher profitability (Gunasekaran et al., 2004).

In recent years, the role of logistics has expanded significantly due to technological advancements. Modern logistics systems increasingly rely on innovations such as real-time tracking, predictive analytics, automated inventory management, and integrated warehouse management systems. These technologies have revolutionized the logistics landscape by enhancing visibility, reducing response times, and improving

resource allocation (Rushton et al., 2017). As businesses face growing pressure to respond rapidly to market demands, the strategic management of logistics functions has become more critical than ever.

In sum, logistics not only supports the efficient execution of supply chain processes but also contributes directly to competitive advantage and business sustainability. Its evolving role in today's dynamic business environment underscores the importance of ongoing research, particularly in emerging economies like Myanmar, where logistics capabilities are still developing.

2.2 Theoretical Background

The theoretical foundation of logistics and firm performance can be analyzed through the various perspectives. One of the most relevant theories for understanding how logistics activities contribute to firm performance is the Resource-Based View (RBV). This theory explains how firms can achieve a competitive advantage by effectively managing their internal resources, including logistics capabilities.

2.2.1 Resource-Based View (RBV)

The Resource-Based View (RBV) offers a strategic lens through which firm performance and competitive advantage can be understood. It asserts that organizations gain and sustain superior performance by developing and leveraging internal resources that are valuable, rare, inimitable, and non-substitutable - a framework commonly known as the VRIN criteria (Barney, 1991; Wernerfelt, 1984). Within the logistics domain, resources such as well-developed warehousing systems, efficient transportation infrastructure, advanced communication technologies, and accurate demand forecasting mechanisms are recognized as strategic assets that fulfill these VRIN conditions.

Firms that invest in and effectively manage these logistics capabilities are more likely to achieve operational efficiencies, reduce costs, and improve service quality, thereby enhancing their overall performance (Grant, 1991). For instance, implementation of real-time tracking systems or automated warehouse management systems (WMS) often leads to competitive advantages that are difficult for competitors to replicate due to high entry barriers and system integration complexities (Teece et al., 1997). In line with RBV, logistics functions are not just operational tools but are regarded as core capabilities that contribute to strategic differentiation. When logistics

resources are aligned with corporate strategy, firms can build more agile and customer-responsive supply chains, leading to sustained growth and market leadership (Amit & Schoemaker, 1993).

2.2.2 Dynamic Capabilities Theory

Building upon the foundation of the RBV, the Dynamic Capabilities Theory offers a more adaptive perspective by focusing on an organization's ability to reconfigure, renew, and extend its resources in response to a rapidly changing environment (Teece et al., 1997; Eisenhardt & Martin, 2000). Unlike RBV, which emphasizes existing resource advantages, dynamic capabilities highlight continuous innovation, learning, and responsiveness as key drivers of sustainable performance. In the context of logistics, dynamic capabilities involve the firm's capacity to adopt emerging technologies, realign logistics workflows, and respond effectively to external disruptions or market shifts. For example, organizations that incorporate AI-powered demand forecasting tools or utilize blockchain for supply chain transparency demonstrate the ability to reconfigure their logistics systems in ways that strengthen resilience and adaptability (Winter, 2003).

Moreover, the capacity to adjust transportation routes in response to geopolitical risks or modify inventory strategies during global supply shortages exemplifies how dynamic capabilities support logistical agility (Teece, 2007). These adaptive traits are increasingly vital in today's volatile global supply networks, where resilience and flexibility can determine long-term competitiveness. In sum, dynamic capabilities reinforce the importance of a proactive logistics strategy. When firms integrate technological advancement with logistics planning and execution, they are better positioned to capitalize on market opportunities and mitigate risks, risks ensuring sustained performance in a highly competitive and unpredictable business landscape.

2.2.3 Transaction Cost Economics (TCE)

The Transaction Cost Economics (TCE) framework, pioneered by Coase (1937) and subsequently expanded by Williamson (1985), provides insights into how firms determine whether to perform logistics functions internally or outsource them to third-party providers. Central to this theory is the notion that organizations seek to minimize transaction-related costs—such as negotiation, coordination, monitoring, and risk management costs—when making operational decisions. In logistics, these decisions

often revolve around whether to maintain in-house functions like warehousing and transportation or delegate them to external logistics service providers (LSPs). According to TCE, if outsourcing can reduce overall costs, increase operational flexibility, and grant access to specialized logistics capabilities, firms may opt to outsource these activities (Williamson, 1981). However, in scenarios where outsourcing introduces higher coordination complexity, elevated supply chain risk, or reduced oversight of quality standards, internalizing logistics processes becomes the more viable option (Grover & Malhotra, 2003).

The multinational firms often rely on third-party logistics (3PL) providers to handle complex cross-border distribution efficiently. In contrast, industries such as pharmaceuticals or electronics, where precision and compliance are paramount, may prefer to retain logistics functions in-house to ensure full control over operations. Applying TCE thus enables firms to make strategic logistics decisions that strike a balance between cost optimization and performance reliability, ultimately enhancing competitiveness and operational efficiency.

2.3 Logistics Activities and Their Impact on Firm Performance

Logistics operations are integral to a firm's ability to compete effectively in dynamic markets. Strategic management of key logistics activities—including warehousing, transportation, demand forecasting, and order fulfillment—can improve operational efficiency, reduce costs, and enhance customer satisfaction. For Myanmar Indo Best Company (MIB), which operates a broad regional network in Upper Myanmar, logistics efficiency is particularly crucial to maintaining service standards and optimizing resource utilization.

2.3.1 Demand Forecasting in the Context of MIB

Demand forecasting is the analytical process of estimating future customer demand by examining historical sales patterns, market behavior, and external variables (Chopra & Meindl, 2019). Accurate forecasting enables firms to synchronize their supply chain activities—such as procurement, production, and distribution—with anticipated market requirements, thus minimizing overstock and stockout scenarios (Mentzer & Moon, 2004). Given MIB’s expansive retail and distribution network and its diversified product portfolio, demand forecasting is a critical logistics function. Ineffective demand estimation can result in excess inventory costs, delayed stock

replenishments, or missed sales opportunities. To mitigate these risks, MIB can implement data-driven forecasting techniques such as time-series modeling, causal models, or AI-based predictive analytics (Hyndman & Athanasopoulos, 2018).

Myanmar's volatile market environment, shaped by seasonal variations, economic instability, and shifting consumer preferences, responsive forecasting becomes even more vital. To improve forecast accuracy, MIB may benefit from integrating forecasting systems with real-time sales data and supplier databases. Additionally, fostering collaboration between demand planners and supply chain partners can enhance visibility and responsiveness across the value chain. Through the strategic application of demand forecasting, MIB can enhance its logistics agility, reduce holding costs, and maintain service level consistency across its regional operations—ultimately contributing to improved firm performance.

2.3.2 Warehousing and Storage Efficiency in MIB

Warehousing is a fundamental component of logistics operations, responsible for the systematic storage of goods and materials to ensure timely and accurate delivery to customers. Effective warehousing not only supports inventory management but also enhances order fulfillment efficiency and contributes to cost control (Richards, 2017). For Myanmar Indo Best Company (MIB), which operates across multiple locations in Upper Myanmar, warehousing plays a pivotal role in overcoming logistical challenges posed by limited infrastructure, seasonal disruptions, and regional demand fluctuations. To enhance warehouse performance, MIB can invest in modern Warehouse Management Systems (WMS) that facilitate real-time inventory tracking, automate replenishment processes, and optimize storage space utilization (Frazelle, 2016). These systems enable more accurate stock control, reduce the likelihood of stockouts or overstocking, and improve overall warehouse productivity.

The selection of warehouse locations is also critical to operational success. Strategically placing warehouses near demand-dense areas can reduce transportation time and costs while also enhancing delivery responsiveness. Techniques such as cross-docking, which minimizes storage time by transferring goods directly from inbound to outbound vehicles, can further streamline the supply chain and reduce holding costs (Baker & Halim, 2007). In addition, lean warehousing principles such as Just-in-Time (JIT) inventory management can help reduce waste and improve flow efficiency. By incorporating technologies like Radio Frequency Identification (RFID) and barcode

scanning, MIB can increase inventory accuracy, reduce human error, and enhance visibility throughout warehouse operations (Kembro et al., 2017).

2.3.3 Transportation and Its Role in MIB

Transportation is another vital logistics activity that ensures the smooth movement of goods across the supply chain from suppliers to warehouses and from warehouses to end consumers. A well-structured transportation system enhances firm performance by reducing lead times, lowering distribution costs, and improving service quality (Christopher, 2016). MIB's logistics operations in Upper Myanmar face geographical and infrastructural challenges, such as poor road conditions, long travel distances, and frequent disruptions due to seasonal weather. These factors increase operational complexity and delivery costs. To address these issues, MIB can leverage Geographic Information System (GIS) tools for route optimization, along with real-time fleet tracking systems, to monitor vehicle locations, optimize delivery schedules, and minimize fuel consumption (Harrison & van Hoek, 2011).

Furthermore, adopting a multi-modal transportation strategy, which combines road, rail, and river transport modes, can enhance logistics flexibility and resilience. Given Myanmar's reliance on both road and waterway infrastructure, integrating intermodal solutions can reduce cost pressures and environmental impacts while expanding market reach (Rodrigue et al., 2020). Collaborating with third-party logistics (3PL) providers offers another strategic advantage. Outsourcing transportation to experienced 3PLs allows MIB to access established logistics networks, reduce capital investment in fleet infrastructure, and focus on core business operations (Langley et al., 2021).

2.3.4 Communication and Information Flow in MIB

Effective communication is central to the coordination of logistics activities and the integration of various supply chain processes. In a multi-branch operation such as MIB, seamless communication ensures better visibility, faster decision-making, and a more responsive supply chain (Mentzer et al., 2001). One of MIB's key challenges is maintaining real-time data exchange between its central office, regional branches, and logistics partners.

Implementing Enterprise Resource Planning (ERP) systems can consolidate logistics data into a unified platform, enhancing operational transparency and enabling

better resource planning (Monczka et al., 2015). Additionally, cloud-based Supply Chain Management (SCM) tools offer scalability and accessibility, allowing stakeholders to monitor shipments, manage inventory, and respond to disruptions proactively (Handfield & Nichols, 2002).

To further streamline information flow, MIB can implement technologies such as Electronic Data Interchange (EDI) and blockchain for secure, automated, and tamper-proof communication with suppliers and distributors. These systems not only improve data accuracy but also facilitate trust and transparency within the supply chain (Kshetri, 2018). Overall, by enhancing its logistics communication infrastructure, MIB can reduce operational silos, improve supply chain synchronization, and deliver higher service levels to customers.

2.3.5 Order Fulfillment and Customer Satisfaction in MIB

Order fulfillment is a crucial logistics activity that directly influences customer satisfaction and firm performance. It involves processing, picking, packing, and delivering orders accurately and on time (Rushton et al., 2017). A well-structured order fulfillment system helps companies like MIB enhance customer loyalty, reduce return rates, and maintain a competitive edge. For MIB, order fulfillment challenges may arise due to inventory inaccuracies, inefficient warehouse operations, and unpredictable transportation delays. To improve its order fulfillment process, MIB can adopt automated warehouse picking systems such as barcode scanning, RFID technology, and robotic-assisted picking, which minimize errors and speed up order processing (Frazelle, 2016).

Moreover, last-mile delivery optimization is crucial for improving the final stage of order fulfillment. Given Myanmar's infrastructure limitations, MIB can leverage local distribution hubs and crowd-sourced delivery models to reduce delivery times and enhance service reliability (Esper et al., 2003). Additionally, offering real-time tracking and proactive customer notifications can improve transparency and build customer trust. By integrating demand forecasting, warehousing, transportation, communication, and order fulfillment, MIB can create a highly efficient logistics system that drives firm performance, reduces operational expenses, and enhances overall customer satisfaction.

2.4 Firm Performance and Its Relationship with Logistics Activities

Firm performance is a multidimensional concept that encompasses financial, operational, and customer-related outcomes (Venkatraman & Ramanujam, 1986). Effective logistics activities, such as demand forecasting, warehousing, transportation, communication, and order fulfillment, play a crucial role in enhancing firm performance by reducing costs, improving efficiency, and increasing customer satisfaction (Mentzer & Konrad, 1991). For Myanmar Indo Best Company (MIB), measuring firm performance involves assessing cost efficiency, service quality, operational effectiveness, and customer satisfaction. This section explores the key dimensions of firm performance influenced by logistics activities.

2.4.1 Financial Performance

Firm performance can be evaluated across multiple dimensions, including financial outcomes, operational efficiency, and customer satisfaction. Each of these areas is significantly influenced by the effectiveness of logistics activities.

Financial performance refers to a firm's capacity to generate profits, achieve revenue growth, and manage costs effectively (Kaplan & Norton, 1996). Efficient logistics operations play a vital role in improving financial performance through several mechanisms:

Inventory cost reduction: Accurate demand forecasting and optimized warehousing minimize excess inventory, thereby reducing holding costs (Christopher, 2016).

Transportation cost savings: Route optimization and the implementation of multi-modal logistics strategies contribute to lower distribution expenses (Rodrigue et al., 2020).

Revenue enhancement: Improved order fulfillment leads to higher customer satisfaction, increased retention, and repeat purchases, all of which contribute to revenue growth (Mentzer et al., 2001). For Myanmar Indo Best Company (MIB), embracing lean logistics principles and investing in digital supply chain technologies such as warehouse automation and real-time tracking systems can yield substantial cost savings and boost overall profitability.

2.4.2 Operational Performance

Operational performance encompasses a firm efficiency, service consistency, and productivity levels (Gunasekaran et al., 2004). Logistics activities can substantially improve these operational aspects through:

Enhanced visibility: Enterprise Resource Planning (ERP) and cloud-based Supply Chain Management (SCM) systems offer end-to-end visibility and enable proactive decision-making (Handfield & Nichols, 2002).

Reduced lead times: Improved warehouse operations and accurate demand forecasts shorten order cycles and enhance delivery timelines (Richards, 2017).

Optimized resource utilization: Efficient transportation scheduling and automated warehousing systems ensure optimal use of assets and labor (Frazelle, 2016).

At MIB, improving integration across the logistics network and implementing real-time inventory monitoring can lead to higher productivity, faster response times, and smoother operations.

2.4.3 Customer Satisfaction and Service Quality

Customer satisfaction is a crucial measure of firm performance, driven by timely delivery, product availability, and the responsiveness of service (Parasuraman et al., 1988). Logistics activities have a direct influence on service quality and customer experience in the following ways:

Order fulfillment accuracy: Advanced warehouse automation and optimized last-mile delivery enhance speed and precision in order handling (Esper et al., 2003).

Information transparency: Real-time tracking and proactive communication systems improve customer trust and service reliability (Kshetri, 2018).

Inventory reliability: Effective demand forecasting reduces the incidence of stockouts and backorders, ensuring product availability (Mentzer & Moon, 2004). For MIB, adopting customer-centric logistics practices such as flexible delivery schedules, real-time updates, and responsive after-sales support can strengthen brand loyalty and improve its competitive position in the market.

2.5 Impact of Logistics Activities on Firm Performance at MIB

The overall impact of logistics activities on MIB's firm performance can be synthesized across the following key areas:

1. Demand Forecasting: Enhances inventory control and reduces uncertainty, contributing to cost efficiency and improved service levels.
2. Warehousing: Supports effective storage, facilitates faster order processing, and improves operational flow.
3. Transportation: Ensures timely and cost-effective delivery, directly enhancing financial outcomes and customer satisfaction.
4. Communication: Promotes real-time coordination and better decision-making, leading to optimized resource allocation.
5. Order Fulfillment: Drives customer satisfaction and loyalty, which in turn fuels revenue growth and market retention.

By strategically integrating these logistics functions, MIB can achieve sustainable improvements in performance, strengthen its competitive advantage, and support long-term organizational success.

2.6 Review of Previous Studies on Logistics Activities and Firm Performance

Several empirical studies have examined the relationship between logistics management and firm performance across different contexts and industries. These studies highlight how key logistics functions—such as transportation, warehousing, inventory management, and information flow—directly contribute to organizational success.

Laird (2012) developed a firm efficiency performance model aimed at evaluating the effectiveness of logistics activities within an organization. The study used a stratified sampling technique to select 185 respondents from a potential population of 575. The model assessed four major logistics activities—transportation, warehousing, packaging, and inventory management—and identified them as the most critical contributors to a firm's logistics success. The findings also emphasized the model's flexibility, suggesting it could be effectively applied to evaluate performance not only at the firm level but also at the industry and product levels, offering valuable insights for managers.

Adelwini et al. (2023) investigated the impact of logistics management on organizational performance using a quantitative research approach. Data were collected through structured surveys targeting logistics managers from various sectors. The results revealed that effective management of logistics activities—particularly

transportation, warehousing, and inventory control—significantly enhances operational performance, reduces overall business costs, and improves customer satisfaction.

Adul et al. (2019) focused their study on Dangote Flour Mills in Ilorin, examining how logistics efficiency contributes to organizational success. Using survey data from 115 employees, the study concluded that logistics elements such as transportation, information flow, and inventory control play a crucial role in improving service delivery and reducing operational costs. The findings support the view that well-managed logistics operations are essential for achieving business objectives.

In the Kenyan context, Nyaberi and Mwangangi (2014) explored the influence of logistics management practices on firm performance. Their study examined logistics components such as order processing, inventory control, transportation, and information systems through a mixed-method approach involving surveys and interviews. The results, analyzed using descriptive statistics and factor analysis, showed that firms employing effective logistics practices experienced greater operational efficiency, cost reductions, and enhanced customer service levels.

Mwangangi (2016) further investigated how logistics management influences the performance of manufacturing firms in Kenya. The study targeted 320 firms registered with the Kenya National Bureau of Statistics and collected data through questionnaires administered to logistics managers. Using both descriptive and regression analysis, the study found that four logistics dimensions—transportation management, inventory management, order processing, and information flow—had a statistically significant and positive impact on firm performance. Additionally, the research identified logistics performance as a moderating variable that strengthens the relationship between logistics management and overall organizational success.

Ristovska et al. (2017) conducted a study examining the role of logistics in the performance of manufacturing firms across selected states in Northern Nigeria. The study focused on inventory, transportation, storage, and information management as the independent variables, with firm performance as the dependent variable. Data were gathered through a firm-level survey of members from the Manufacturers Association of Nigeria (MAN). The findings emphasized that while logistics functions such as adequate inventory control, warehousing, transportation, and information flow are vital, managers cannot rely solely on logistics to drive performance. Instead, the study highlighted the importance of optimizing all logistics activities in a balanced manner to enhance business efficiency, customer satisfaction, and overall competitiveness.

Gitonga (2017) analyzed the influence of logistics management practices on the operational performance of fast-moving consumer goods (FMCG) manufacturers in Kenya. Utilizing both descriptive and explanatory research designs, the study applied stratified sampling to select 85 respondents from a target population of 766 firms. Using SPSS for multiple regression analysis, the results demonstrated a significant positive impact of logistics practices including order processing, inventory management, transportation, information flow, warehousing, and packaging on operational performance. The study reinforces the idea that a holistic approach to logistics management contributes meaningfully to organizational efficiency.

Kayagambe (2019) explored the factors affecting the performance of physical distribution within Coca-Cola Tanzania Limited in Morogoro. The research adopted a descriptive and explanatory research design, applying a quantitative approach with stratified random sampling. Key variables included transportation, material handling, and order processing, with physical distribution performance measured through indicators such as sales, market share, profits, and inventory levels. The results indicated that both order processing and transportation had significant effects on distribution performance, highlighting their importance in driving growth and competitive advantage.

Thuzar (2022) investigated the influence of logistics activities on firm performance in the context of Myanmar's manufacturing sector. The study utilized a quantitative research method and collected data from logistics employees via structured questionnaires. The key logistics functions examined were demand forecasting, warehousing, inventory control, production planning, and industrial packaging. Results from multiple regression analysis revealed that demand forecasting, inventory control, and industrial packaging significantly enhance firm performance by increasing operational efficiency, reducing costs, and improving customer satisfaction.

Lastly, Shareef (2023) examined the relationship between logistics activities and business performance at Nawras Agricultural Products Company in Erbil. Using simple random sampling, data were collected from 135 personnel and analyzed through descriptive statistics and multiple regression analysis. The findings showed that customer service, warehouse management, and distribution activities had a significant positive effect on business performance, confirming that effective logistics practices are instrumental in achieving improved organizational outcomes.

These empirical studies collectively support the view that well-structured logistics activities including transportation, warehousing, inventory control, information flow, and customer service not only improve operational efficiency but also lead to higher customer satisfaction and financial performance. For firms like Myanmar Indo Best (MIB), these insights offer valuable guidance for optimizing logistics strategies in pursuit of sustainable competitive advantage.

The items shown in the table below are some of the important empirical reviews for this paper.

Table 2.1 Review of Previous Studies on Logistics Activities and Firm Performance

Authors	Title	Objectives	Method	Finding
Nyaberi and Mwangangi (2014)	Effects Of Logistics Management Practices on Organization Performance in Kenya	To investigate the effects of logistics management practices on organizational performance.	Descriptive statistics, factor analysis and weighted averages	The study showed that logistics activities have a positive relationship with operational performance.
Mwangangi (2016)	Influence of logistics management on performance of manufacturing firms in kenya	To examine the influence of logistics management on performance of manufacturing firms in Kenya	Factor analysis and multiple regression	The study concludes that logistics management has the potential of positively influencing performance on firms.

Sources: Various Studies

Table 2.1 Review of Previous Studies on Logistics Activities and Firm Performance (Cont.)

Authors	Title	Objectives	Method	Finding
Gitonga (2017)	Logistics management practices and operational performance of fast moving consumer goods manufactures in Nirobi	To examine the influence of logistics management on performance of manufacturing firms in Kenya	Multiple regression	All independent variables have a significant and positive effect on operational performance.
Thuzar, (2022)	Effects of Logistics Activities on Firm Performance of Pharmaceutical Factory (Insein)	To identify the logistics activities and firm performance of Pharmaceutical Factory (Insein) and to analyze the effects of logistics activities on firm performance.	Multiple Regression	According to the multiple regression result, demand forecasting activity, production planning activity and industrial packaging activity had significant and positive effects on firm performance. However, procurement activity, inventory control activity and warehousing and storage activity have no significant effects on firm performance.

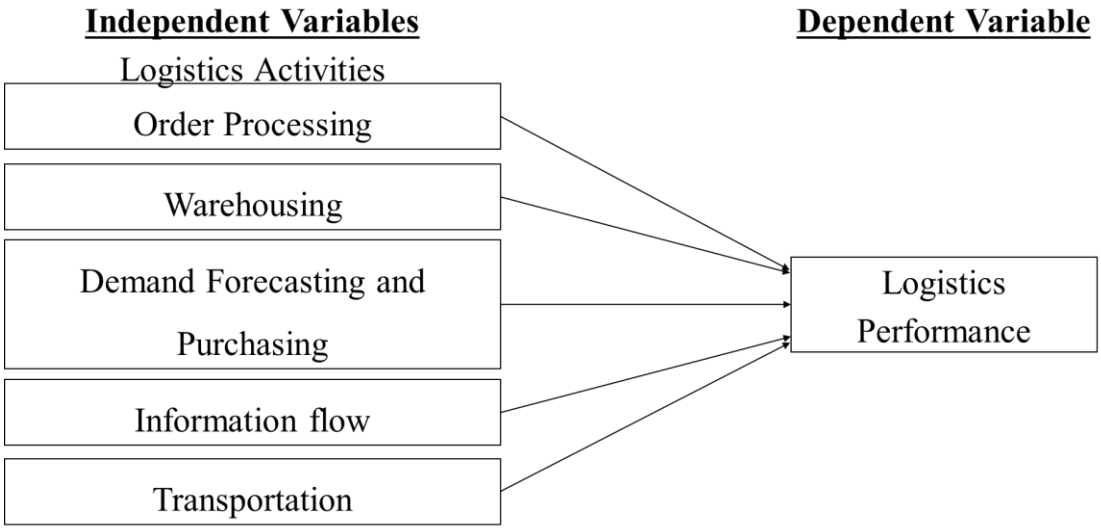
Table 2.1 Review of Previous Studies on Logistics Activities and Firm Performance (Cont.)

Authors	Title	Objectives	Method	Findings
Shareef (2023)	Managing logistics activities for improving business performance	To examines the relationships between three logistics activities: Customer service, warehouse management, and distribution activity on business performance	Discriminant validity test and Multiple Regression	The research showed that these three variables have a positive relationship with business performance.
Adelwini et al. (2023)	Investigating the effects of logistics management on organizational performance: New evidence from the manufacturing industry	To determine how logistics management affects the organizational performance of ten Ghanaian roofing sheet manufacturing companies	Multiple regression	The findings showed that the aspects of logistics management that have a beneficial impact on organizational performance

Sources: Various Studies

2.7 Conceptual Framework

The following Figure (2.1) represents the conceptual framework of logistics activities and firm performance.



Sources: Own Compilation adopted from Gitonga and Thuzar

Figure 2.1 Conceptual Framework of the Study

CHAPTER 3
METHODOLOGY

This chapter presents the statistical methodology used in the study. It is divided into two sections. The first section explains the description of data source and sample population. The second section discusses the theoretical background of multiple linear regression models.

3.1 Background of the Study

Myanmar Indo Best Company Limited (MIB), established in 1996 and headquartered in Yangon, is one of Myanmar's leading enterprises in retailing and distribution. Since its inception, MIB has grown into a diversified business entity, with key operations encompassing fashion retail, chain convenience stores, fast-moving consumer goods (FMCG) distribution, and mobile device sales and distribution. Through these varied business segments, MIB has solidified its role as a major player in Myanmar consumer market, consistently delivering a wide range of quality products to customers nationwide.

MIB maintains a strong geographic footprint with six regional offices strategically located in Mandalay, Mawlamyine, Taunggyi, Myitkyina, Monywa, and Lashio. This infrastructure is further supported by over 70 sub-distribution centers and more than 50 retail outlets, including fashion and convenience stores across both urban and rural areas. This extensive distribution network enables MIB to ensure efficient and timely product delivery, enhancing its competitiveness in the logistics-intensive retail sector. The company's sustained growth is largely attributed to its in-depth knowledge of the local market, long-standing industry experience, and capacity to navigate Myanmar's complex and evolving business environment. With a workforce of over 700 employees, MIB is recognized for its operational excellence, commitment to customer satisfaction, and adaptability. The firm has also built a solid reputation for financial stability and corporate reliability within the competitive retail and distribution landscape.

Beyond distribution and retailing, MIB has diversified into production, particularly in food and beverage categories. It manufactures product lines, including dried noodles, coffee mixes, and tea blends. Furthermore, the company imports a wide variety of consumer goods, ranging from food items and cosmetics to mobile phone

accessories and electronic devices, sourcing from international markets to supplement its portfolio and meet domestic demand. MIB's corporate mission is to evolve from a distribution company to a brand owner, achieving the status of the fastest-growing company in Myanmar. Its vision is to be the best employer in Myanmar, empowered by self-motivated employees to deliver continuous profit growth. These goals are underpinned by core values that include integrity, mutual respect, responsibility, excellence, innovation, collaboration, and talent development. Through its strategic expansion, strong leadership, and ongoing commitment to innovation and service quality, MIB continues to strengthen its position as a dynamic and influential organization within Myanmar's retail and distribution industry.

Myanmar Indo Best (MIB) has been a leading retailing and distribution company in Myanmar since 1996**,** which is headquartered in Yangon. Its core businesses include fashion retailing, chain convenience stores, FMCG distribution and mobile distribution & retailing.

Myanmar Indo Best Company is now one of the fastest growing companies in Myanmar, with 6 offices (Mandalay, Maw La Myaing, Taung Gyi, Myit Kyitkyina, Monywa and Lashio), 70 sub-distribution points and more than 50 fashion & convenience stores nationwide. Its distinctive strength is diverse experience, in-depth local knowledge, influence and know-how to navigate the complex business environment, and a reputable, financially stable company.

The company's mission is "Our mission is to evolve from a distribution company to a brand owner, achieving the status as the fastest growing company in Myanmar." The vision is "The best employer in Myanmar empowered by self-motivated employees to deliver continuous profit growth."

The company's values are to commit to a firm vision and mission, to be honest and uphold integrity with mutual respect, to be responsible while executing our duties, to deliver the best results, to be eager with a winning attitude, to continuously improve and create ideas, to collaborate and embrace diversity and to develop firm talents.

MIB is a prominent enterprise headquartered in Yangon, Myanmar, primarily engaged in the production of dried noodles, coffee mixes, and tea mixes. In addition to its manufacturing operations, the company imports and distributes a diverse range of consumer goods nationwide, including food products, cosmetics, mobile phone accessories, and electronic devices sourced from international markets. With a workforce exceeding 700 employees, MIB operates through its central office in

Yangon, which oversees distribution activities across Lower Myanmar. The company further leverages six regional branch offices; each strategically focused on enhancing distribution efficiency. Characterized by its rapid growth trajectory, MIB has established itself as a dynamic and expanding large-scale enterprise within Myanmar's competitive market landscape.

3.2 Research Design

This study adopts a quantitative research approach supported by descriptive and inferential statistical analysis to examine the effects of logistics activities on firm performance at MIB Company, which operates six branches primarily in Upper Myanmar. A cross-sectional design was employed to collect data at a single point in time using structured instruments.

3.3 Data Collection Methods

Primary data were collected through face-to-face structured questionnaires based on a five-point Likert scale ranging from "strongly disagree" to "strongly agree." The questionnaire was designed to measure the perceptions of logistics activities, specifically order processing, warehousing, demand forecasting, communication, and transportation, and their relationship with firm performance. In addition to the quantitative instrument, brief convenience interviews were conducted with selected participants to obtain contextual insights and enrich the interpretation of quantitative results.

This mixed sampling and data collection strategy ensured a high level of reliability, minimized bias, and enabled in-depth understanding of logistics practices across different employee roles within MIB Company.

3.4 Sample Size Determination

The sample size of the respondents for this study was calculated using Taro Yamane's formula (Yamane, 1973) with the confidence level; the sample size can be roughly estimated as follows:

$$n = \frac{N}{1+Ne^2} \tag{3.1}$$

Where,

n = Sample size

N = Population size

e= Sampling error assumed as 0.05

The above formula determines the sample size from a total population of about 1919 respondents and wishes to determine the sample size. See below:

$$n = \frac{N}{1+Ne^2}$$

$$n = \frac{319}{1+319(0.05)^2}$$

$$= \frac{319}{1.7975}$$

$$= 177.469$$

$$n \cong 178 \text{ respondents}$$

The above sample result is 178 respondents out of a total of 319 respondents, which is a small number of responses from respondents to maintain a 95% confidence interval.

After determining the total sample size, the appropriate sample size for each job position stratum was proportionally allocated based on their respective proportions, as detailed in the table below.

Table 3.1 Sample Size Proportion on Job Position

No.	Job Position	Number of Employees	Sample Size per Stratum
1	Manager	23	13
2	Assistant Manager	18	10
3	Supervisors	24	12
4	Junior Supervisors	26	15
5	Process Employees	228	128
	Total	319	178

3.5 Reliability Analysis

The data collection process, a reliability analysis was conducted to evaluate the internal consistency of the variables representing logistics activities and firm

performance. In this study, Cronbach's Alpha was employed as the primary method to assess the reliability of the measurement instruments. This statistical test is widely used in social science research to determine the extent to which items within a scale consistently measure the same underlying construct.

First, reliability was assessed to evaluate the consistency of multiple items used to measure respondents' attitudes. This study employed Cronbach's alpha coefficient (Nunnally, 1978) and corrected item-to-total correlation (Parasuraman et al., 1988) to ensure internal consistency of the Likert-scale items in the questionnaire. Cronbach's alpha, a widely accepted measure of reliability, ranges from 0 to 1, with higher values indicating greater reliability (Reynaldo & Santos, 1999). As a general guideline, a coefficient of 0.70 or higher is considered acceptable (Nunnally, 1978).

However, in exploratory research, values slightly below this threshold may still be tolerated. When the alpha value falls below 0.70, it may be necessary to revise the questionnaire by identifying and removing items with low corrected item-to-total correlations to improve internal consistency. To test the validity of the questionnaire, convergent validity was used to confirm whether related items effectively measured the same construct.

3.6 Data Analytical Procedure

First, reliability was assessed to evaluate the consistency of multiple items used to measure respondents' attitudes for logistics activities and firm performance.

Second, the study collected responses from a target sample of 178 participants, achieving a 100% response rate. Quantitative data analysis methods were employed. Descriptive statistics were used to present the demographic characteristics of respondents from Myanmar Indo Best (MIB) Company. Additionally, descriptive tools helped illustrate the perceived impact of logistics activities and their influence on firm performance and development from the residents' perspectives. The demographic data were interpreted using frequency distributions and percentages.

Finally, to test the study hypotheses, multiple regression analysis was employed. A series of regression models were used to determine the relationship between the dependent variable (firm performance) and several independent variables (logistics activities). This analysis aimed to answer the research questions by examining how each logistics activity contributes to firm performance.

3.7 Pearson Correlation

Pearson correlation is a statistical technique used to determine the strength and direction of the linear relationship between two continuous variables. In this study, Pearson's correlation coefficient was applied to explore the relationship between the independent and dependent variables. A significance level of 0.05 was adopted, indicating a 95% confidence level. Therefore, a p-value below 0.05 was required for a hypothesis to be accepted.

Correlation analysis assesses the degree of association between two or more variables using correlation coefficients, which range from -1 to +1. A coefficient closer to 1 suggests a stronger linear relationship. Among the different types of correlation Pearson, Spearman, and Kendall rank this study employed Pearson correlation, as the data were measured on an interval scale (Tabachnick & Fidell, 2007).

Gujarati and Porter (2009) emphasize that while correlation identifies the strength and direction of relationships, it does not imply causation or predict outcomes. Hence, regression analysis was used in addition to correlation to further test the relationships among variables.

The strength of correlation was interpreted using the following scale (Gujarati & Porter, 2009):

1.00 = Perfect positive/negative correlation

0.70 to 0.99 = Very strong

0.50 to 0.69 = Strong

0.30 to 0.49 = Moderate

0.10 to 0.29 = Weak

0.00 to 0.09 = Negligible or no correlation

3.8 Multiple Linear Regression Model

Multiple linear regression is a statistical method used to analyze the relationship between a dependent variable and two or more independent variables. This approach allows for the simultaneous evaluation of how multiple factors contribute to changes in the dependent variable, offering a more comprehensive understanding than simple linear regression.

The general form of the multiple regression equation is:

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \cdots + \beta_k X_{ki} + e_i \qquad (3.2)$$

where,

Y_i = the dependent variable

β_0 = the constant term (or) intercept of the equation

$\beta_1, \beta_2, \beta_3, \ldots, \beta_k$ = regression coefficients

X's = the independent variables

e_i = the random error term

Multiple regression analysis studies the relationship between a dependent (response) variable and k independent variables (predictors, regressors, IV's).

The sample multiple regression equation is

$$\hat{Y}_i = \hat{\beta}_0 + \hat{\beta}_1 X_{1i} + \hat{\beta}_2 X_{2i} + \hat{\beta}_3 X_{3i} + \cdots + \hat{\beta}_k X_{ki} + e_i \qquad (3.3)$$

Where $\hat{\beta}_0, \hat{\beta}_1, \hat{\beta}_2, \hat{\beta}_3, \ldots \hat{\beta}_k$ are the estimated values for the parameters and $\hat{Y}_i$ is the estimated value of the dependent variable. The estimation procedure for multiple linear regression models is nearly identical to simple regression.

The validity and accuracy of results derived from a multiple linear regression analysis depend heavily on the extent to which key statistical assumptions are met. These assumptions are outlined below:

1. Linearity

The model assumes a linear relationship between the independent variables and the dependent variable. This implies that changes in the dependent variable can be adequately explained by linear changes in the independent variables. To verify this assumption, scatter plots can be used to visually assess whether a linear pattern exists between each predictor and the outcome variable. Additionally, the presence of outliers should be evaluated, as extreme values can disproportionately influence the regression results and distort the model's accuracy.

2. ***Normality of Residuals***

The residuals (i.e., the differences between observed and predicted values) should be approximately normally distributed. This assumption ensures that statistical tests such as t-tests and F-tests yield valid results. Normality can be assessed using histograms of residuals, Q-Q plots, or formal tests such as the Shapiro Wilk test.

3. Homoscedasticity

The model assumes homoscedasticity, meaning the variance of the residuals is constant across all levels of the independent variables. Violation of this assumption, known as heteroscedasticity, can lead to biased estimates of standard errors and affect the reliability of hypothesis tests. A scatter plot of residuals against predicted values can help detect any patterns that may suggest heteroscedasticity.

4. No Multicollinearity

The explanatory variables should not exhibit strong linear relationships with one another. Multicollinearity occurs when independent variables are highly correlated, leading to unreliable and unstable coefficient estimates. It can result in inflated standard errors and may even reverse the expected signs of coefficients. To test for multicollinearity, Variance Inflation Factor (VIF) and Tolerance values are typically examined.

3.9 Testing for Significance

To assess the explanatory power of the regression model and the contribution of each predictor variable, significance tests are conducted using by both F-tests and t-tests. While these tests serve complementary purposes in regression analysis, they address different aspects of model evaluation.

1. F-Test: Overall Model Significance

The F-test determines whether the regression model, as a whole, provides a better fit to the data than a model with no predictors. It assesses whether at least one of the independent variables is statistically significant in explaining variations in the dependent variable. A significant F-statistic indicates that the model has overall predictive value.

2. t-Test: Individual Variable Significance

Once the F-test confirms that the model is significant, individual t-tests are used to evaluate the statistical significance of each independent variable. These tests assess whether the regression coefficients differ significantly from zero. A separate t-test is conducted for each independent variable, determining whether that particular variable contributes meaningfully to the prediction of the dependent variable, after accounting for the others. These statistical tests, taken together, provide critical insights into the effectiveness of the model and the explanatory power of each variable included in the regression.

3.10 Test for the Significance of Overall Multiple Regression Model

The overall F-test is used to test for the significance of the overall multiple regression model. The ANOVA procedure tests the null hypothesis that all the values are zero against the alternative that at least one $\beta$is not zero.

The hypothesis for the F test takes the following form

Null Hypothesis : $\beta_1 = \beta_2 = \beta_3 = \ldots = \beta_k = 0$

Alternative Hypothesis : At least β_i is not zero. (3.4)

If the null hypothesis is not rejected, there is no linear relationship between Y and any of the independent variables. On the other hand, if the null is rejected, then at least one independent variable is linearly related to Y. F-test is used to make the determination. The ratio of test statistics is

$$F = \frac{MSR}{MSE} \quad (3.5)$$

where, the MSR is the mean square error which is equal to

$$MSR = \frac{SSR}{k} \quad (3.6)$$

And, the MSE is the mean square error which is equal to

$$MSE = \frac{SSE}{n-k-1}$$

Where, n-k-1 is the degree of freedom and k is the number of independent variables.

The decision rule for the F-test takes the following form;

Reject the null hypothesis : if $F > F_{\alpha,k,n-k-1}$ (3.7)

Do not reject null hypothesis : if $F \leq F_{\alpha,k,n-k-1}$

Where, $F_{\alpha,k,n-k-1}$ is based on the F distribution with k degrees of freedom in the numerator, n-k-1 degrees of freedom in the denominator, and a probability of the

upper tail of the probability distribution. The existence of a regression relation by itself does not ensure that useful predictions can be made by using it.

3.11 Tests for Individual Partial Regression Coefficient

An individual partial regression coefficient β_i in the multiple regression model is tested to determine the significance of relationship between X_i and Y.

The hypothesis for the t-test takes the following form:

Null Hypothesis : $\beta_i = 0$ (3.8)

Alternative Hypothesis : $\beta_i \neq 0$

The test statistic for this test uses a t-distribution. The t-test statistic is

$$t = \frac{b_i - \beta^*}{S_{b_i}} \tag{3.9}$$

Where, there is the null's claim about which in this case means and

$$t = \frac{b_i}{S_{b_i}} \tag{3.10}$$

Where b_i = the individual coefficient being tested

S_{b_i} = the standard error of b_i

The decision rule for this test,

Reject the null hypothesis : If $|t| > t_{\frac{\alpha}{2}, n-k-1}$ (3.11)

Do not reject null hypothesis : If $-t_{\frac{\alpha}{2}, n-k-1} \leq t_{\frac{\alpha}{2}, n-k-1}$

3.12 Coefficient of Multiple Determinations

The coefficient of multiple determinations, denoted by R^2, is a statistical measure that represents the proportion of the variance for a dependent variable that's explained by an independent variable or variables in a regression model. Whereas correlation explains the strength of the relationship between Y and independent variables, R squared explains to what extent the variance of one variable explains the variance of the second variable.

The coefficient of multiple determinations is defined as follows:

$$R^2 = \frac{\sum(\hat{Y}_i - \bar{Y})^2}{\sum(Y_i - \bar{Y})^2} = 1 - \frac{\sum(\hat{Y}_i - \bar{Y})^2}{\sum(Y_i - \bar{Y})^2} \tag{3.12}$$

The numerator of the middle term is the explained sum of squares, or the sum of squares due to regression, SSR, as it is sometimes called. The denominator is the total

sum of squares, SST. The subscription of R^2 indicates the Y is the dependent variable and $X_1, X_2, \dots, X_k$ is one independent variable.

In the simple linear regression, the total sum of squares, the total variation in the dependent variables (SST), can be broken into parts: the sum of squares due to regression (SSR) and the sum of squares due to error (SSE). This same partition works for multiple linear regressions.

$$SST = SSR + SSE \tag{3.13}$$

The quality of the fit for the regression can be calculated by computing the coefficient of determination. The coefficient of determination is still computed as

$$R^2 = \frac{SSR}{SST} \tag{3.14}$$

The value of R^2 can only be between zero and one, where $R^2 = 0$, the regression model cannot explain anything about the variation in the dependent variable or the estimated model does not fit the data. The case of $R^2 = 1$ represents a perfect fit of the estimated model of the data. A high value of R^2 shows good fit and a low value of R^2 shows a poor fit.

3.13 The Adjusted Coefficient of Multiple Determinations

With a multiple regression made up of several independent variables, the R squared must be adjusted. The adjusted R-squared compared the descriptive power of regression models that include diverse numbers of predictors. Every predictor added to a model increases R-squared and never decreases it. Thus, a model with more terms may seem to have a better fit just for the fact that it has more terms, while the adjusted R-squared compensates for the addition of variables and only increases if the new term enhances the model above what would be by chance.

The adjusted $R^2$is a modification of the R^2 that adjusts for the number of independent variables. The adjusted R^2 is always less than or equal to the original R^2, and the discrepancy gets larger as the number of independent variables increases. Therefore, it is a common practice in multiple regression and correlation analysis to report the adjusted coefficient of determination.

The adjusted coefficient of determination is

$$\bar{R}^2 = \frac{\sum(Y_i - \hat{Y})^2}{n-k-1} \; / \; \frac{\sum(Y_i - \bar{Y})^2}{(n-1)} \tag{3.15}$$

3.14 Linearity

This assumption is the most important, as it directly relates to the bias of the results of the whole analysis (Keith, 2006). Linearity defines the dependent variable as a linear function of the predictor (independent) variables (Darlington, 1968). Multiple regressions can accurately estimate the relationship between dependent and independent variables when the relationship is linear in nature (Osborne & Waters, 2002).

Linearity can be interpreted in two different ways. The first interpretation is linearity in the variables. It is that the conditional expectation of Y is a linear function of X_i such as $(Y| X_i) = \beta_1 + \beta_2 X_i$. Geometrically, the regression curve in this case is a straight line. In this interpretation, regressions function such as;

$$E(Y| X_i) = \beta_1 + \beta_2 X_i^2 \qquad (3.16)$$

It is not a linear function because the variable X appears with a power or index of 2 (Gujarati).

The second interpretation of linearity is that the conditional expectation of Y, $E(Y| X_i)$ is a linear function of the parameters, the β's; it may or may not be linear in the variable X. In this interpretation $E(Y| X_i) = \beta_1 + \beta_2 X_i^2$is a linear (in the parameter) regression model. The model $E (Y| X_i) = \beta_1 + \beta_2^2 X_i$ which is nonlinear in the parameterβ_2. This model is a nonlinear (in the parameter) regression model (Gujarati).

Linear in the parameters as well as the variables is a linear regression model and so is a model that is linear in the parameters but nonlinear in the variables. If a model is nonlinear in the parameters, it is a nonlinear (in the parameter) regression model whether the variables of such a model are linear or not. Some models look nonlinear in the parameters but are inherently or intrinsically linear because with suitable transformation, they can be made linear in the parameter regression models. But if such models cannot be linearized in the parameters, they are called intrinsically nonlinear regression models.

3.15 Homoscedasticity or Constant Variance of Disturbances u_i

One of the important assumptions of the classical linear regression model is that the variance of each disturbance term $\mu_i$conditional on the chosen value of the explanatory variables is some constant number equal to σ^2. This is the assumption of homoscedasticity or equal (homo) spread (scedsticity) which is equal variance.

Symbolically,

$$E(\mu_i^2) = \sigma^2 \quad , i=1, 2, 3\ldots n \qquad (3.17)$$

The conditional variance of Y_i increases as X increases. Here, the variances of Y_i are not the same. Hence, there is heteroscedasticity. Symbolically,

$$E(\mu_i^2) = \sigma_i^2 \quad , i=1, 2, 3\ldots n \qquad (3.18)$$

Heteroscedasticity can be divided into pure and impure version. Pure heteroscedasticity is caused by the error term of the correctly specified equation; impure heteroscedasticity is caused by a specification error such as an omitted variable.

3.16 Multicollinearity

The multicollinearity problem arises when one of the independent variables is linearly related to one or more of the other independent variables. Such a situation violates one of the conditions for multiple regression. Specifically, multicollinearity occurs if there is a high correlation between two independent variables, X_i and X_j if the correlation coefficient r_{ij} between X_i and X_j in the multiple linear regression models is high, multicollinearity exists.

The most direct way of testing for multicollinearity is to produce a correlation matrix for all variables in the model. If a correlation is greater than 0.7 or less than 0.7, the independent variables are highly correlated. If a correlation is less than 0.5, it can be concluded that multicollinearity is not a problem.

Another way to detect multicollinearity is to use the value of Tolerance. Tolerance is the extent to which an independent variable cannot be predicted by the other independent variables. Tolerance is calculated as $(1- R^1)$ where the variable being considered is used as the dependent variable in a regression analysis and all other variables are used as independent variables. Tolerance varies between zero and one. A tolerance value of zero for a variable means that it is completely predictable from the other independent variables and that there is a perfect collinearity. If a variable has a tolerance value of one, this means that the variable is completely uncorrelated with the other independent variables. Therefore, a tolerance value will require close to one. Variance Inflation Factor is closely related to the Tolerance.

The third way to detect multicollinearity is to use the variance inflation factor (VIF). The VIF associated with any X-variable is found by regression it on all the other X-variables. The resulting R^2 is then used to calculate that variable's VIF. The VIF for any X_i represents that variable's influence on multicollinearity. The VIF for any independent variable is a measure of the degree of the multicollinearity contributed by that variable.

The VIF for any independent variable X_i is

$$\text{VIF } (X_i) = \frac{1}{(1-R)^2} \tag{3.19}$$

Multicollinearity produces an increase in the variation, or standard error, of the regression coefficient. VIF measures the increase in the variation regression coefficient over that which occurs if multicollinearity were not present. It relates to the amount that the standard error of the variable has been increased because of collinearity. The increase in standard error (SE) is equal to the square root of the VIF. Therefore, a VIF value should be less than two.

CHAPTER 4
ANALYSIS OF THE EFFECTS OF LOGISTICS ACTIVITIES ON FIRM PERFORMANCE

This chapter explores the analysis of the effects of logistics activities on the firm performance of Myanmar Indo Best Company Limited. This chapter provides details information about the analysis of the effects on firm performance of Myanmar Indo Best Company Limited. This chapter includes demographic information about the respondents, respondent perception towards demand forecasting, warehousing, order fulfillment, communication and transportation.

4.1 Demographic and Socio-economic Characteristics of Respondents

The following sections therefore present the empirical results from the survey of respondents' profiles: gender, age, education level, working experience, marital status, position, and salary income, as presented in Table 4.1.

Table 4.1 Profile of Respondents

Sr. No.	Demographics Factors		No. of Respondents	Percent (%)
1	**Gender**	Male	101	56.74
		Female	77	43.26
2	**Marital Status**	Single	114	64.04
		Married	64	35.96
3	**Position**	Manager	13	7.30
		Assistant Manager	10	5.62
		Supervisor	12	6.74
		Junior Supervisor	15	8.43
		Process Employee	128	71.91
4	**Educational Background**	High school	6	3.37
		Under Graduate	21	11.80
		Graduate	135	75.84
		Post Graduate	16	8.99

Source: Survey data, 2025

Table 4.1 Profile of Respondents (Cont.)

Sr. No.	Demographics Factors		No. of Respondents	Percent (%)
5	**Age (Years)**	Under 20	9	5.05
		20-24	36	20.22
		24-29	55	30.90
		29-34	37	20.79
		34-39	20	11.24
		39-44	11	6.18
		0ver 44	10	5.62
6	**Working Experience**	Under 5	123	69.10
		5 -10	35	19.66
		10-15	12	6.74
		Above 15	8	4.49
7	**Salary (Kyats)**	1 000 – 1400	13	7.30
		800-1000	10	5.62
		600-800	12	6.74
		450-600	15	8.43
		Under 450	128	71.91
Total			178	100.00

Source: Survey data, 2025

According to Table 4.1, the majority of respondents were male, accounting for 101 individuals, or 56.74%, while 77 respondents (43.26%) were female. Given that the company operates within the logistics sector, the predominance of male employees is expected. This gender distribution reflects the nature of logistics work, which often involves physically demanding tasks, extended periods on the road, and limited opportunities for rest—conditions that typically attract more male workers.

In terms of the age distribution, the largest group of respondents (30.90%) were aged between 24 and 29 years. This was followed by those aged 29 to 34 (20.79%), and 20 to 24 (20.22%). Respondents aged between 34 and 39 comprised (11.24%), while only 5.05% were under the age of 20. These results indicate that a substantial portion of the workforce—over 83%—falls within the age range of 20 to 40 years. This suggests that logistics work is primarily carried out by young and energetic individuals

who are capable of handling the demands of the job. The small percentage of respondents under 20 years reflects a transitional age group that, based on interview insights, is not typically viewed as a stable or long-term segment of the workforce.

Regarding marital status, 64.04% of respondents were single, while 35.96% were married. This roughly two-to-one ratio implies that single individuals are significantly more prevalent in the logistics workforce. The nature of logistics work, which often includes irregular hours and extended time away from home, may be more compatible with individuals who have fewer familial responsibilities. Furthermore, feedback from the questionnaires suggests that single employees tend to respond with greater clarity and confidence, possibly due to fewer external commitments affecting their perspectives.

Job roles within MIB are broadly categorized into five main positions. The majority of employees (71.2%) are assigned according to departmental functions, while nearly 28% occupy management-level roles. Interestingly, some departments have a manager but no assistant manager. Inquiries revealed that this is due to limited staffing and the small size of certain departments, making additional hierarchical layers unnecessary.

Educational background data shows a workforce with varied qualifications. Six respondents had not completed high school, 21 had completed high school, 135 held bachelor's degrees, and 16 possessed a master’s degree or higher. Interview responses clarified that those without a high school education primarily work in roles such as drivers and security staff. The large number of bachelor’s degree holders reflects a workforce with a solid academic foundation, which is likely to contribute positively to job performance, critical thinking, and the validity of survey responses. Additionally, the presence of employees with master’s degrees in senior management positions suggests that these individuals play a key role in the company’s strategic planning and high-level decision-making processes.

According to Table 4.1, an analysis of the respondents’ working experience indicates that the majority of employees69.10% have less than five years of experience. The second-largest group, comprising 19.66% of respondents, reported between five and ten years of experience. The third group, representing 6.74%, had between ten and fifteen years of experience. The smallest group, at only 4.49%, had more than fifteen years of experience. These findings suggest that the company workforce is predominantly composed of relatively new employees. This trend may point to a

challenge in retaining staff over the long term. To improve employee retention and foster long-term loyalty, the company could consider implementing strategies such as performance-based incentives, enhancing the working environment, and offering salary increments tied to years of service. Such measures are likely to strengthen employee commitment and reduce turnover.

In terms of compensation, Table 4.1 also highlights that even among employees at the same job level, salary discrepancies exist. Interview findings revealed that these differences are primarily due to variations in work experience, skill level, and in some cases, educational qualifications. Employees with lower levels of education tend to receive lower salaries. The minimum reported monthly salary is 250,000 MMK, which is typically paid to staff in entry-level positions such as security personnel and guards.

In summary, it can be concluded that MIB determines employee salaries based on a combination of factors, including educational background, professional experience, and individual skill sets. Table 4.2 below presents the distribution of respondents across different positions alongside their corresponding salary ranges, providing a clearer picture of the company's salary structure.

Table 4.2 Position and Salaries at the Company of Respondents

Sr. No.	Position	Salary Range (KS' 000)	No. of Respondents	Percentage
1.	Manager	1 000 – 1400	13	7.30
2.	Assistant Manager	800-1000	10	5.62
3.	Supervisor	600-800	12	6.74
4.	Junior Supervisor	450-600	15	8.43
5.	Process Employee	Under 450	128	71.91
	Total		178	100.00

Source: Survey data, 2025

4.2 Agreement Perception of Respondents

In this section, the perception of logistics activities factors into the firm performance of Myanmar Indo Best Company Limited. The perception of logistics activities on firm performance is measured and calculated by a five-point Likert scale

(1. strongly disagree, 2. disagree, 3. neutral, 4. agree, 5. strongly agree). The observed information is presented in Table 4.3 with Cronbach's alpha.

4.2.1 Employee Perception on Order Processing and Fulfillment Activities

In this portion, employee perception of order processing and fulfillment is measured with twelve items. The agreement level percentage for each item and overall mean scores is stated in the following table (4.3).

Table 4.3 Agreement Perception of Respondence on Order Processing

Indicator Name	Order Processing Factor	Agreement Level (%)
OF1	Customer orders are correctly packed and shipped.	96.1
OF2	Product returns and exchanges due to delivery damage are rare.	94.9
OF3	Outlets are not affected by stockouts from MIB's order filling inefficiency.	90.4
OF4	The right quality of products is always delivered.	93.2
OF5	Customers receive accurate and assured product quality.	91.6
OF6	Preorder products are supported by accurate schedules and plans.	97.8
OF7	Customer complaints about late deliveries are rare.	94.4
OF8	Order deadlines are consistently met.	73.0
OF9	Product returns due to order-item mismatches are very rare.	97.2
OF10	Customer orders are accepted with complete and accurate details.	88.8
OF11	Order processing software is used to minimize order errors.	89.3
OF12	The company takes responsibility for poor quality or missing items.	96.6
	Overall Mean and Standard Deviation	51.51 (3.343)

Source: Survey data, 2025

Table 4.3 presents the descriptive analysis of order processing activities, assessed using a five-point Likert scale across twelve items. Overall, the results reflect a high level of agreement among respondents regarding the effectiveness of order processing practices at MIB Company. The highest agreement recorded at 97.8% was for the item "Preorder products are supported by accurate schedules and plans." This indicates that employees have strong confidence in the company's ability to plan and schedule preorder operations effectively, which is a crucial component of accurate and timely order fulfillment.

Conversely, the item with the lowest level of agreement, though still relatively high at 73%, was "Order deadlines are consistently met." This response suggests that while strategic planning for orders is perceived as effective, there may be operational bottlenecks or process inefficiencies that hinder the consistent execution of orders on time. Thus, while overall perceptions of order processing are positive, improvements in deadline adherence could further enhance performance.

4.2.2 Employee Perception on Warehousing Activities

Table 4.4 illustrates the descriptive analysis of warehousing activities, also evaluated through a five-point Likert scale. The findings indicate a generally strong level of employee agreement regarding the efficiency of warehousing operations at MIB company. The highest-rated item, with 98.3% agreement, was "Warehouse staff are skilled and perform tasks efficiently." This result reflects high employee confidence in the competence and productivity of the warehousing team, highlighting human resource capability as a key strength in this area.

In contrast, the item receiving the lowest agreement score70.2%was "Warehouse locations are chosen for speed, cost-efficiency, and service quality." This relatively lower rating points to concerns about whether warehouse location decisions are strategically optimized to maximize logistical efficiency. It suggests that although day-to-day warehousing operations are perceived as highly effective, there may be room for improvement in long-term facility planning and site selection to better support cost-effective and service-oriented logistics outcomes.

Table 4.4 Agreement Perception of Respondence on Warehousing

Indicator Name	Warehousing Factor	Agreement Level (%)
W1	Adequate warehouse space is available for storing products.	96.6
W2	Warehouse locations are chosen for speed, cost-efficiency, and service quality.	70.2
W3	The company has made sufficient investments in warehouse infrastructure.	99.4
W4	Layouts support efficient movement within warehouses and yards.	98.3
W5	Materials are stored properly to avoid damage.	84.3
W6	Warehouse staff are skilled and perform tasks efficiently.	98.3
W7	Goods are checked in warehouses to avoid delivery errors.	93.9
W8	Inventory control software is used in the factory.	73.0
W9	Computer systems monitor warehouse damage and daily movements.	70.2
W10	Staff handle workloads efficiently, even during busy times.	92.7
W11	Storage areas are safe, spacious, and well-organized.	74.2
	Overall Mean and Standard Deviation	44.85 (3.137)

Source: Survey data, 2025

4.2.2 Employee Perception on Demand Forecasting Activities

Employee perception of demand forecasting is measured with ten items. The mean agreement level percentage for each item and overall mean score are stated in the following table (4.5).

Table 4.5 Agreement Perception of Respondence on Demand Forecasting

Indicator Name	Demand Forecasting Factor	Agreement Level (%)
DF1	The firm has planning personnel to monitor consumption and forecast demand.	96.6
DF2	The firm has not experienced unmet demand due to unexpected surges.	70.2
DF3	Employees supported in monitoring stock levels to prevent shortages.	60.2
DF4	The demand forecasting process adapts well to market and seasonal changes.	73.0
DF5	Inventory control is effectively managed to meet urgent customer orders.	69.7
DF6	Demand forecasting helps reduce risks from demand fluctuations.	83.2
DF7	Customer surveys are conducted to estimate future purchase intentions.	59.5
DF8	The company retains customers by consistently meeting their product needs.	87.1
DF9	Competitor activities and intentions are regularly analyzed.	76.4
DF10	The product availability system enhances both staff efficiency and customer loyalty.	70.2
	Overall Mean and Standard Deviation	38.94 (3.445)

Source: Survey data, 2025

The analysis of demand forecasting activities, based on twelve Likert-scale items, reveals mixed levels of employee agreement, highlighting both areas of strength and those requiring improvement at MIB Company. The highest agreement96.6%was recorded for the statement "The firm has planning personnel to monitor consumption and forecast demand." It indicates that MIB has designated staff responsible for monitoring consumption trends and projecting future demand, which is essential for efficient logistics planning and inventory management.

On the other hand, the lowest agreement level, 59.5%was associated with the statement "Customer surveys are conducted to estimate future purchase intentions." This result suggests that the company does not frequently use direct customer input as part of its forecasting strategy. The lack of regular customer surveys implies a potential weakness in aligning supply forecasts with actual market needs. Therefore, while internal forecasting processes appear strong, MIB could enhance the accuracy and responsiveness of its demand forecasts by integrating more external insights, particularly through structured customer feedback mechanisms.

4.2.4 Employee Perception on Communication Activities

Table 4.6 provides a descriptive analysis of communication activities within MIB Company, based on twelve Likert-scale items. The findings show a generally positive perception of internal communication effectiveness. The highest agreement level 94.9% was found for the statement "Communication enables strong team collaboration." This indicates that communication practices are effectively fostering teamwork and coordination, contributing positively to operational efficiency and employee engagement.

In contrast, the lowest agreement, 76.4% was for the item "Outlets and MIB collaborate on opportunities." This relatively lower score highlights a potential issue in external communication, particularly in how well the company engages with its outlets and external partners to explore shared opportunities. The gap between internal and external communication effectiveness points to a need for improvement in cross-organizational collaboration. Strengthening external communication channels and strategic partnerships could further enhance the company's logistics capabilities and market responsiveness. Overall, while communication within MIB is perceived as a strong point, greater emphasis on external collaboration and information sharing could yield additional operational and strategic benefits.

Table 4.6 Agreement Perception of Respondence on Communication

Indicator Name	Communication Factor	Agreement Level (%)
C1	Information on goals and policies is shared across the firm.	89.9
C2	Communication enables strong team collaboration.	94.9
C3	Employee feedback is valued and used.	85.4
C4	Customers get timely order and shipment updates.	84.3
C5	MIB maintains open communication with partners.	85.4
C6	Good communication reduces complaints.	80.9
C7	Outlets and MIB collaborate on opportunities.	76.4
C8	Strong ties improve partner communication.	82.6
C9	All stakeholders are kept well-informed.	78.6
C10	Employees receive regular communication training.	82.0
	Overall Mean and Standard Deviation	41.20 (4.491)

Source: Survey data, 2025

4.2.3 Employee Perception on Transportation Activities

According to Table (4.7), the descriptive analysis of transportation activities, based on twelve Likert-scale items, indicates a generally high level of agreement among respondents at MIB Company. The highest agreement level, 97.8%, was recorded for the statement "Products arrive quickly and reliably." This suggests that the company's transportation system is viewed as highly effective in ensuring timely and dependable delivery, which is essential for customer satisfaction and operational success. Conversely, the lowest agreement level, 73.1%, was found for the item "Risks are reduced through safety measures." This indicates a potential area of concern regarding transportation safety protocols. Although the overall transportation process is efficient, the relatively lower score suggests that respondents may perceive gaps in risk management and safety practices. Strengthening safety measures could enhance not only employee and product security but also the sustainability of transportation operations. Overall, transportation is a key strength at MIB, but improvements in safety-focused practices could further optimize performance.

Table 4.7 Agreement Perception of Transportation Activities

Indicator Name	Transportation Activities Factor	Agreement Level (%)
T1	The firm has enough trucks.	96.6
T2	Drivers are well-trained and efficient.	95.5
T3	Vehicles are well-maintained and reliable.	93.6
T4	Late deliveries are rare.	79.8
T5	Routes are optimized to cut costs.	93.2
T6	Risks are reduced through safety measures.	73.1
T7	Delays are handled to keep customers satisfied.	93.8
T8	Deliveries are safe and secure.	86.0
T9	Products arrive quickly and reliably.	97.8
T10	Transport mode considers cost and distance.	93.3
T11	Scheduling ensures timely, accurate delivery.	78.6
	Overall Mean and Standard Deviation	46.65 (3.448)

Source: Survey data, 2025

4.2.6 Summary of Employee Perception on Logistics Activities

To ensure clarity and comparability across variables, overall mean scores were computed by dividing each construct's total score by its number of items. This per-item mean approach enables consistent agreement-level interpretation, especially when raw score ranges are not shown (Boone & Boone, 2012). The table below summarizes these standardized mean scores for each variable

Table 4.8 Summary of Employee Perception on Logistics Activities

Sr. No.	Logistics Activities	Overall Mean
1	Order Processing and Fulfillment	51.51
2	Warehousing	44.85
3	Demand Forecasting	38.94
4	Communication	41.20
5	Transportation	46.65

Source: Survey data, 2025

According to Table (4.8), it exhibits the summary of logistics activities factors of order processing and fulfillment, warehousing, demand forecasting, communication

and transportation. The order processing and fulfillment factor got the maximum mean value of 51.51, followed by transportation, communication, warehousing and demand forecasting which got the overall mean values of 46.65, 41.20, 44.85 and 38.94 respectively. Therefore, employee perceptions agreed that overall activities promote performance at the workplace. Myanmar Indo Best Company Limited should focus and put more efforts into for the implementation of logistics activities to promote firm performance.

4.2.4 Firm Performance

Firm performance was measured with seven items. The mean value for each item and the overall mean values are presented in Table (4.9).

Table 4.9 Agreement Perception of Respondence on Firm Performance

Indicator Name	Productivity Factor	Agreement Level (%)
P1	Logistics management has boosted income.	97.8
P2	Costs have been reduced through logistics.	93.8
P3	Supply chain ensures product quality.	93.2
P4	Customers are happy with order accuracy and speed.	97.2
P5	Technology lowers production costs.	83.1
P6	Transport efficiency improves performance.	96.6
P7	Customer service increases profit.	97.2
P8	Logistics drives satisfaction and loyalty.	95.0
P9	ICT cuts operational costs.	87.1
P10	Logistics improves responsiveness.	93.9
P11	Supply chain builds loyalty and repeat business.	93.3
P12	Growth plans reflect rising demand and reputation.	96.6
	Overall Mean and Standard Deviation	51.88 (3.516)

Source: Survey data, 2025

As shown in Table (4.9), the descriptive analysis of firm performance measured through Likert-scale items demonstrates a strong perception among respondents that logistics activities positively influence the business performance of MIB Company. The highest agreement level, 97.8%, was associated with the statement Logistics

management has boosted income. This result highlights the pivotal role logistics plays in enhancing the company's financial outcomes, suggesting that improvements in logistics operations have translated into tangible income growth.

Conversely, the lowest agreement level, 83.1%, was recorded for the item Technology lowers production costs. While this score remains relatively high, it suggests there is slightly less confidence among employees regarding the cost-saving effects of technological investments in production processes. This points to potential opportunities for either better integration of cost-effective technologies or improved communication regarding their benefits.

Overall, the findings reflect a strong consensus among employees that logistics significantly contributes to firm performance, particularly in terms of revenue enhancement. Nonetheless, additional attention could be directed toward maximizing the cost-reduction potential of technology to further support business efficiency.

4.3 Correlation Analysis of Logistics Activities and Firm Performance at Myanmar Indo Best Company Limited

To fulfill the research objective of assessing how logistics activities impact firm performance at Myanmar Indo Best Company Limited, five logistics-related dimensions were examined: demand forecasting, warehousing, order processing and fulfillment, communication, and transportation. These were treated as independent variables, while firm performance served as the dependent variable. Both correlation analysis and multiple regression analysis were applied to investigate these relationships.

Correlation analysis is a statistical technique used to evaluate the strength and direction of the association between the pairs of variables. The correlation coefficient (r) ranges from -1 to +1. A positive value indicates that as one variable increases, the other also increases. Conversely, a negative value indicates that as one variable increases, the other decreases. The sign reflects the direction of the relationship, while the magnitude reflects its strength.

Interpretation of correlation strength is typically categorized as follows:

Very Strong Correlation: $|r| \geq 0.70$

Moderate Correlation: $0.30 \leq |r| < 0.70$

Weak Correlation: $|r| < 0.30$

The correlation analysis for the logistics activities and firm performance in this study is summarized in Table (4.10), which details the degree of association between each logistics activity and the firm's overall performance.

Table 4.10 Correlation Analysis of Logistics Activities and Firm Performance

Sr. No.	Variables	Pearson Correlation Coefficient	P-value
1	Order processing and fulfillment	0.662**	0.001
2	Warehousing	0.482**	0.001
3	Demand Forecasting	0.415**	0.001
4	Communication	0.385**	0.001
5	Transportation	0.759**	0.001

Source: Survey data, 2025

**Correlation is significant at the 0.01 level (2-tailed)

The results of the Pearson correlation analysis, as presented in Table (4.10), indicate varying degrees of positive relationships between different logistics activities and firm performance at MIB Company. Among the five logistics dimensions examined, transportation demonstrated the strongest correlation with firm performance, with a coefficient of r = 0.759. It represents a strong positive relationship, suggesting that improvements in transportation efficiency and reliability are closely associated with enhanced organizational performance. Effective transportation practices likely lead to reduced delivery times, improved customer satisfaction, and streamlined operations, thereby contributing directly to better business outcomes.

Order processing also showed a strong positive correlation with firm performance, with a coefficient of r = 0.662. It indicates that a well-structured and efficient order processing system is a significant contributor to company success. When orders are handled accurately and efficiently, it minimizes delays and errors while enhancing customer experience, all of which are key drivers of firm performance. In comparison, warehousing and demand forecasting exhibited moderate positive correlations with firm performance, with coefficients of r = 0.482 and r = 0.415, respectively. The results suggest that although both functions play essential roles in logistics operations, their individual contributions to overall firm performance are less

pronounced than those of transportation and order processing. Effective warehousing supports optimal inventory control and storage utilization, while accurate demand forecasting aligns supply with market needs, thereby helping to reduce inefficiencies such as stockouts or excess inventory.

Communication presented the lowest correlation with firm performance among the logistics activities studied, with a coefficient of r = 0.385. It denotes a weak to moderate positive relationship, implying that although communication is important for internal coordination and information flow, its direct effect on performance is comparatively limited. Nevertheless, it remains a critical enabler of collaboration across departments and the smooth execution of logistics functions. The correlation analysis reveals that transportation and order processing are the most influential logistics activities in enhancing firm performance at MIB Company. While warehousing, demand forecasting, and communication also contribute positively, their impact appears to be more supportive than central.

4.4 Reliability Analysis for Logistics Activities and Firm Performance

As shown in Table (4.11), all variables exhibited Cronbach's Alpha values above the commonly accepted threshold of 0.70, indicating acceptable to high reliability. According to the established standards, alpha values greater than 0.70 suggest that the scales are reliable for research purposes, while values exceeding 0.80 reflect good internal consistency.

Table 4.11 Results from Reliability Analysis

Sr. No	Variables	No. of Items	Deleted Items	Cronbach's Alpha
1	Order processing and fulfillment	12	6	0.765
2	Warehousing	11	6	0.864
3	Demand forecasting	10	3	0.784
4	Communication	10	1	0.825
5	Transportation	11	4	0.724
6	Firm performance	12	4	0.805

Source: Survey data, 2025

To assess the internal consistency of the measurement scales used in the study, Cronbach's alpha values were calculated for each logistics activity variable as well as for the dependent variable, firm performance. The results indicate acceptable to good

levels of reliability across all constructs. The order processing achieved a Cronbach's alpha of 0.765, warehousing scored 0.864, demand forecasting was 0.784, communication scored 0.825, and transportation recorded 0.724.

According to conventional benchmarks, alpha values above 0.70 are considered acceptable, while values above 0.80 reflect good reliability. These results suggest that the items within each logistics activity scale are internally consistent and reliably measure their respective constructs. In refining the scales, some items were removed to improve reliability: 6 items from order processing, 6 from warehousing, 3 from demand forecasting, 1 from communication, and 4 from transportation. For the dependent variable, firm performance, a Cronbach's alpha of 0.805 was obtained after deleting 4 items, indicating good internal consistency. Overall, the reliability analysis confirms that the measurement instruments used in the study are suitable for further statistical analysis.

4.5 Multiple Regression Analysis of Logistics Activities and Firm Performance of Myanmar Indo Best Company Limited

To address the research objective regarding the impact of logistics activities on firm performance at Myanmar Indo Best Company Limited, a multiple regression analysis was performed. In this analysis, order processing and fulfillment, warehousing activities, demand forecasting, communication activities, and transportation activities were treated as independent variables, while firm performance was used as the dependent variable. The aim of the analysis was to determine the extent to which each logistics activity contributes to explaining variations in firm performance.

The detailed results of the multiple regression analysis are presented in Table (4.12).

The proposed model is:

$$Y_i = f(X_1, X_2, X_3, X_4, X_5)$$

Where:

Y_i	=	Firm performance
X_1	=	Order processing and Fulfillment
X_2	=	Warehousing
X_3	=	Demand Forecasting
X_4	=	Communication
X_5	=	Transportation

Table 4.12 Multiple Regression Analysis of Logistics Activities on Firm Performance of Myanmar Indo Best Company Limited

Variables	Coefficient	Standard Error	Standardized Coefficients	t	Sig.
(Constant)	-0.117	0.230		0.510	0.611
Order Processing and Fulfillment	0.257***	0.059	0.250	4.368	0.000
Warehousing	0.203***	0.044	0.205	4.609	0.000
Demand Forecasting	0.088**	0.040	0.108	2.224	0.027
Communication	0.081***	0.028	0.129	2.954	0.004
Transportation	0.434***	0.051	0.467	8.529	0.000
F-value	85.468***				
Adjusted R^2	0.705				

Source: Survey data, 2025

Note*** denotes significant at 1 % level, ** denotes significant at 5 % level, * denotes significant at 10 percent level

To better understand how logistics activities contribute to firm performance at Myanmar Indo Best Company Limited, a multiple regression analysis was conducted using five key logistics functions as independent variables: order processing and fulfillment, warehousing, demand forecasting, communication, and transportation. The results revealed that all five activities have a statistically significant and positive effect on the company's overall performance. The regression model had a strong fit, with an adjusted R^2 value of 0.705, indicating that over 70% of the variation in firm performance could be explained by these five factors. Moreover, the F-statistic was 85.468 ($p < 0.01$), confirming the overall significance of the model.

Transportation activities emerged as the most influential factor, with a standardized beta coefficient of 0.467 and a highly significant t-value of 8.529 ($p < 0.01$). This strong relationship suggests that reliable and efficient transportation systems play a vital role in enhancing firm performance. Effective transportation likely contributes to shorter delivery times, higher customer satisfaction, and better coordination across the supply chain. For a logistics-driven company like MIB, investing in transportation infrastructure and performance monitoring may be one of the most direct ways to boost business outcomes.

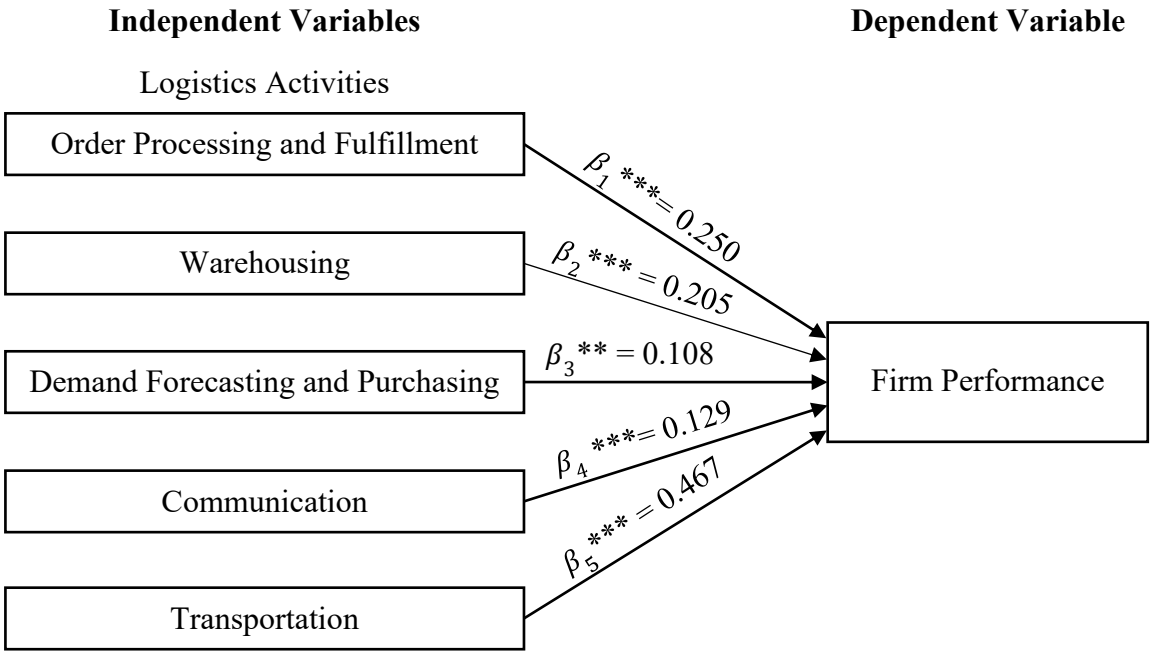
Order processing and fulfillment was the second most impactful activity, with a beta value of 0.250 and a t-value of 4.368 ($p < 0.01$). This result highlights the importance of having structured and efficient order handling processes. When orders are processed accurately and in a timely manner, it minimizes delays and errors, improves inventory flow, and ensures customers receive what they need, when they need it. A well-functioning order processing system directly supports customer satisfaction and repeating business, both of which are essential for firm growth.

Warehousing activities also showed a significant contribution to firm performance, with a beta coefficient of 0.205 and a t-value of 4.609 ($p < 0.01$). It indicates that efficient storage practices, skilled staff, and well-managed inventory systems have a notable impact on operational success. A well-organized warehouse reduces waste, ensures product availability, and supports seamless order fulfillment. It has become clear that warehousing is not just about storage—it is a central component of delivering reliable service to customers.

Communication activities, though slightly less influential than the above, still had a positive and statistically significant effect on performance ($\beta = 0.129$, $t = 2.954$, $p < 0.01$). This finding reflects the value of strong internal coordination and team collaboration. Effective communication helps align different departments, ensures timely updates, and enables smooth decision-making processes. While communication may not have the same direct operational impact as transportation or warehousing, it acts as a vital support system that allows the logistics chain to function cohesively.

Demand forecasting showed the smallest but still meaningful effect, with a beta coefficient of 0.108 and a t-value of 2.224 ($p < 0.05$). Although this indicates a more modest contribution, it underscores the role of accurate forecasting in aligning supply with market needs. By analyzing trends and anticipating customer demand, companies can avoid overstocking or running out of products—both of which can hurt performance. MIB's focus on internal planning is evident, but there may still be room to enhance forecasting accuracy, especially by incorporating more external inputs such as customer feedback.

Therefore, all five logistics activitiestransportation, order processing, warehousing, communication, and demand forecasting play the important roles in driving firm performance at MIB Company. While some activities have a stronger direct impact than others, the overall findings emphasize that a well-rounded, strategically managed logistics system is essential for business success.



Source: Own Compilation based on Results

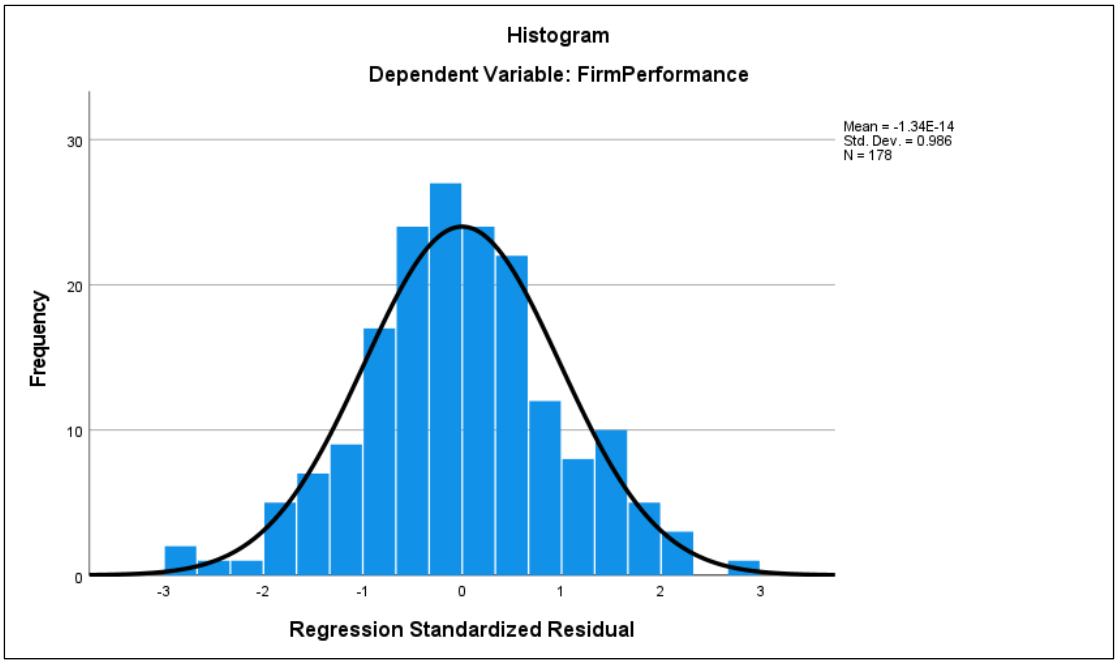
Figure 4.1 Conceptual Framework with Results

4.6 Testing for the Assumptions

To determine the required assumption from the multiple linear regression model for firm performance, the following procedures have been used.

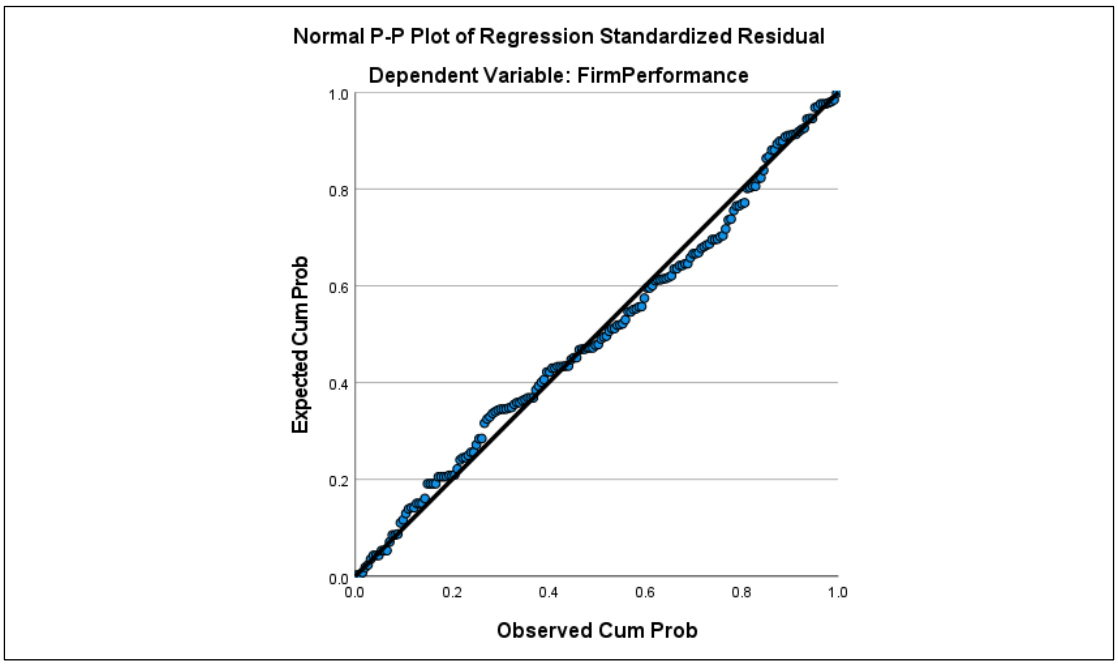
4.6.1 Test for Normality of Disturbances

The first assumption of the Ordinary Least Squares (OLS) model is that disturbances are a normal variable and are normally distributed with a mean of zero and constant variance. To check whether the disturbances are normally distributed, a histogram and normal plot of the disturbances of firm performance can be constructed. The histogram of disturbances and the normal plot of disturbances for firm performance are shown in Figure 4.2 and 4.3.



Source: Survey data, 2025

Figure 4.2 Histogram of Disturbances of Firm Performance



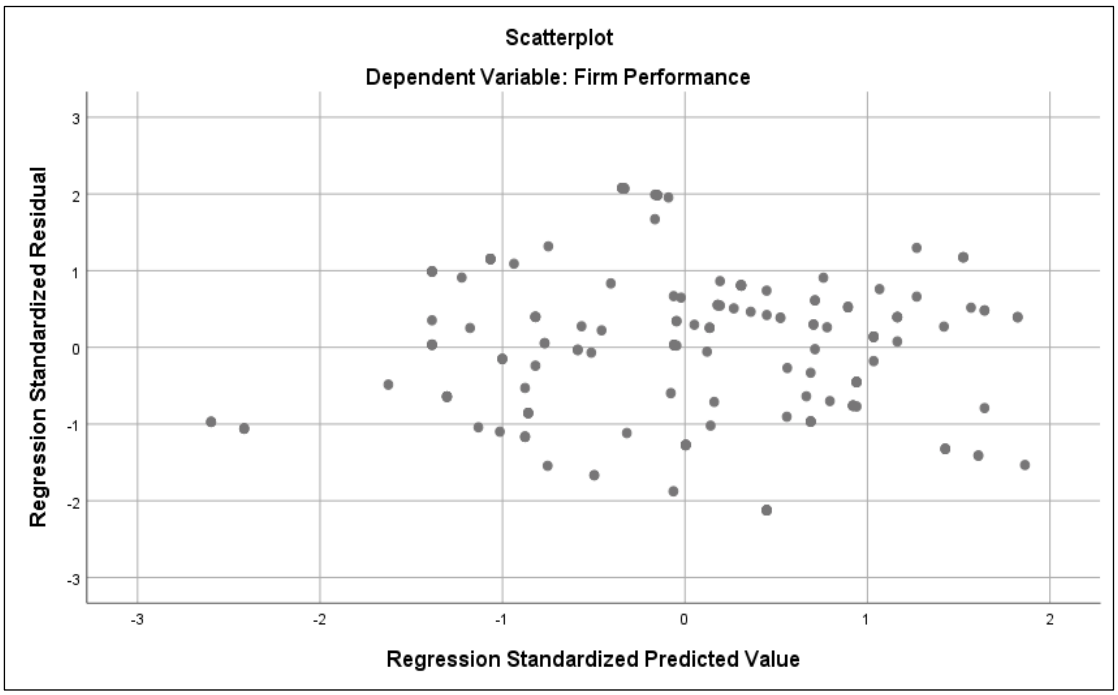
Source: Survey data, 2025

Figure 4.3 Normal Plot of disturbances for Firm Performance

According to the histogram and normal plot, it can be concluded that the normality assumption appears to be generally reasonable.

4.6.2 Testing for Equal Variance (Homoscedasticity)

Another basic assumption of the multiple regression model is homoscedasticity. In the presence of heteroscedasticity, the regression coefficients become less efficient. Heteroscedasticity can often be detected by plotting the estimated Y values against the disturbances. Figure 4.3 presents the predicted firm performance on x axis and the disturbance for firm performance on y axis.



Source: Survey data, 2025

Figure 4.4 Residual Pattern for Heteroscedasticity

From the figure, it can be seen that there is no residual pattern. Therefore, it can be concluded that residuals in firm performance have on equal variance or homoscedasticity.

4.6.3 Detecting Multicollinearity

The problem of multicollinearity, which is a problem of higher correlation among the independent variables in the model, is also assessed.

This problem can also be deleted from the value of Tolerance and VIF (variance inflation factor). If the correlation among the independent variables is weak and the value of the Tolerance is not less than 0.1 and the value of the VIF is not above 10, it is an indication of the absence of a multicollinearity problem. According to the findings

from this study, Tolerance and VIF values of independent variables are shown in the following table.

Table 4.13 Tolerance and VIF of Independent Variables

No.	Independent Variable	Tolerance	VIF
1.	Order Processing and Fulfillment	0.508	1.969
2.	Wearhousing	0.845	1.183
3.	Demand Forecasting	0.705	1.418
4.	Communication	0.872	1.147
5.	Transportation	0.558	1.794

Source: Survey data, 2025

According to Table 4.13, among the independent variables, it is found that the collinearity statistics of the value of Tolerance is not less than 0.1. Based on the coefficient output collinearity statistics, the variance inflation factor (VIF) value of each predictor variable is obtained: 1.969, 1.183, 1.418, 1.147 and 1.794 respectively. Thus, since VIF values are less than 10, there is no multicollinearity.

CHAPTER 5
CONCLUSION

This chapter provides the summary of findings and conclusions drawn from the analysis of the effects of logistics activities factors on the firm performance of Myanmar Indo Best Company Limited. According to the analysis, this chapter provides the recommendations and suggestions to Myanmar Indo Best Company Limited about the importance of logistics activities to promote firm performance at the workplace.

5.1 Findings and Discussion

Gaining insight into the demographic and socio-economic profile of employees is crucial for understanding how logistics activities impact firm performance at Myanmar Indo Best (MIB) Company. The workforce demonstrates a fairly balanced gender distribution, with a slight predominance of male employees. This diversity suggests that the perspectives gathered through the study reflect a wide range of employee experiences. Most respondents are unmarried, suggesting that a significant portion of the workforce is comprised of individuals in the early stages of their careers. This is reinforced by the age distribution, which indicates that the majority of employees are in their twenties or early thirties. Such a youthful profile can be advantageous, as younger employees tend to be more adaptable and open to adopting innovative logistics systems and technologies.

In terms of job roles, the majority of respondents occupy operational positions, particularly at the process level. A smaller proportion of employees serve in supervisory or managerial capacities. This indicates that the data primarily represent views from those directly involved in day-to-day logistics activities, offering valuable insights into frontline logistics execution. Educational qualifications among the workforce are notably high, with most employees having completed undergraduate studies and a smaller yet significant group holding postgraduate degrees. This level of educational attainment suggests that the workforce possesses the foundational knowledge required to engage effectively with complex logistics strategies and operational processes.

Regarding work experience, the majority of respondents have fewer than five years of professional service, indicating a relatively new and developing workforce.

While this may imply limited industry tenure, it also presents opportunities for skills development and future leadership growth. A smaller segment of the workforce brings mid to senior-level experience, contributing to organizational continuity and mentoring potential.

Salary levels generally align with job roles, with employees in entry-level or process positions receiving lower compensation compared to those in supervisory or management roles. This correlation between position and income highlights the structured nature of remuneration within the organization and may influence factors such as job satisfaction, motivation, and performance outcomes. Taken together, these demographic and socio-economic characteristics provide valuable context for interpreting how logistics strategies are perceived and implemented within the firm. The presence of a young, educated, and operationally active workforce suggests readiness for innovation, though additional training and experience may be necessary to fully realize performance gains.

MIB Company's workforce is predominantly young, operational-level, and relatively inexperienced, yet well-educated. These characteristics can shape how logistics practices are adopted and perceived. Younger employees may be more receptive to adopting innovative systems and process improvements. However, the limited experience and modest compensation among a large segment of staff might challenge the consistent execution of high-performance logistics without targeted training and incentives.

The descriptive findings shed light on how employees perceive the effectiveness of logistics functions within MIB Company. Among the various activities assessed, order processing and fulfillment emerged as the most favorably viewed, suggesting that the company has established reliable systems for managing customer orders. This efficiency likely contributes to improved service quality and operational smoothness, enhancing both customer satisfaction and internal workflow.

Transportation was also perceived positively, reflecting its vital role in ensuring prompt deliveries and maintaining a steady logistics flow. Employees recognized its contribution to overall performance, especially in terms of timeliness and reliability. Communication activities received similarly favorable assessments, underscoring the importance of effective information exchange in promoting departmental coordination and supporting day-to-day logistics operations. Warehousing was generally well-regarded, indicating confidence in storage practices, inventory control, and space

management. Although it was not highlighted as the top-performing area, employee feedback suggests a sound level of satisfaction with warehousing operations.

On the other hand, demand forecasting was viewed less favorably compared to the other logistics activities. This indicates a perceived need for improvement in predicting customer needs and aligning supply accordingly. Strengthening forecasting through more data-informed planning and enhanced market analysis could improve accuracy and responsiveness in this area. Overall, the descriptive analysis reflects a strong internal appreciation for MIBs logistics operations, particularly in order handling, transportation, and communication. At the same time, it identifies forecasting as a key area where further strategic development may yield substantial benefits.

In terms of measurement validity, the internal consistency of the survey instruments was evaluated using Cronbach alpha. All constructs demonstrated reliability levels that meet or exceed standard academic benchmarks, indicating that the questionnaire items were consistent and appropriate for assessing each logistics function. Warehousing showed especially high reliability, while other areas including communication, demand forecasting, transportation, and order processing also reflected dependable measurement quality. These results support the robustness of the data used to evaluate the relationship between logistics practices and firm performance.

Pearson correlation analysis further underscored the relevance of logistics activities in enhancing firm performance. All five logistics components showed positive and statistically significant correlations with firm performance. Transportation exhibited the strongest correlation, followed closely by order processing and fulfillment, highlighting their pivotal roles in driving organizational success. Warehousing, demand forecasting, and communication also showed moderate yet meaningful correlations, reinforcing the idea that logistics functions collectively contribute to operational effectiveness and competitiveness at MIB Company.

To examine the predictive power of logistics activities on firm performance, a multiple regression analysis was conducted. The overall model was statistically significant, as confirmed by the ANOVA results, indicating that the combination of logistics variables significantly accounts for the variance observed in firm performance. Among the five predictors, transportation emerged as the most influential factor, underscoring its critical role in facilitating timely, reliable, and efficient delivery services. Order processing and fulfillment also demonstrated a significant positive effect, emphasizing the importance of accurately managing customer orders and

ensuring fulfillment efficiency. Warehousing showed a similarly strong impact, suggesting that effective inventory management and storage operations are essential contributors to overall performance.

While communication and demand forecasting had comparatively smaller effects, both remained statistically significant. Communications moderate influence reflects the need for strong coordination and information flow both internally and externally. Although demand forecasting had the smallest impact, its significance indicates that predictive planning remains an important element, especially when closely aligned with execution strategies. Therefore, the findings affirm that logistics activities particularly transportation, order processing and fulfillment, and warehousing are strategic functions that play a vital role in enhancing the firm performance. For MIB Company, this implies that continued investment in these core logistics areas is essential. At the same time, efforts to improve communication infrastructure and forecasting capabilities could further strengthen operational efficiency and competitive positioning.

5.2 Conclusion

This study aims to examine the influence of key logistics activities namely order processing, warehousing, demand forecasting, communication, and transportation on firm performance at Myanmar Indo Best (MIB) Company. The demographic and socio-economic characteristics of MIBs workforce reflect a relatively experienced group, with many employees having accumulated several years of service. Although education levels vary, differences in salary appear to align more closely with individual experience and skill sets. These variations underscore the importance of acknowledging employee background when assessing logistics performance and organizational capability.

Employee perceptions of logistics practices at MIB were generally favorable, with particular appreciation for the company's order processing and transportation functions. These two areas were viewed as strengths, reflecting effective systems and execution. In contrast, demand forecasting emerged as a comparatively weaker function, indicating a need for greater accuracy and alignment with market needs.

Among the logistics activities studied, order processing and fulfillment stood out as a key driver of firm performance. In industries where customer satisfaction hinges on timely and accurate delivery, the ability to manage orders efficiently plays a

strategic role. The findings emphasize that strong fulfillment operations not only support internal workflow but also enhance competitiveness by directly contributing to customer trust and business success.

Transportation emerged as the strongest predictor of firm performance in the regression model. As a core logistics activity, transportation influences multiple dimensions of organizational success, including delivery timeliness, cost control, and customer service quality. Efficient transportation systems support the flow of goods, minimize operational disruptions, and enhance a firm's competitive positioning. These findings underscore the need for continued investment in transportation infrastructure and technologies.

Warehousing, although secondary to transportation and order processing in terms of regression strength, also showed a statistically significant contribution to performance. As the physical center of inventory and materials handling, warehousing directly affects inventory accuracy, space utilization, and responsiveness to customer demand. Companies that treat warehousing as a strategic function—rather than a mere cost center—are better equipped to achieve efficiency and flexibility in logistics operations.

Demand forecasting, despite yielding a more modest coefficient, proved to be statistically significant. It functions as a strategic compass, guiding inventory planning, resource allocation, and production scheduling. Accurate forecasting helps prevent both overstocking and stockouts, supporting smoother operations and better financial control. While its direct impact may be less pronounced, its integration with execution functions is vital for long-term performance.

Communication, while having the smallest direct effect among the five logistics factors, remains an essential enabler across all areas. Its systemic influence supports coordination between departments, strengthens supplier relationships, and enhances responsiveness to customer needs. Though its standalone coefficient is modest, its indirect value as a performance multiplier cannot be overlooked. As logistics systems become more complex, the importance of seamless and timely communication becomes even more critical.

In summary, the findings emphasize that logistics activities, particularly transportation, order fulfillment, and warehousing, are vital contributors to firm performance at MIB Company. Meanwhile, communication and demand forecasting, although less dominant in direct influence, are strategically significant and warrant

continued attention. The results suggest that a holistic and integrated approach to logistics, one that strengthens operational execution while improving forecasting accuracy and communication quality, is essential for sustaining long-term business success.

5.3 Suggestions and Recommendations

Based on the findings of this study, several strategic recommendations are suggested to enhance logistics performance and overall firm performance at MIB company.

5.3.1 Suggestions and Recommendations for MIB Company

Since transportation activities showed the strongest impact on firm performance both in correlation ($r = 0.759$) and regression analysis ($\beta = 0.467$), the company should continue to invest in improving transportation systems. This includes maintaining reliable delivery schedules, upgrading vehicles, and strengthening safety measures. Enhancing transportation will lead to quicker product delivery and higher customer satisfaction. The following are recommendations for MIB Company.

(a) Strengthen Order Processing Systems (OP)

Order processing also plays a critical role in firm performance. Therefore, systems for scheduling, tracking, and fulfilling customer orders should be further optimized. Integrating digital tools for real-time order tracking and automating routine tasks can reduce delays and improve accuracy in order fulfillment.

(b) Enhance Warehouse Planning and Management (WH)

While warehousing activities were rated with high agreement and strong reliability (Cronbach's alpha = 0.864), there is still room to improve location strategy and layout for speed and cost-efficiency. Staff training and investment in warehouse technology should also be prioritized to increase productivity.

(c) Improve Demand Forecasting Practices (DF)

Although the mean agreement for demand forecasting was the lowest among logistics dimensions (Mean = 3.89), it still showed a significant relationship with firm performance. The company should consider investing in advanced forecasting tools, using market trends and sales data, and regularly conducting customer surveys to better anticipate future demand.

(d) Foster Effective Communication Across Departments (CM)

Communication, while showing the weakest correlation (r = 0.385), is still crucial for logistics coordination. MIB should promote cross-department collaboration through regular meetings, shared digital platforms, and leadership that encourages transparency and timely information flow.

(e) Address Workforce Development and Salary Structure

Based on the socio-economic findings, variations in salary were tied to experience and skill level. It is recommended that MIB establishes clearer career progression paths, skill development programs, and transparent salary policies to motivate staff and retain talent, which in turn supports logistics efficiency.

(f) Monitor and Maintain Quality through Data

Regular assessment of logistics performance using data from operations, feedback from customers, and staff evaluations should be institutionalized. This will help the company to continuously adapt and improve each logistics function based on performance indicators.

(g) Leverage Technology to Reduce Production Costs (FP)

As indicated by the high agreement (83.1%) on technology's role in lowering production costs, MIB should further invest in automation and digital tools across logistics functions. Enterprise Resource Planning (ERP) systems and advanced analytics can help streamline operations, reduce waste, and increase cost-effectiveness.

(h) Develop Targeted Training Programs (WH)

With warehousing staff already rated highly for their skills (98.3% agreement), it is essential to maintain and replicate this standard across all logistics areas. Customized training programs should focus on demand forecasting accuracy, order management, and safe transportation practices to strengthen weaker areas.

(i) Enhance Forecasting by Integrating Customer Insights (DF)

Since customer surveys for demand prediction received the lowest agreement (59.5%), MIB should adopt more customer-centric forecasting methods. Regular feedback collection, CRM data analysis, and sales trend reviews can lead to more accurate forecasts and proactive inventory planning.

(j) Improve Order Deadline Consistency (OP)

The relatively lower agreement (73%) on consistently meeting order deadlines suggests a need for operational discipline. This can be improved by refining scheduling

tools, monitoring delivery KPIs, and setting contingency plans for delays to ensure reliable order fulfillment.

(k) Optimize Warehouse Location Strategy (WH)

The lowest agreement in the warehousing section (70.2%) pointed to suboptimal warehouse locations. MIB should reassess its facility siting decisions with regard to proximity to major markets, supplier networks, and transportation routes to reduce lead time and costs.

(l) Reinforce Collaborative Communication (CM)

With only 76.4% agreement on collaboration between outlets and MIB, efforts should be made to create stronger partnerships across departments and branches. Introducing inter-branch performance dashboards and joint planning meetings can enhance synergy and logistics alignment.

(m) Use Performance Metrics to Track Improvements

As firm performance was significantly predicted by logistics activities (Adjusted $R^2 = 0.625$), MIB should establish key logistics performance indicators (KPIs) and track them regularly. Examples include order cycle time, delivery reliability, forecast accuracy, and logistics cost as a percentage of sales.

(n) Scale Best Practices Across Branches

Given the multiple branches of MIB, top-performing practices in one branch should be documented and shared company-wide. Internal benchmarking and inter-branch learning exchanges can help standardize excellence and promote organizational growth.

5.3.2 Policy Suggestions and Recommendations for Myanmar's Logistics Sector

Drawing from the empirical findings of this study, it is evident that logistics activities particularly transportation, order processing, and warehousing play a vital role in enhancing firm performance. To support sustainable growth and competitiveness in Myanmar's logistics sector, the following policy recommendations are proposed:

(a) Formulate a National Logistics Strategy

The significant impact of logistics activities on firm performance underscores the need for a cohesive National Logistics Strategy. This strategy should align infrastructure development with the operational needs of the private sector, particularly in emerging economic regions such as Upper Myanmar. A national framework will ensure that logistics development is systematic, inclusive, and responsive to industry demands.

(b) Prioritize Investment in Transportation Infrastructure

Given transportations dominant influence on firm performance, national investment in upgrading transport infrastructure is imperative. Enhancing road, rail, and intermodal connectivity especially between urban hubs and rural areas will reduce transit time, improve reliability, and facilitate market access. Such infrastructure improvements are foundational to an efficient and resilient logistics system.

(c) Support the Digital Transformation of Logistics

Digital technologies are central to improving logistics functions such as order processing and demand forecasting. Policymakers should promote digital adoption in logistics through targeted subsidies, tax incentives, or capacity-building initiatives. Furthermore, the establishment of a national digital logistics platform could enable real-time coordination, enhance transparency, and improve supply chain visibility across firms and regions.

(d) Develop Regional Warehousing and Distribution Hubs

To strengthen logistics networks, the government should encourage the development of strategic warehousing and distribution centers, particularly near industrial zones, ports, and trade corridors. Public-private partnerships (PPPs) can be leveraged to finance and operate these hubs efficiently, ensuring they meet industry standards and support regional economic integration.

(e) Enhance Human Capital in Logistics

This study found that experience and skill levels significantly influence employee performance and compensation. As such, there is a need to invest in logistics education and training. The government should collaborate with academic institutions and industry partners to create specialized curricula, vocational programs, and certification pathways aimed at building a skilled logistics workforce.

(f) Establish Industry Standards and Certification Systems

To improve service quality and ensure operational consistency, the implementation of national logistics performance standards and certification systems is recommended. These standards should cover warehousing practices, transportation safety, and order fulfillment efficiency. Such regulatory frameworks would help professionalize the sector and promote adherence to best practices.

(g) Promote Resilience and Innovation in Logistics Planning

In light of global supply chain disruptions, it is essential to foster logistics resilience and innovation. The government should support the adoption of advanced

forecasting tools, scenario planning, and crisis response mechanisms. Funding innovation through grants or pilot programs can enhance preparedness and adaptability across the logistics industry.

5.4 Needs for Further Study

While this study offers valuable insights into the relationship between logistics activities and firm performance at MIB Company, several avenues remain for future exploration. Firstly, the research is limited to a single organization operating within a specific geographic region, which may restrict the generalizability of the findings. Expanding the scope to include multiple firms across different regions or sectors would allow for comparative analyses and a more comprehensive understanding of logistics impacts across various contexts.

Secondly, although this study focuses on five core logistics functions - order processing, warehousing, demand forecasting, communication, and transportation - it does not examine other critical logistics dimensions such as inventory management, reverse logistics, or last-mile delivery. Future research incorporating these additional elements could offer a more holistic view of logistics performance.

Moreover, the reliance on self-reported data gathered through Likert-scale surveys introduces the possibility of respondent bias. To enhance validity, future studies could integrate qualitative methods such as in-depth interviews, direct observations, or case studies, which would help triangulate and enrich the quantitative data.

In addition, the current study provides a snapshot of logistics performance but does not account for dynamic external factors such as technological advancements, economic fluctuations, or supply chain disruptions. Longitudinal studies that track logistics performance over time or during periods of crisis such as pandemics or political instability could yield deeper and more actionable insights.

Finally, while the study identifies statistically significant relationships between logistics activities and firm performance, it does not explore potential mediating or moderating variables that may influence this relationship. Factors such as organizational culture, leadership style, or employee motivation could play important roles in shaping logistics outcomes. Future research could investigate these mechanisms to better understand the underlying drivers of logistics success.

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APPENDIX (A)

Survey Questionnaires

The purpose of the question is to determine the effect of logistics activities on the firm performance of Myanmar Indo Best Company (MIB). This study is being conducted as part of the requirements for a thesis of the MAR programme in University of Co-operative and Management, Sagaing. Your response is very important, so please answer all of the questions and I guarantee that whatever you answer will not be leaked at all. We appreciate your contribution and thank you very much in advance.

Section A: Demographics

Please choose the one that matches to your situations.

1. Gender
   - ☐ Male
   - ☐ Female

2. Marital Status
   - ☐ Married
   - ☐ Single

3. Position
   - ☐ Manager
   - ☐ Assistant Manager
   - ☐ Senior Supervisor
   - ☐ Junior Supervisor
   - ☐ Operation Staff

4. Educational Background
   - ☐ High School
   - ☐ Under Graduate
   - ☐ Graduate
   - ☐ Post Graduate
   - ☐ Other, (please specify) ---------- .

Please fill in your current status.

5. Age (Years) ---------- .
6. Working Experiences (years) ----------.
7. Salary (Kyats) ---------- .

Section B: Logistics Activities

The following questions are based on the five-point Likert scale from 1 to 5. Please choose the number that you feel is appropriate

1= Strongly disagree	2 = Disagree	3 = Neither disagree nor agree	4 = Agree	5 = Strongly agree

Sr. No.	Order Processing and Fulfillment Activity	Perception				
1	The firm order fulfillment process ensures that customer orders are correctly packed and shipped.	1	2	3	4	5
2	It is rare for products to be returned and exchanged due to damage on the way.	1	2	3	4	5
3	The outlets haven't run out of stock due to the inefficient order filling rate of MIB distribution.	1	2	3	4	5
4	The firm always delivers right quality of products.	1	2	3	4	5
5	The company always provides customers with accurate and assurance quality of the product.	1	2	3	4	5
6	This company always provides accurate schedule and plan for their customers' preorder products.	1	2	3	4	5
7	Customers rarely complain about late deliveries.	1	2	3	4	5
8	The company excels at meeting order deadlines.	1	2	3	4	5
9	MIB's product shipments are very rarely returned due to misalignment with the item ordered by the customer.	1	2	3	4	5
10	The factory staff always accept customers' order exactly with the required information (date, time, place, product, type with comments)	1	2	3	4	5

11	The factory uses order processing software to reduce errors in maintaining order detail.	1	2	3	4	5
12	The company takes accountability for poor-quality products and missing items.	1	2	3	4	5

Sr. No.	**Warehousing Activity**	**Perception**				
1	The firm has enough warehouses for storing the products.	1	2	3	4	5
2	The company's warehouses are located at strategic locations in order to give faster responses, lower transportation costs, and better service levels.	1	2	3	4	5
3	The firm has made sufficient investment in warehousing infrastructure.	1	2	3	4	5
4	The layout of warehouses and yards has been properly planned to facilitate easy movement of materials, vehicles and people.	1	2	3	4	5
5	The company keeps all materials in good condition and with minimum damage.	1	2	3	4	5
6	Warehouse employees are well-trained and efficient in handling warehousing activities.	1	2	3	4	5
7	Delivery goods are checked in the warehouses for error free.	1	2	3	4	5
8	The factory also uses inventory control software.					
9	The company's warehouse uses a computer control system to record damage in the warehouse and units moved per day.	1	2	3	4	5
10	Warehouse employees effectively handle workloads, even during peak times.	1	2	3	4	5
11	The company always considers safety and wide space for raw material and finished product storage by managing storage space utilization.	1	2	3	4	5

Sr. No.	Demand Forecasting Activity	Perception				
1	The firm has planning personnel that monitor consumption and expected demand.	1	2	3	4	5
2	The firm has not faced unexpected demand that it is unable to satisfy.	1	2	3	4	5
3	The firm is helping employees in planning and monitoring product stock position to tackle product shortage.	1	2	3	4	5
4	MIB's demand forecasting process is flexible enough to adapt to market changes and seasonal fluctuations.	1	2	3	4	5
5	The company manages effectively on inventory control to fulfill customer urgent demand order.	1	2	3	4	5
6	Our demand forecasting helps mitigate risks associated with demand volatility.	1	2	3	4	5
7	The company made a formal survey of customers to estimate and know the future purchase plans of consumers and their intentions.	1	2	3	4	5
8	The MIB company doesn't lose customers because they can't buy what they want.	1	2	3	4	5
9	The company also constantly analyzes the recent activities and intentions of its competitors in the same industry.	1	2	3	4	5
10	The company's product availability system not only improves the efficiency of the distribution staff but also improves the loyalty of the company.	1	2	3	4	5

Sr. No.	Information Flow (Communication) Activity	Perception				
1	The firm provides adequate information about policies and goals across the entire organization.	1	2	3	4	5
2	There is effective collaboration across teams due to good communication practices.	1	2	3	4	5
3	The firm seriously and effectively takes employees feedback and suggestions.	1	2	3	4	5
4	The firm provides timely updates to customers regarding their orders and shipments.	1	2	3	4	5
5	MIB's working relationship with the distribution chain members is characterized by open and honest communication.	1	2	3	4	5
6	Due to the effective communication system implemented at MIB, they were able to minimize the number of complaints and misunderstandings.	1	2	3	4	5
7	The customers' outlets and MIB distribution work together to exploit unique opportunities.	1	2	3	4	5
8	MIB's relationships with distribution are benefited by strong tie communications.	1	2	3	4	5
9	MIB's communication systems (e.g., order tracking, automated alerts) ensure that all stakeholders are well-informed.	1	2	3	4	5
10.	MIB conducts regular training sessions to improve communication skills among employees.	1	2	3	4	5

Sr. No.	Transportation Activity	Perception				
1	The firm has sufficient truck cars for transportation.	1	2	3	4	5
2	Drivers are well-trained and contribute to the efficiency of transportation operations.	1	2	3	4	5
3	The company's vehicle fleet is well-maintained and contributes to high performance in transportation.	1	2	3	4	5
4	Late deliveries are rare in transportation activities of MIB.	1	2	3	4	5
5	Transportation costs are reduced through route optimization and other strategies.	1	2	3	4	5
6	Transportation risk management practices, such as insurance and driver safety training, reduce the likelihood of incidents.	1	2	3	4	5
7	Transportation delays are handled in a way that minimizes customer dissatisfaction.	1	2	3	4	5
8.	The company always considers the safety and security of products delivering to customers.	1	2	3	4	5
9.	The company delivers products to customers with speed and reliability.	1	2	3	4	5
10.	The company always considers the length of the journey and relative costs in selecting the transportation mode.	1	2	3	4	5
11.	The factory uses transport scheduling to ensure that deliveries are completed at the right time, in the right place and with the right product.					

Section C: Firm Performance

Sr. No.	Firm Performance	Perception				
1	Due to well-managed logistics activities, the firm has increased income over the last three years.	1	2	3	4	5
2	By managing the logistics activities, the firm can reduce the total cost within the last three years.	1	2	3	4	5

3	The firm can produce quality products for customers by managing these supply chain activities well.	1	2	3	4	5
4	Customers are satisfied with the speed and accuracy of their orders.	1	2	3	4	5
5	The company can reduce production costs through new technology and automatic machines.	1	2	3	4	5
6	MIB's performance increases because of good transportation modes and vehicles.	1	2	3	4	5
7	Customer service activities have led to an increase int the organization's profit.	1	2	3	4	5
8	Effective logistics management ensures customer satisfaction and repeating purchases.	1	2	3	4	5
9	The company reduces total cost through ICT application.	1	2	3	4	5
10	Logistics management affects the level of responsiveness to customers orders and enquiries.	1	2	3	4	5
11	Due to MIB's supply chain management, customers are highly satisfied and repeat orders and become long-term partners.	1	2	3	4	5
12	There are plans to open more offices in the near future due to the popularity of MIB's service, more clients, and a better reputation.	1	2	3	4	5

*Thank you very much for your warm and helpful response to this questionnaire.

APPENDIX (B)

Correlations

		Firm Performance	Order Fulfillment	Warehousing	Demand Forecasting	Communication	Transportation
Firm Performance	Pearson Correlation	1	.662**	.482**	.415**	.385**	.759**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	178	178	178	178	178	178
Order Fulfillment	Pearson Correlation	.662**	1	.243**	.509**	.236**	.592**
	Sig. (2-tailed)	.000		.001	.000	.002	.000
	N	178	178	178	178	178	178
Warehousing	Pearson Correlation	.482**	.243**	1	.153*	.148*	.387**
	Sig. (2-tailed)	.000	.001		.041	.048	.000
	N	178	178	178	178	178	178
Demand Forecasting	Pearson Correlation	.415**	.509**	.153*	1	.266**	.243**
	Sig. (2-tailed)	.000	.000	.041		.000	.001
	N	178	178	178	178	178	178
Communication	Pearson Correlation	.385**	.236**	.148*	.266**	1	.295**
	Sig. (2-tailed)	.000	.002	.048	.000		.000
	N	178	178	178	178	178	178
Transportation	Pearson Correlation	.759**	.592**	.387**	.243**	.295**	1
	Sig. (2-tailed)	.000	.000	.000	.001	.000	
	N	178	178	178	178	178	178

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.844[a]	.713	.705	.15346	.713	85.468	5	172	.000

a. Predictors: (Constant), Transportation, DemandForecasting, Communication, Warehousing, OrderFulfillment

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.064	5	2.013	85.468	.000b
	Residual	4.051	172	.024		
	Total	14.115	177			

a. Dependent Variable: FirmPerformance

b. Predictors: (Constant), Transportation, DemandForecasting, Communication, Warehousing, OrderFulfillment

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.117	.230		-.510	.611		
	OrderFulfillment	.257	.059	.250	4.368	.000	.508	1.969
	Warehousing	.203	.044	.205	4.609	.000	.845	1.183
	DemandForecasting	.088	.040	.108	2.224	.027	.705	1.418
	Communication	.081	.028	.129	2.954	.004	.872	1.147
	Transportation	.434	.051	.467	8.529	.000	.558	1.794

a. Dependent Variable: FirmPerformance