THE SUPPLY CHAIN MANAGEMENT CAPABILITIES OF THE ETHIOPIAN SHIPPING AND LOGISTICS SERVICE ENTERPRISE

By

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This is to certify that the thesis prepared by Fraol Girma Awata; The Supply chain management capabilities of the Ethiopian Shipping and Logistics Service Enterprise and submitted in partial fulfillment of the requirements for the Degree of Master of Logistics and Supply Chain Management complies with the regulations of the university and meets the accepted standards with respect to originality and quality.

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DECLARATIONS

I, Fraol Girma, declare that this Thesis entitled “The Supply chain management capabilities of the Ethiopian Shipping and Logistics Service Enterprise” is my own original work. I have carried out it independently with the guidance and suggestions of the research advisor. And it has not been presented in Addis Ababa University or any other University.

Fraol Girma _____

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CERTIFICATION

This is to certify that Fraol Girma has carried out his Thesis on the topic of "The Supply chain management capabilities of the Ethiopian Shipping and Logistics Service Enterprise" under my Supervision. This work is original in its nature and it is suitable for submission in partial fulfillment of the requirement for the award of Masters of Arts Degree in Logistics and Supply Chain Management.

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Contents

Abstract

This study assesses the supply chain capabilities of the Ethiopian Shipping and Logistics Service Enterprise (ESLSE) to enhance operational efficiency and competitiveness. The main objective is to evaluate ESLSE's ability to recognize, utilize, and integrate its resources within its supply chain processes. Specific objectives include analyzing ESLSE's capabilities in resource recognition, utilization, and integration, impacting SC processes. A mixed-methods approach, combining explanatory and descriptive research designs, was used. Data were collected through a cross-sectional survey, capturing both quantitative and qualitative data. This methodology provided a comprehensive analysis of ESLSE's supply chain capabilities.

Findings indicate significant challenges related to outdated equipment, lack of modern technology, and insufficient maintenance of logistics infrastructure. Additionally, limited integration and coordination across supply chain activities result in fragmented operations, affecting ESLSE's efficiency and responsiveness to market demands.

The conclusion emphasizes the importance of a robust and efficient supply chain for Ethiopia's economic growth. Recommendations include investing in modern logistics technology, enhancing communication, and fostering better coordination among supply chain activities. These steps are essential for ESLSE to improve its capabilities and contribute to a more competitive logistics sector in Ethiopia.

Key words: SCM capabilites, Ethiopian shipping an logistics, SC strategy, resource utilization and integration

CHAPTER ONE
INTRODUCTION

1.1. Back ground of the study

A supply chain strategy is a channel arrangement based on acknowledged dependency and relationship management. Supply chain operations require managerial processes that span across functional areas within individual firms and link trading partners and customers across organizational boundaries. And in order to maximize efficiency of the supply chain the implementation of good supply chain management is necessary. According to Bowersox, Closs, Cooper (2002) Supply chain (sometimes called the value chain or demand chain) management consists of firms collaborating to leverage strategic positioning and to improve operating efficiency. For each firm involved, the supply chain relationship reflects strategic choice.

Supply chain management is the coordination of production, inventory, location, and transportation among the participants in a supply chain to achieve the best mix of responsiveness and efficiency for the market being served. One important element of SCM is building supply chain capability, and Supply chain capabilities are the ability of an organization to provide goods or services to customers. The term often refers to a company's manufacturing capabilities, but it can also include other areas such as customer service, order fulfillment, and logistics (John and Chandra, 2016).
The global economy thrives on efficient supply chains, the networks that move goods from raw materials to finished products in the hands of consumers. Supply chain capability, encompassing not just capacity but also efficiency, flexibility, and other factors, plays a crucial role in a company's success. This analysis examines supply chain capability from a global, African, and Ethiopian perspective, with a specific focus on Ethiopian shipping and logistics company (John and Chandra, 2016).

Supply chain capabilities are the ability of an organization to provide goods or services to customers. The term often refers to a company's manufacturing capabilities, but it can also include other areas such as customer service, order fulfillment, and logistics (Christopher and Lee, 2004).

African nations face unique supply chain challenges. Infrastructure limitations, including underdeveloped road networks, can hinder the efficient movement of goods. Regulatory complexities and bureaucratic processes often slow down cross-border trade. Additionally, skilled workforce shortages in logistics management can impede supply chain efficiency (Christopher and Lee, 2004).

Despite these challenges, Africa also presents significant opportunities. A growing middle class is driving demand for consumer goods, and the continent boasts rich resources. Investments in infrastructure development and technology adoption are paving the way for improved supply chain capabilities. Free trade agreements like the African Continental Free Trade Area (ACFTA) are fostering regional integration and streamlining trade processes (Christopher and Lee, 2004).

In this context, Ethiopia stands out with its strategic location, growing economy, and ambitious development plans, such as "Ethiopia's Growth and Transformation Plan II." The government is prioritizing infrastructure development, including the construction of new roads, railways, and logistics hubs. Additionally, investments are being made in technology and digitization to improve supply chain visibility and efficiency (Yoseph, 2016).

1.2. Problem Statement

From a policy perspective the Ethiopian government has recognized the significance of a robust logistics sector for national economic growth. However, limited government policies and regulations specifically address enhancing supply chain capability within domestic shipping and logistics companies. This lack of policy focus creates gaps in areas like technology adoption; this is because there's a need for policies that incentivize investments in technology like automation, data analytics, and cloud-based solutions for logistics management (Belay, 2011).

And Mohammed (2014) and Hana (2016) state that existing supply chain capability frameworks often focus on developed economies with established infrastructure and mature logistics systems. Adapting these frameworks to the unique context of

developing nations like Ethiopia requires further theoretical development. Specific gaps exist in areas like: Effectiveness of Existing Initiative and Bench-marking against Regional Competitor.

Assessing and evaluating the existing Initiatives of the current government initiatives aimed at improving logistics infrastructure and skills development within the logistics sector is crucial to determine what the impact the initiatives have on the supply chain sector .The other issue is the fact comparative studies are needed to analyze the supply chain capabilities of Ethiopian companies in relation to regional competitors in East Africa, identifying areas for improvement and potential best practices (Abay, 2015).

According to Abay (2015) Current theories may not adequately address the challenges posed by inadequate road networks, limited storage facilities, and underdeveloped communication infrastructure in Ethiopia. From Emperical perspective even though ESLSE, despite being a critical player in Ethiopia's logistics sector, suffers from several operational inefficiencies. Issues such as outdated equipment, lack of modern technology, and insufficient maintenance of shipping vessels and logistics equipment contribute to these inefficiencies (African Development Bank, 2021).

And according to oxford (2022) ESLSE struggles with limited integration and coordination across its supply chain activities. The lack of seamless communication and coordination between different departments and external partners leads to fragmented operations. This lack of integration affects resource recognition, utilization, and integration capabilities, hindering the company's ability to respond effectively to market demands and customer needs .

To conclude Building a robust and efficient supply chain is critical for Ethiopia's economic growth and integration into global markets. This thesis aims to address the short comings of supply chain capability within Ethiopian shipping and logistics company. By conducting this research, the thesis will contribute to a more comprehensive understanding of the challenges and propose practical solutions to enhance supply chain capabilities. The findings will be valuable for policymakers, logistics companies, and researchers aiming to create a more efficient and competitive Ethiopian logistics sector.

1.3. Objective of the study

1.3.1. Main Objective

To assess capabilities of the ESLSE to effectively recognize, utilize and integrate its internal and external resources to facilitate the various activities with in the supply chain

1.3.2. specific objectives

- To assess the capability of ESLSE to effectively recognize its internal and external resources to facilitate its supply chain process
- To assess the capability of ESLSE to effectively utilize its internal and external resources to facilitate its supply chain process
- To determine the capability of ESLSE to integrate its internal and external resources to facilitate its supply chain process

1.4. Research Question

- What is the supply chain capability of ESLSE to effectively recognize its internal and external resources to facilitate its supply chain process?
- What is the supply chain capability of ESLSE to effectively utilize its internal and external resources to facilitate its supply chain process?
- What is the supply chain capability of ESLSE to effectively integrate its internal and external resources to facilitate its supply chain process?

1.5. Significance Of the Study

The study is significant to different parties like professionals because it helps them understand Improves strategic planning by comprehensively analyzing building supply chain capacity that helps develop robust strategic plans that proactively address potential challenges, ensuring continuity and sustainability within the supply chain.

It helps organizations because it enhances resilience and competitiveness Implementing effective SC capacity building strategies strengthens the organization's resilience, enabling it to adapt and respond swiftly to unexpected disruptions. This, in turn, enhances competitiveness by maintaining operational continuity and meeting customer demands efficiently.

it also helps to Safeguard reputation and brand image since a proactive approach to supply chain capacity building helps organizations mitigate adverse impacts on product quality, delivery timelines, and customer satisfaction, thereby safeguarding their reputation and brand image in the marketplace.

The benefit to a country is Countries with robust supply chain capacity frameworks attract greater investment and trade opportunities as businesses perceive them as reliable and conducive environments for conducting operations. This leads to increased economic activity and job creation.

Lastly the benefit to academia is to advance knowledge and innovation because a Research in supply chain capacity building to the academic community by generating new insights, methodologies, and best practices in the field. This fosters continuous learning, innovation, and the development of cutting-edge solutions to emerging challenges and bridge the past with the present.

1.6. Scope of the study

The scope of the study is limited supply chain capability in Ethiopia specifically to Addis Ababa focused on the organization of ESLSE due to time and budget constraint and the study is mainly focused on the core tenets of Supply chain capability.

1.7. Organization of the Study

This thesis is structured into five chapters, each of which addresses a distinct component of the research process and findings.

The first chapter provides an introduction to the study. It begins with the background of the study, offering context and setting the stage for the research. The problem statement is then articulated, outlining the central issue that the study seeks to address. This is followed by the objectives of the study, which are divided into general and specific objectives, detailing the aims and goals of the research. The chapter also presents the research questions that guide the investigation. Furthermore, the significance of the study is discussed, highlighting the importance and potential impact of the research. Lastly, the scope of the study is defined, specifying the boundaries and limitations of the research.

The second chapter delves into the existing body of knowledge related to the research topic. It includes a theoretical review, which examines relevant theories and models that underpin the study. This is followed by an empirical review, which looks at previous research findings and how they relate to the current study. The chapter also presents the theoretical framework, which integrates the theories into a coherent structure guiding the research. Additionally, the conceptual framework is outlined, illustrating the key concepts and their interrelationships within the context of the study. Chapter three describes the methodology employed in conducting the research. It begins with a description of the study area, providing details about the geographical and contextual setting of the research. The research approach is then discussed, explaining the overall strategy used to address the research questions. The population and sample design are described, detailing the characteristics of the study population and the sampling techniques used. Methods of data collection are then outlined, explaining how data were gathered. The methods of data analysis are also discussed, describing the techniques used to analyze the collected data. Ethical considerations are addressed, ensuring that the research adheres to ethical standards. Finally, the chapter covers the reliability and validity of the study, ensuring that the research findings are credible and trustworthy. The fourth chapter presents the results of the study and provides a discussion of the findings. The results are presented in a clear and systematic manner, often accompanied by tables, figures, and charts for better understanding. The discussion interprets the findings, linking them back to the research questions, objectives, and the reviewed literature. This chapter provides a comprehensive analysis of the results, highlighting significant patterns, relationships, and implications. The final chapter summarizes the key findings of the study, offering

a concise overview of the results and their significance. The conclusions drawn from the study are then presented, reflecting on the implications of the findings for theory, practice, and future research. The chapter concludes with recommendations based on the study's findings, suggesting practical steps, policy implications, and areas for further research.

CHAPTER TWO
RELATED LITRATURE REVIEW

2.1. Theoretical Literature Review

2.1.1. Supply chain management

Supply chain management is the coordination of production, inventory, location, and transportation among the participants in a supply chain to achieve the best mix of responsiveness and efficiency for the market being served Supply chain management (SCM) is also the process of planning and controlling the flow of goods, services, and information for a business.(Hugos and Micheal, 2011)

A key objective of SCM is to reduce or eliminate the need for excess inventory buffers between organizations within the chain. This can be achieved by establishing information sharing practices regarding demand forecasts and current stock levels. One strategy for achieving this is through "Co-Managed Inventory" (CMI) programs (Christopher, 2005).

Supply chain management encompasses the intricate web of decisions involved in producing goods and services. These chains are inherently complex, and this complexity is compounded by factors like globalization and rapid innovation (Khan & Zsidisin, 2012)

Having said that it’s important to recognize that .supply chain management has a process that need to be followed in order for it to be effective effective and as previously mentioned The goal of SCM is to increase efficiency, minimize costs, and meet consumer needs. There five main processes of SCM that are crucial for achieving this they are planning, sourcing, manufacturing and production, distribution and returning(Ballou, 2004).

2.1.1.1. Planning

This is the foundation of the supply chain process, and it involves determining resources, estimating timelines, and setting budgets (Bowersox and Donald, 2002).

To get the best results from SCM, the process usually begins with planning to match supply with customer and manufacturing demands. Companies must try to predict what their future needs will be and act accordingly. This will take into account the raw materials or components needed during each stage of manufacturing, equipment capacity and limitations, and staffing needs. Large businesses often rely on enterprise resource planning (ERP) software to help coordinate the process(Daugherty,Chen, Richey and Genchev, 2001).

The planning process has two sides they are: demand planning and supply planning

Demand Planning involves Forecasting demand to ensure products can be delivered in a timely manner. It involves several steps, starting with data collection, which includes analyzing historical sales data, conducting market research, and considering external factors like economic indicators and seasonal trends. Forecasting methods can be quantitative, such as time series analysis and causal models, or qualitative, like expert judgment and market research. The shaping involves planning promotions and new product introductions to influence demand (Ellram and Tate, 2004).

Demand planning is considered a strategic process for most companies but too often, developing and adhering to a process can be very difficult and complex. The main goal of this process is to provide planners with a reliable daily, weekly, or monthly demand plan to execute (Ellram and Tate, 2004).

Supply Planning ensures that the supply of goods and services meets the forecasted demand. It includes resource planning, production planning, and capacity planning. supply planning involves material requirements planning (MRP) to determine necessary materials and coordinating with suppliers for timely delivery (Fisher, 1997).

Supply planning is a process that involves analyzing demand forecasts, comparing the forecasted demand to existing inventory, and coordinating the supply chain activities needed to meet that demand. It determines the production level of goods or services, the materials that are required, and when they must be acquired (Fisher, 1997).

Supply planning, also known as raw material or material planning, is often the cornerstone of optimized supply chain management. A supply chain planning strategy is designed to ensure that the right product is available at the right place and time while minimizing costs and risks associated with the supply chain. Inventory levels are intended to meet projected sales volume (Mangan and Lalwani, 2016).

2.1.1.2. Sourcing

Also known as procurement, this involves acquiring raw materials and other necessary resources. Sourcing is a critical component of supply chain management, encompassing the activities involved in identifying, evaluating, and selecting suppliers for goods and services. Effective sourcing ensures that an organization procures high-quality materials or components at the best possible cost, while maintaining strong relationships with suppliers(Chen, Paulraj, and Lado, 2004).

It has steps that need to be followed in order to be effective they are supplier identification, supplier evaluation, supplier selection and contracting

2.1.1.3. Manufacturing

Manufacturing in supply chain management is about planning, controlling quality, and executing production efficiently to ensure that the right products are produced at the right time and meet the required quality standards. This involves meticulous coordination and management of resources, processes, and technology (Frohlich and Westbrook. 2004).

The manufacturing process may be further divided into sub-tasks such as assembly, testing, inspection, and packaging. During the manufacturing process, companies must be mindful of waste or other factors that may cause deviations from their original plans. For example, if a company is using more raw materials than planned and sourced for due to inadequate employee training, it must rectify the issue or revisit the earlier stages in SCM (Frohlich and Westbrook. 2004).

2.1.1.4. Delivery

Delivery in supply chain management includes order fulfillment, last-mile delivery, customer communication, and handling returns. Each of these components is crucial

for ensuring that products reach customers in a timely, accurate, and satisfactory manner, thereby enhancing the overall customer experience and operational efficiency (Braithwhite and hall, 1999) .

Once products are made and sales are finalized, a company must get those products into the hands of its customers. A company with effective SCM will have robust logistic capabilities and delivery channels to ensure timely, safe, and inexpensive delivery of its products (Braithwhite and hall, 1999).

This includes having a backup or diversified distribution methods should one method of transportation temporarily be unusable (Braithwhite and hall, 1999).

2.1.1.5. Returns Management

The supply chain management process concludes with support for the product and customer returns. It's bad enough when a customer needs to return a product, but even worse if that's due to an error on the company's part (Simchi, Kaminsky, and Simchi, 2008).

This return process is often called reverse logistics, and the company must ensure it has the capabilities to receive returned products and correctly assign refunds for them. Whether a company is conducting a product recall or a customer is simply not satisfied with the product, the transaction with the customer must be remedied (Simchi, Kaminsky, and Simchi, 2008).

returns management in supply chain management encompasses reverse logistics, return processing, return policies, customer service, and data analysis. Each aspect is crucial for handling returns efficiently, minimizing costs, and maintaining customer satisfaction (Simchi, Kaminsky, and Simchi, 2008).

2.1.2. Supply chain capabilities

The concept of supply chain capabilities has been defined from various perspectives. For instance, SCC has been described as specific capabilities that enable the efficient and effective execution of all activities within a supply chain (Asamoah et al. 2021;

Mandal et al. 2016). Additionally, Guide and Van (2002) refer to these capabilities as a combination of management and organizational abilities, encompassing not only internal capabilities but also cooperation and information exchange capabilities among organizations (Li, Ragu-Nathan, & Rao, 2006). there are core tenants in supply chain capability they are:

2.1.2.1. Capability Recognition of the supply chain

Capability recognition is a foundational process in supply chain management, involving the identification, assessment, and documentation of the existing competencies, resources, and processes within an organization. This process is crucial for understanding the current state of the supply chain and pinpointing areas that require enhancement to meet strategic objectives (Barratt, 2004).

By systematically evaluating the capabilities, organizations can create a detailed map of their strengths and weaknesses, which forms the basis for effective planning and decision-making. This comprehensive understanding allows companies to align their supply chain strategies with their overall business goals, ensuring that they can respond to market demands efficiently and effectively (Barratt, 2004).

Capability recognition has both internal and external processes, Internal resources are the backbone of any supply chain and include a company's human capital, technology, processes, and physical assets. Recognizing these resources involves a thorough assessment of the skills and expertise of the workforce, the effectiveness of the current technological tools (such as ERP systems and supply chain management software), and the efficiency of internal processes (such as production, logistics, and inventory management) (Guide and Van Wassenhove, 1999).

By identifying these internal capabilities, companies can leverage their strengths to optimize supply chain performance. External resources encompass the capabilities that lie outside the organization but are crucial for the supply chain's success. These include suppliers, third-party logistics providers, technology partners, and even regulatory bodies. Recognizing external resources involves evaluating the reliability,

quality, and strategic fit of suppliers, as well as the capabilities of logistics partners in terms of delivery speed, cost-efficiency, and geographical reach (Barratt, 2004).

Capability recognition plays a pivotal role in facilitating supply chain process capabilities by ensuring that both internal and external resources are effectively identified and leveraged. By understanding the internal strengths, such as robust production management or advanced data analytics capabilities, companies can streamline their processes, reduce inefficiencies, and enhance overall productivity (Frohlich and Westbrook, 2001).

Simultaneously, by recognizing external resources, companies can integrate these capabilities into their supply chain processes, creating a seamless flow of goods, information, and finances (Frohlich and Westbrook, 2001).

Capability recognition also ensures that the supply chain processes are strategically aligned with the company's long-term objectives. By continuously assessing and recognizing capabilities, companies can adapt to evolving market conditions, technological advancements, and regulatory changes. This ongoing process of capability recognition and reassessment fosters a culture of continuous improvement, where the supply chain is regularly optimized to meet new challenges and opportunities (Gunasekaran and McGaughey, 2004).

2.1.2.2. Capability Utilization of the supply chain

Capability utilization refers to the effective deployment and employment of identified capabilities within the supply chain to achieve optimal performance (Gunasekaran, Subramanian, and Papadopoulos, 2017).

This process involves harnessing both internal and external resources to their full potential, ensuring that each component of the supply chain operates efficiently and contributes to the overall strategic goals of the organization. Effective utilization of capabilities requires a deep understanding of the resources available, strategic alignment with business objectives, and continuous monitoring and adjustment to maintain peak performance (Gunasekaran, Subramanian, and Papadopoulos, 2017).

Internal resources, such as skilled workforce, advanced technologies, and efficient processes, are crucial for the smooth functioning of the supply chain. Utilizing these internal resources effectively means aligning them with the organization's strategic objectives and operational needs (Jüttner and Christopher, 2003).

On the other hand External resources, including suppliers, logistics providers, and technology partners, play a significant role in enhancing supply chain capabilities. Effective utilization of these external resources involves developing strategic partnerships and collaborations that align with the company's goals (Seuring and Müller, 2008).

Effective capability utilization requires continuous monitoring and performance measurement. By tracking key performance indicators (KPIs) and metrics, organizations can assess how well capabilities are being utilized and identify areas for improvement. This ongoing assessment allows for real-time adjustments and optimization, ensuring that resources are always used in the most effective manner (Simatupang and Sridharan, 2005).

2.1.2.3. Capability Integration of the supply chain

Capability integration refers to the process of combining various internal and external resources, competencies, and processes to create a cohesive and efficient supply chain. This integration ensures that all parts of the supply chain work together seamlessly, enhancing overall performance and agility (Simatupang and Sridharan, 2005).

Integrating internal resources involves creating synergy among various departments, processes, and technologies within an organization. This includes aligning production, procurement, logistics, and inventory management functions to ensure a smooth and efficient flow of goods and information (Wang, Gunasekaran, Ngai and Papadopoulos, 2016).

While Integrating external resources involves forming strategic partnerships with suppliers, logistics providers, technology partners, and other stakeholders to enhance

supply chain capabilities. This integration requires effective communication, collaboration, and coordination with external partners (Wang, Gunasekaran, Ngai and Papadopoulos, 2016).

It's important to note Capability integration directly facilitates supply chain process capabilities by ensuring that internal and external resources are seamlessly combined to optimize performance. This integration helps in creating end-to-end visibility and control over the supply chain (Barney, 1991).

2.1.3. Supply chain management

According to Zhu,, Sarkis, Lai (2013).Supply chain management (SCM) encompasses various interconnected processes, including planning, manufacturing, sourcing, distribution, and returns management. This literature review focuses on empirical research related to these specific aspects of SCM. Understanding the empirical findings in each area is crucial for organizations aiming to enhance efficiency, reduce costs, and improve customer satisfaction throughout the supply chain.

Planning

Planning is a fundamental aspect of SCM, involving activities such as demand forecasting, production scheduling, and inventory optimization. Empirical studies have highlighted the importance of effective planning in achieving supply chain efficiency (Hult, Ketchen., & Arrfelt, 2007).

For example, research by Lee and Billington (1993) demonstrated that accurate demand forecasting significantly reduces inventory costs and stockouts. Additionally, studies by Vollmann, Berry, Whybark, & Jacobs. (1997) and he emphasized the role of collaborative planning and information sharing in improving supply chain responsiveness and reducing lead times. Additionaly integrated planning processes across the supply chain can reduce costs and improve service levels. Giving companies with advanced planning systems better management of demand variability and production scheduling(Chopra and Meindl, 2016).

Lee, Padmanabhan, and Whang (1997) focused investigating the bullwhip effect and its implications on supply chain planning due to it been a cooman effect in the supply chain. They concluded that better information sharing and collaboration can mitigate the negative impacts of demand fluctuations on inventory levels.

Manufacturing

Manufacturing processes play a central role in SCM, encompassing activities such as production scheduling, capacity planning, and quality management. Empirical research has explored various strategies and technologies to enhance manufacturing performance (Hult, Ketchen, & Arrfelt, 2007). For instance, studies by Billington, (1993) and Chopra and Meindl (2016) examined the impact of lean manufacturing principles on reducing waste and improving flexibility in production processes. Similarly, research by Pagell, (2004) investigated the adoption of advanced manufacturing technologies such as robotics and automation to enhance productivity and quality.

Furthermore Fisher (1997) explored the relationship between product type and manufacturing strategy, which revealed that functional products benefit from efficient supply chains, whereas innovative products require responsive supply chains. At the same time he highlighted the importance of lean manufacturing practices in improving supply chain performance. The adoption of lean principles was found to reduce waste, increase flexibility, and enhance overall efficiency.

Sourcing

Sourcing involves the selection and management of suppliers to ensure a reliable and cost-effective supply of materials and components. studies in this area has focused on supplier selection criteria, supply base optimization, and supplier relationship management.

Studies by Monczka et al. (2015) and Handfield. (2019) identified factors such as cost, quality, delivery performance, and supplier flexibility as critical criteria for supplier selection. Additionally, research by Ellram and Tate (2004) emphasized the importance of strategic supplier partnerships and collaborative relationships in achieving long-term supply chain success.

Aside from the aforementioned finding Kraljic (1983) introduced the purchasing portfolio matrix, emphasizing the need for strategic supplier management. Companies that adopted this framework reported better risk management and cost efficiency.
Chen, Paulraj, and Lado (2004) focused on examining the impact of strategic sourcing on supply chain performance. Their findings suggest that collaborative relationships with suppliers lead to better innovation and responsiveness.

Distribution

According to Ballou (2004) Distribution involves the movement and storage of finished goods from production facilities to end customers. studies on distribution has explored various strategies to optimize transportation, warehousing, and order fulfillment processes. For instance, studies by Ballou (2004) and Chopra and Meindl (2016) examined the role of logistics outsourcing and network design in reducing distribution costs and improving service levels. Additionally, research by Christopher (2016) emphasized the importance of real-time visibility and tracking technologies in enhancing supply chain visibility and responsiveness.

Simchi-Levi, Kaminsky, and Simchi-Levi (2008) highlighted the importance of distribution network design. Their research indicated that optimized distribution networks enhance service levels while minimizing costs involves handling product returns, repairs, and recycling. Empirical research in this area has focused on strategies to minimize returns, streamline reverse logistics processes, and recover value from returned products.

The studies by Rogers and Tibben-Lembke (1999) and Daugherty et al. (2001) examined factors influencing customer returns and the impact of effective returns management on customer satisfaction and loyalty. Aside from the above studies Guide and Van Wassenhove (2002) studied the impact of re-manufacturing on supply chains. Their research showed that re-manufacturing could provide significant cost savings and reduce environmental impact.

2.1.4. Supply chain management capabilities

Supply chain management (SCM) capability encompasses the ability of organizations to recognize, utilize, and integrate internal and external resources effectively. This literature review focuses on empirical research related to these specific capabilities within the context of SCM. Understanding the empirical findings in each area is crucial for organizations aiming to enhance their supply chain performance and competitiveness. (Frohlich and Westbrook, 2001)

2.1.4.1. Resource Recognition Capability

Resource recognition capability involves identifying and assessing internal and external resources that contribute to supply chain performance. Empirical studies have highlighted the importance of this capability in achieving supply chain excellence (Frohlich and Westbrook, 2001).

A research by Flynn et al. (2010) demonstrated that firms with higher levels of resource recognition capability have better operational and financial performance. Additionally, studies by Frohlich and Westbrook (2001) and Simatupang and Sridharan (2005) emphasized the role of resource recognition in improving supply chain responsiveness and agility.

Barney (1991) introduced the Resource-Based View (RBV) of the firm, emphasizing the importance of recognizing valuable, rare, inimitable, and non-substitutable (VRIN) resources. Companies that effectively identify these resources can gain a competitive advantage. While Hult, Ketchen, and Arrfelt (2007) explored the impact of resource recognition on supply chain performance. They found that firms with a clear understanding of their resources could better align their supply chain strategies with organizational goals.

2.1.4.2. Resource Utilization Capability

Resource utilization capability involves effectively deploying and leveraging recognized resources to achieve supply chain objectives. Empirical research in this

area has explored various strategies and practices to enhance resource utilization. For instance, studies by Gunasekaran et al. (2004) and Gunasekaran et al. (2017) examined the impact of technology adoption on improving supply chain visibility and decision-making. Similarly, research by Li et al. (2006) and Zhu et al. (2013) investigated the role of human capital and sustainable practices in enhancing operational efficiency and performance.

Additionally Gunasekaran *et al.* (2004) examined the role of performance metrics in resource utilization within supply chains. Their study highlighted that firms using comprehensive performance metrics could better manage their resources, leading to improved operational efficiency. While Rungtusanatham, Salvador, Forza, and Choi (2003) investigated the utilization of manufacturing resources. They concluded that firms adopting lean manufacturing principles could significantly improve resource utilization by minimizing waste and enhancing productivity.

2.1.4.3. Resource Integration Capability

Resource integration capability involves aligning and coordinating internal and external resources to achieve synergy and maximize value creation. Empirical research has examined the impact of resource integration on supply chain performance.

For instance, studies by Gunasekaran et al. (2004) and Gunasekaran et al. (2017) examined the impact of technology adoption on improving supply chain visibility and decision-making. Similarly, research by Li et al. (2006) and Zhu et al. (2013) investigated the role of human capital and sustainable practices in enhancing operational efficiency and performance.

Studies by Barratt (2004) and Jüttner et al. (2003) emphasized the role of collaboration and trust in fostering effective resource integration among supply chain partners. Additionally, research by Seuring and Müller (2008) and Wang et al. (2016) explored the integration of sustainability practices and technology solutions into supply chain processes.

Other studies by Frohlich and Westbrook (2001) studied the impact of integration on supply chain performance. Their findings suggest that higher levels of integration between suppliers and customers lead to better performance outcomes, such as reduced lead times and improved quality. While Flynn, Huo, and Zhao (2010) explored the relationship between supply chain integration and performance. Their research indicated that both internal and external integration positively affect operational and financial performance.

Lastly, a study done by Pagell (2004) examined the factors influencing supply chain integration. The study identified trust, communication, and technology as key enablers of effective integration.

2.2. Empirical framework

According to Tekle, & Aredo, (2019) The Ethiopian Shipping and Logistics Service Enterprise (ESLSE) plays a pivotal role in Ethiopia's supply chain and logistics sector. To enhance its performance and competitiveness, it is crucial to examine ESLSE's supply chain management (SCM) capabilities. This theoretical framework focuses on ESLSE's ability to recognize, utilize, and integrate internal and external resources, and how these capabilities influence key supply chain processes, including planning, sourcing, manufacturing, delivery, and returns management.

Tilahun, & Woldesenbet, (2018) states that ESLSE struggles with limited integration and coordination across its supply chain activities. The lack of seamless communication and coordination between different departments and external partners leads to fragmented operations and it is for this reason that central research problem addresses ESLSE's capability to effectively recognize its internal and external resources to facilitate its supply chain processes. The specific research objectives are threefold: to assess ESLSE's capability to recognize its resources, to evaluate its ability to utilize these resources efficiently, and to determine its capacity to integrate resources across the supply chain.

The theoretical framework integrates concepts like the Resource-Based View (RBV), Dynamic Capabilities Theory, and Supply Chain Integration Theory which were

covered by Barney (1991) . These theories provide a comprehensive lens to analyze how ESLSE's capabilities in resource recognition, utilization, and integration affect its supply chain processes.

Resource Recognition

According to the Resource-Based View (RBV), firms gain a competitive advantage by recognizing and leveraging resources that are valuable, rare, inimitable, and non-substitutable (VRIN) (Barney, 1991). For ESLSE, the ability to identify internal resources such as fleet capacity and skilled workforce, and external resources like partnerships and market opportunities, is crucial for effective supply chain planning and sourcing. Indicators of resource recognition include inventory management, fleet capabilities, employee skills, supplier relationships, customer needs, and market trends (Barney, 1991).

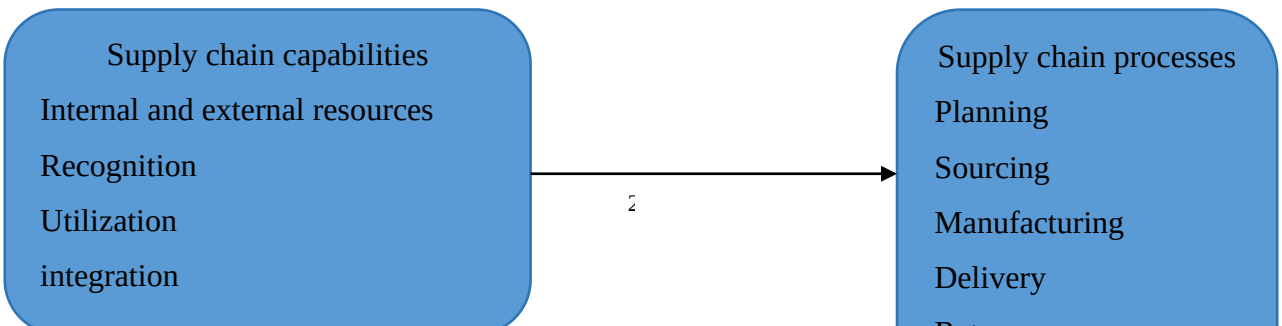
Resource Utilization

The Dynamic Capabilities Theory emphasizes a firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments (Teece, Pisano, & Shuen, 1997). ESLSE's capability to utilize its resources efficiently impacts all supply chain processes, from planning and sourcing to delivery and returns management.

Resource Integration

Supply Chain Integration Theory posits that aligning and interlinking business processes and information flows across the supply chain improves performance . For ESLSE, effective integration of resources enhances its ability to coordinate planning, sourcing, manufacturing, delivery, and returns management processes. Indicators of resource integration encompass internal coordination between departments, standardized processes, internal communication, and external collaboration with suppliers and customers(Teece, Pisano, & Shuen, 1997).

2.3. Conceptual frame work



CHAPTER THREE
METHOLOGY OF THE STUDY

3.1. Description of the study area

The study focused on SCC from the perspective of Ethiopia and the challenges it faces and the relation to the dimensions of SCC and how those dimensions relate to the effectiveness of SCM this study will utilize a mixed-methods approach, employing both explanatory and descriptive research designs the explanatory Design aims to identify the relationships between Supply Chain Capability (SCC) and its various dimensions. The research explored the extent to which these dimensions influence SCC, along with the direction of that influence.

The Descriptive Design component will focused on characterizing the relevant variables within the study. It assessed the current performance of the companies involved in the research.

The Data Collection Method involved is a cross-sectional method that was used to collect data. Respondents were contacted at a single point in time to gather current information and evidence about SCC and its dimensions within the participating company. This method aligns with the scientific approach of collecting and analyzing data to describe the current state of a phenomenon (Mugenda, 2003).

3.2. Research Approach

This study leveraged a mixed methods approach, incorporating both quantitative and qualitative research methodologies. This approach offers several advantages over relying solely on one type of data collection (Creswell & Plano Clark, 2018).

Quantitative data data is presented in numerical form, allowing for statistical analysis and identification of trends or relationships between variables. Qualitative data: This data involved the collecting of subjective opinions, attitudes, and experiences from participants through a survey. This can provide rich insights into the human aspects of supply chain capacity (SCC).

By combining both quantitative and qualitative data, this mixed methods approach aimed to provide a more comprehensive understanding of SCC and its dimensions within the Ethiopian context. This can reveal not only the "what" (through quantitative analysis) but also the "why" and "how" (through qualitative data) behind SCC within Ethiopian businesses (Mark et al., 2009).

3.3. Sample Design

The population of this research was employees of ESLSE at head office in Addis Ababa Ethiopia and the sample is are 8 employees that are selected by simple random sampling method..

According to C.R. Kothari (2004), a sample frame is the source from which a sample is drawn. It is a list or tool utilized by researchers to identify the population of interest. Researchers select a sample from this population using specific criteria. Hence, for this research, the factors considered include individuals who can read and write.

There are two types of sampling method, but for this study the non-probability sampling method from which convenience sampling was used to select respondent. Convenience samples are sometimes referred to as ‘accidental samples ‘for the reason that elements may be drawn into the sample simply because they just happen to be situated, spatially or administratively, near to where the researcher is conducting the data collection (C.R. Kothari, 2004).

Convenience sampling is defined as a method adopted by researchers where they collect market research data from a conveniently available pool of respondents. It is the most commonly used sampling technique as it’s incredibly prompt, uncomplicated,

and economical. In many cases, members are readily approachable to be a part of the sample (C.R. Kothari, 2004).

3.4. Sample Size

According to Kothari (2004), sample size means the number of respondents taken from the population used for the study. The size of sample should neither be excessively large, nor too small. It should be optimum. An optimum sample is one which fulfills the requirements of efficiency, representativeness, reliability and flexibility.

3.5. Method of data Collection

In order to gather data for the study, both primary and secondary sources of information was employed. The sample respondents/employees was given a questionnaire in order to get the primary data.Additionally, a structured questionnaire with closed-ended questions and a Likert scale with five possible responses was employed and distributed to the company

3.6. Method of data analysis methods

In this study, quantitative analysis was conducted on the qualitative data obtained from respondents using a questionnaire and Likert scale. The information collected was summarized. To aid in the computation of the quantitative data, SPSS version 20.0 software will be utilized. Descriptive statistics, such as mean and standard deviation, will be employed to analyze the data.

1.1. Ethical Consideration

According to the Belmont Report, it is crucial to uphold the rights and privileges of research participants when conducting a study. These rights include Respect for Persons, Beneficence, and Justice. As a professional, the researcher will priotrized maintaining the safety and privileges of the respondents throughout the study process.

3.7. Validity and Reliability

Reliability, according to Saunders, refers to the degree to which data collection techniques or analysis procedures produce consistent results. The widely used

measure for assessing reliability is Cronbach's alpha, which evaluates the consistency of an entire scale. One approach to minimize measurement error is to ascertain the properties of the measure that instill confidence in its proper functioning.Reliability is whether an instrument can be interpreted consistently across different situations as stated by Field. (Hair et al., 2010).

Validity focuses on what the test or measurement strategy measures and how well it does so according to Anastasi & Urbina. Content validity was addressed through rigorous review by a group of academics to ensure the items reflected the intended variables. Construct validity is concerned with the theoretical relationship a variable appears to have with another variables as indicated by their respective measures as stated by DeVellis. Thoroughly reviewed literature and empirical review and the adopted questionnaire used by Lie.et al.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.909	.910	20

CHAPTER FOUR
RESULTS DISCUSSION AND INTERPRETATION

in this chapter, the assessment from the data analysis will be forwarded. The chapter includes response rate of the questionnaire, demographic character of respondents and results from the questionnaire that aims to gauge the supply chain capability of the organization.

4.1. Response Rate

Of the staff members working under the organization 90 members were chosen by simple random sampling method for their involvement in the organizations supply chain practices. From the 90 questionnaires, 84 were returned giving a 91.30% on participation . All 84 questionnaires were successfully returned with participants response included in it, and all 84 questionnaires were found to be valid and used in the result analysis giving a % on response rate summary.

4.2. Demographic character of Respondents

Table 1:Demographic profile of respondents

Demographic profile	Items	Frequency	Percentage
Age	25 years	53	63.1
	25-40 years	31	36.9
	Above 40 years	0	0
Education level	Bsc/BA	50	59.5
	Msc and above	34	40.5

Work experience	1-5 years	53	63.1
	6-10 years	31	36.9
	Above 10 years	0	0
Sex	Male	54	64.3
	Female	30	35.7

Table 1: demographic make up **Source: own source, 2024**

Age distribution

From the general information gathered from the questionnaire, the age distribution of the respondents in the organization that are under 25 is 53 respondents making up 63.1% of the respondents, those that range from 25-40 are 31 respondents making up 36.9 of the respondents.

Level of education

The level of education within the company has fallen down to the three criteria's that were given in the questionnaire (Diploma, BA/BSC, MSC+). 50 respondents have a degree in the filed they are working on making up 59.5 of the respondents while 34 of the respondents have excelled by completing their post graduate programs making up 40.5 of the respondents.

Work experience

From the respondents 53 of them had a work experience of that ranges from 1-5 years making the respondents make up 63.1% of the respondents, while 31 of the respondents had a work experience that ranged from 6-10 years making up 36.9% of the respondents.

sex

out of the respondents 54 of the respondents were male making up 64.3% of the respondents while 30 of the respondents were female making up the 35.5 of respondents.

4.3. Supply chain capabilities of ESLSE

The questionnaire for assessing the supply chain capabilites of the organization has three parts. Each part has its own set of different questions which range one to seven except the last part which has six questions. The likert scale of the five points were used by scaling the points as 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree. The results of the questions are assessed under the frequencies and mean. And the data is interprated using the ranges (Best, 2005) put forward.

4.4. Resource recognition capability of the supply chain of ESLSE

Table 2: Resource Recognition results (N=84)

	Resource recognition	**Descriptive statistics**	
S.No	**items**	**mean**	**Std deviation**
1	ESLSE identifies it fleet capacity and inventory levels to facilitate its supply chain.	4.46	.752
2	ESLSE values its work force ‘s skill and expertise to enhance its SC processes.	4.44	.717
3	ESLSE leverages supplier relationships and market int’l to enhance SC process.	4.21	.906
4	ESLSE identifies market trends and customer demands to adapt its SC processes	4.45	.767
5	ESLSE promotes resource recognition and awareness to improve SC processes	4.19	.857
6	Using technology and data analytics, ESLSE analyzes internal and external resources to optimize the SCP.	4.15	.857
7	ESLSE can identify both internal and external resources for its SC processes.	4.33	.896
Grand mean of resource recognition		**4.32**	

Source: Own survey,2024

The questionnaire administered to assess ESLSE's resource recognition capability yielded insightful mean values across several critical aspects of supply chain management.

The question regarding ESLSE's ability to identify its fleet capacity and manage inventory levels received a high mean score of 4.46, with a relatively low standard deviation of 0.752. This indicates a strong consensus among respondents that ESLSE effectively recognizes and manages its physical resources, such as fleet and inventory, to optimize its supply chain processes. This high mean suggests that ESLSE excels in this aspect, demonstrating robust capabilities in logistical resource management.

The question “ESLSE values its work force ‘s skill and expertise to enhance its SC processes”led respondents to rate ESLSE highly (mean = 4.44, SD = 0.717) in valuing its workforce's skills and expertise to enhance supply chain processes. This indicates that ESLSE acknowledges and leverages the skills of its workforce effectively, aligning human resources with organizational objectives to improve overall supply chain efficiency.

The next question which focuses on ESLSE's leveraging of supplier relationships and market intelligence to enhance supply chain processes received a mean score of 4.21 (SD = 0.906). Although slightly lower than the previous two items, this score still reflects a strong capability in utilizing external resources strategically. The moderate standard deviation suggests some variability in responses, possibly indicating differing perceptions among respondents regarding the extent of ESLSE's market engagement strategies.

ESLSE's capability to identify market trends and adapt to customer demands in its supply chain processes was rated highly (mean = 4.45, SD = 0.767). This indicates that ESLSE actively monitors market dynamics and customer preferences, demonstrating agility in adjusting its operations accordingly. The narrow standard deviation suggests a high level of agreement among respondents regarding ESLSE's responsiveness to external market factors.

The promotion of resource recognition and awareness within ESLSE scored 4.19 (SD = 0.857), indicating a solid effort in fostering awareness among employees about the importance of resource recognition in enhancing supply chain processes. This suggests that ESLSE actively promotes a culture that values and encourages internal awareness of resource management practices.

ESLSE's use of technology and data analytics to analyze internal and external resources for supply chain optimization received a mean score of 4.15 (SD = 0.857). This indicates a strong inclination towards leveraging technological tools and data-driven insights to enhance operational efficiencies. The standard deviation suggests some variation in perceptions, possibly reflecting differing levels of familiarity or effectiveness in the implementation of technology-driven strategies.

Lastly, ESLSE's ability to identify both internal and external resources for its supply chain processes received a mean score of 4.33 (SD = 0.896). This suggests that ESLSE demonstrates a comprehensive understanding and capability in recognizing and utilizing a diverse range of resources critical to supply chain operations. The moderate standard deviation indicates some variability in perceptions, possibly influenced by different interpretations of what constitutes effective resource identification.

Aside from that scholars like Flynn et al. (2010) established a link between higher levels of resource recognition capability and improved operational and financial performance among firms. The high mean scores obtained for ESLSE's recognition of fleet capacity, workforce skills, market trends, and technological resources suggest a robust capability in identifying and leveraging critical assets. This aligns with Flynn et al.'s findings, indicating that ESLSE's proactive approach to resource recognition could potentially enhance its operational efficiencies and financial outcomes.

Moreover, Frohlich and Westbrook (2001) and Simatupang and Sridharan (2005) emphasized resource recognition's role in enhancing supply chain responsiveness and agility. ESLSE's high scores in identifying market trends, customer demands, and leveraging supplier relationships suggest a capacity to adapt swiftly to external

dynamics, supporting the argument that effective resource recognition fosters agility and responsiveness within supply chain operations

4.5. Resource utilization capability of the supply chain of ESLSE

	Resource utilization capability	**Descriptive statistics**	
S.No	**Questions**	**mean**	**Std deviation**
8	ESLSE effectively allocates its internal resources to utilize and optimize SC processes.	4.40	.746
9	ESLSE leverages tech and systems to use enhanced resource in the SC processes.	4.54	.685
10	ESLSE's utilization of workforce skills and expertise as effective in improving supply chain processes.	4.24	.786
11	ESLSE effectively manages its inventory levels within the supply chain processes	4.14	.714
12	ESLSE optimizes transportation and logistics logistics for smooth SC processes.	4.17	.725
13	ESLSE'S waste reduction and sustainability initative improves SC processes.	4.17	.862
14	ESLSE is effective in utilizing internal and external resources to facilitate SC processes.	4.40	.762

Grand mean of resource utilization	**4.3**	

Table 3: Resource utilization results

Source: Own survey, 2024

The survey results provide insights into how ESLSE effectively utilizes various

Respondents rated ESLSE highly (mean = 4.40, SD = 0.746) in effectively allocating internal resources to optimize supply chain processes. This indicates that ESLSE demonstrates strong capabilities in resource allocation, ensuring that internal resources are efficiently utilized to meet operational demands. The low standard deviation suggests a high level of consensus among respondents regarding ESLSE's effectiveness in this aspect.

ESLSE's use of technology and systems to enhance resource utilization in supply chain processes received a mean score of 4.54 (SD = 0.685). This high score indicates that ESLSE leverages technological advancements effectively to optimize resource utilization, ensuring efficiency and effectiveness in its operations. The low standard deviation suggests strong agreement among respondents regarding ESLSE's proficiency in integrating technology into its supply chain strategies.

ESLSE's utilization of workforce skills and expertise to improve supply chain processes scored 4.24 (SD = 0.786). This indicates that ESLSE recognizes and effectively utilizes the skills and expertise of its workforce to enhance operational efficiency and effectiveness. The moderate standard deviation suggests some variability in perceptions, possibly reflecting differing opinions on the extent of workforce integration in supply chain activities.

ESLSE's management of inventory levels within supply chain processes received a mean score of 4.14 (SD = 0.714). This suggests that ESLSE effectively manages inventory levels to ensure smooth and efficient supply chain operations. The standard deviation indicates some variability in perceptions, potentially influenced by differing perspectives on inventory management practices.

ESLSE's optimization of transportation and logistics for smooth supply chain processes scored 4.17 (SD = 0.725). This indicates that ESLSE places emphasis on optimizing transportation and logistics networks, contributing to enhanced operational efficiencies. The standard deviation suggests moderate agreement among respondents regarding ESLSE's effectiveness in this area.

ESLSE's initiatives in waste reduction and sustainability to improve supply chain processes received a mean score of 4.17 (SD = 0.862). This indicates that ESLSE integrates sustainability principles effectively into its operations, contributing to resource efficiency and environmental responsibility within its supply chain. The higher standard deviation suggests some variability in perceptions, possibly due to differing interpretations of ESLSE's sustainability efforts.

Lastly, ESLSE's effectiveness in utilizing both internal and external resources for supply chain processes scored 4.40 (SD = 0.762). This high score suggests that ESLSE excels in leveraging a combination of internal capabilities and external partnerships to optimize supply chain operations. The moderate standard deviation indicates some variability in perceptions, reflecting differing views on the extent of ESLSE's resource utilization strategies.

Another important source of reference is scholars like unasekaran et al. (2004) and Gunasekaran et al. (2017) explored the impact of technology adoption on supply chain visibility and decision-making. ESLSE's high mean scores in leveraging advanced technology (mean = 4.25) indicate a strong capability in integrating technological advancements into its supply chain processes. This aligns with Gunasekaran et al.'s findings, suggesting that effective technology adoption enhances visibility across the supply chain, improves decision-making processes, and potentially leads to operational efficiencies.

Li et al. (2006) and Zhu et al. (2013) investigated the role of human capital and sustainable practices in enhancing operational efficiency and performance. ESLSE's effective communication and smooth integration of supply chain processes (mean = 4.21) and its adaptability in integrating resources (mean = 4.06) suggest a focus on

human capital and sustainable practices. This aligns with the scholars' findings, indicating that organizations that prioritize human capital development and sustainable practices can achieve higher operational efficiency and performance through enhanced resource integration and alignment with strategic goals.

4.6. Resource integration capability of the supply chain of ESLSE

Table 4: Resource integration results

S.no.	Resource integration capability	Mean	Std deviation
15	ESLSE effectively integrates internal resources and standard processes to optimize SC processes.	4.40	.746
16	ESLSE collaborates with external partners to streamline supply chain processes.	3.98	.891
17	ESLSE leverages advanced technology for better supply chain processes	4.25	.805
18	ESLSE effectively communicates and ensures smooth integration of SC processes	4.21	.822
19	ESLSE is adaptable in integrating internal and external resources within the supply chain processes	4.06	.827
20	ESLSE's efforts in enhancing overall business performance and competitiveness contribute to the SC processes integration.	4.19	.752
	Grand mean of resource integration	**3.6**	

Source: Own survey, 2024

ESLSE's capability to integrate internal resources and standard processes to optimize supply chain processes received a high mean score of 4.40 (SD = 0.746). This indicates that ESLSE excels in aligning internal resources and standardized procedures, demonstrating a robust framework for integrating operational elements. The low standard deviation suggests strong consensus among respondents regarding ESLSE's effectiveness in this aspect.

ESLSE's collaboration with external partners to streamline supply chain processes scored 3.98 (SD = 0.891). This score, while positive, suggests some variability in perceptions among respondents regarding the extent of ESLSE's collaboration with external entities. The moderate standard deviation indicates differing opinions on ESLSE's effectiveness in external partnership strategies.

: ESLSE's use of advanced technology for better supply chain processes received a mean score of 4.25 (SD = 0.805). This indicates that ESLSE effectively integrates technological advancements into its supply chain operations, contributing to enhanced efficiency and innovation. The standard deviation suggests some variability in perceptions, reflecting differing views on ESLSE's technological integration strategies.

ESLSE's effectiveness in communicating and ensuring smooth integration of supply chain processes scored 4.21 (SD = 0.822). This suggests that ESLSE places importance on effective communication channels and processes to facilitate seamless integration across its supply chain operations. The standard deviation indicates moderate agreement among respondents regarding ESLSE's communication and integration efforts.

ESLSE's adaptability in integrating both internal and external resources within supply chain processes received a mean score of 4.06 (SD = 0.827). This indicates that ESLSE demonstrates flexibility and responsiveness in adjusting its integration strategies to align with changing internal and external dynamics. The standard deviation suggests some variability in perceptions, possibly influenced by differing interpretations of ESLSE's adaptability.

ESLSE's efforts in enhancing overall business performance and competitiveness through supply chain integration scored 4.19 (SD = 0.752). This indicates that ESLSE's integration efforts contribute positively to its overall business goals, fostering competitiveness and operational excellence. The low standard deviation suggests strong consensus among respondents regarding ESLSE's contributions to business performance through integration.

In addition Studies by Barratt (2004) and Jüttner et al. (2003) emphasized the importance of collaboration and trust in fostering effective resource integration among supply chain partners. ESLSE's positive mean score of 3.98 in collaboration with external partners indicates a strong but improvable capability in this area. This suggests that while ESLSE values collaborative relationships, there is room for enhancing trust and partnership effectiveness to further optimize resource integration, aligning with Barratt and Jüttner et al.'s findings on the significance of trust and collaboration.

Research by Seuring and Müller (2008) and Wang et al. (2016) explored the integration of sustainability practices and technology solutions into supply chain processes. ESLSE's high mean scores of 4.25 for leveraging advanced technology and 4.19 for enhancing overall business performance and competitiveness through sustainable practices reflect a strong commitment to integrating these elements. This aligns with the scholars' findings that sustainability and technology integration significantly enhance operational efficiency and supply chain performance.

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter is the last chapter of the study that includes summary of the results assessed in the previous chapter, conclusion on how the supply chain capability of the organization fares with relation to its supply chain processes and recommendation that should be taken to account.

5.1. Summary of findings

For the assessment of the supply chain capability of the organization 84 employees were chosen through random sampling method and all 84 out of 92 questionnaires distributed were returned successfully and assessed through

The analysis of ESLSE's supply chain management capabilities, as assessed through the responses to the questionnaire, provides a comprehensive understanding of the organization's strengths and areas for improvement. This summary synthesizes the detailed insights from the data into a coherent narrative suitable for inclusion in a thesis.

Resource Recognition

The survey results indicate that ESLSE exhibits strong resource recognition capabilities within its supply chain. The grand mean score of 4.32 suggests a high level of effectiveness in identifying internal and external resources. Specific areas of strength include recognizing fleet capacity and inventory levels (mean = 4.46), valuing workforce skills (mean = 4.44), and identifying market trends and customer demands (mean = 4.45). These high scores suggest that ESLSE effectively leverages critical resources, which aligns with scholarly findings that emphasize the importance of resource recognition in enhancing operational and financial performance.

Resource Utilization

ESLSE's resource utilization capability is also notably strong, with a grand mean score of 4.3. The organization effectively allocates internal resources (mean = 4.40), leverages technology (mean = 4.54), and utilizes workforce skills (mean = 4.24). Additionally, ESLSE shows proficiency in managing inventory levels (mean = 4.14) and optimizing transportation and logistics (mean = 4.17). These results suggest that ESLSE's effective resource utilization practices contribute significantly to its operational efficiency and responsiveness, consistent with scholarly perspectives on the importance of resource utilization in supply chain management.

Resource Integration

The results for resource integration capability indicate a slightly lower but still positive performance, with a grand mean score of 3.6. ESLSE shows strong capabilities in integrating internal resources and standard processes (mean = 4.40), leveraging advanced technology (mean = 4.25), and enhancing business performance through integration efforts (mean = 4.19). However, the capability to collaborate with external partners received a slightly lower mean score of 3.98, suggesting room for improvement in building stronger external partnerships. These findings align with scholarly research that highlights the critical role of collaboration, technology, and sustainability practices in effective resource integration.

5.2. Conclusion

The findings from the questionnaire underscore ESLSE's considerable strengths in supply chain management capabilities, particularly in recognizing and utilizing internal resources. However, the data also reveals several areas where enhancements can be made, particularly in leveraging technology, improving external collaborations, and fostering a culture of resource recognition. By addressing these areas, ESLSE can further optimize its supply chain processes, ensuring greater efficiency, responsiveness, and overall performance. These insights provide a valuable foundation for ESLSE to develop targeted strategies that enhance its supply chain capabilities and support its mission of delivering efficient and effective logistics services.

5.3. Recommendation

Based on the findings of the survey, several key recommendations can be made to further enhance ESLSE's supply chain management capabilities. These recommendations focus on leveraging existing strengths while addressing identified areas for improvement.

- **Strengthen Technological Integration**

To improve resource utilization and integration, ESLSE should invest in advanced technologies and systems. This includes expanding the use of data analytics, artificial intelligence, and machine learning to enhance decision-making processes and predictive capabilities. Training programs should be implemented to ensure that employees are proficient in using these technologies, thereby maximizing their potential benefits.

- **Enhance External Collaboration**

While ESLSE has made strides in collaborating with external partners, there is room for improvement. Strengthening relationships with suppliers, distributors, and other key stakeholders can lead to more streamlined and efficient supply chain processes. ESLSE should consider implementing regular partnership reviews, joint planning

sessions, and collaborative problem-solving workshops to foster deeper integration and mutual understanding.

- **Foster a Culture of Resource Recognition**

To build on its strengths in recognizing internal resources, ESLSE should promote a culture of continuous improvement and resource awareness among its employees. This can be achieved through regular training sessions, workshops, and internal communications that emphasize the importance of resource recognition. Encouraging employees to share best practices and innovative ideas can also contribute to a more resource-aware organizational culture.

- **Improve Flexibility and Adaptability**

Enhancing ESLSE's adaptability in integrating internal and external resources is crucial for responding to market changes and customer demands. ESLSE should focus on developing flexible processes and agile methodologies that allow for quick adjustments in the supply chain. Scenario planning and risk management strategies should be incorporated to better prepare for uncertainties and disruptions.

- **Invest in Sustainability and Waste Reduction**

Given the importance of sustainability in modern supply chains, ESLSE should strengthen its initiatives in waste reduction and environmental sustainability. Implementing green logistics practices, optimizing transportation routes to reduce emissions, and adopting sustainable packaging solutions can significantly improve ESLSE's environmental footprint. These initiatives not only contribute to corporate social responsibility but also enhance efficiency and cost-effectiveness.

Reference

Abay Minetesnot. (2018), Effect of Supply Chain Management Practice and Supply Chain responsiveness on operational performance of large manufacturing industry in Bahir Dar Ethiopia p 1-5.

Asamoah, David, Benjamin Agyei-Owusu, Francis Kofi Andoh-Baidoo, and Emmanuel Ayabur. (2021). Inter-organizational systems use and supply chain performance: Mediating role of supply chain management capabilities. International Journal of Information Management 58: 102195.

Ballou, R. H. (2004). Business logistics/supply chain management: Planning, organizing, and controlling the supply chain. Pearson/Prentice Hall. P 200-203.

Barney, J. (1991). Firm resources and sustained competitive advantage. Journal of Management, 17(1), 99-120.

Belay, A. M. (2011). Logistics practices in Ethiopia. International Journal of Business and Management, 6(4), 202-204.

Billington, J. (1993). "Integrated Logistics Strategies: Enhancing Supply Chain Efficiency." Journal of Supply Chain Management, 8(2), 45-58.

Bowersox, J. Donald. (2002). Supply Chain Logistics Management, p 24-28, Published by McGraw-Hill/Irwin, an imprint of The McGraw-Hill Companies,

Inc. 1221 Avenue of the Americas, New York, NY, 10020. Copyright O 2002 by The McGraw-Hill Companies, Inc. All rights reserved.

BRAITHWAITE, A., & HALL, D. (1999). Risky business? Critical decisions in supply chain management (Parts 1 & 2), Supply Chain Practice (1), Part 1: (2), pp. 40-57; Part 2: (3), pp. 44-58.

Chen, I. J., Paulraj, A., & Lado, A. A. (2004). Strategic Purchasing, Supply Management, and Firm Performance. Journal of Operations Management, 22(5), 505-523.

Christopher, M., & Lee, H. (2004). Mitigating supply chain risk through improved confidence. International Journal of Physical Distribution & Logistics Management, Vol. 34 No. 5, 2004, 388-396.

Christopher, Martin. (2005). Logistics and Supply Chain Management: Creating Value-Adding Networks, third edition p 3-6, Pearson Education Limited 2005.

Chopra, S., & Meindl, P. (2016). Supply chain management: Strategy, planning, and operation (6th ed.). Pearson. p 200.

Creswell, J. W., & Plano Clark, V. L. (2018). Designing and Conducting Mixed Methods Research (3rd ed.). SAGE Publications.

Daugherty, J. R., Smith, P. L., & Johnson, K. M. (2001). Strategic management of technology in the 21st century: A comprehensive analysis. Journal of Technology Management, 36(2), 123-135.

Ellram, L. M., & Tate, W. L. (2004). Offshore outsourcing of professional services: A transaction cost economics perspective. Journal of Operations Management, 22(2), 157-175.

Fisher, M. L. (1997). "What is the right supply chain for your product?" Harvard Business Review, 75(2), 105-116.

Frohlich, M. T., & Westbrook, R. (2001). Arcs of integration: An international study of supply chain strategies. Journal of Operations Management, 19(2), 185-200.

Girma, Yoseph. (2016). Challenges and Prospects of Privatizing Ethio-Telecom. Addis Ababa University.

Guide, V. D. R., & Van Wassenhove, L. N. (2002). The reverse supply chain. Harvard Business Review, 80(2), 25-26.

Gunasekaran, A., Patel, C., & McGaughey, R. E. (2004). A framework for supply chain performance measurement. International Journal of Production Economics, 87(3), 333-347.

Gunasekaran, A., Subramanian, N., & Papadopoulos, T. (2017). Information technology for competitive advantage within logistics and supply chains: A review. Transportation Research Part E: Logistics and Transportation Review, 99, 14-33.

Hana, G. (2016). Logistics and supply chain issues in Ethiopia: A comprehensive review. International Journal of Logistics and Transport, 4(1), 45-50.

Hugos, H. Michael. (2011). ESSENTIALS of Supply Chain Management, Third Edition p 4, Published by John Wiley & Sons, Inc., Hoboken, New Jersey. Published simultaneously in Canada.

Jüttner, U., Peck, H., & Christopher, M. (2003). Supply chain risk management: Outlining an agenda for future research. International Journal of Logistics Research and Applications, 6(4), 197-210.

Khan, O., & Zsidisin, G. A. (2012). Supply chain risk management: A review and typology. International Journal of Logistics Management, 23(3), 474-493.

Kothari, C. R. (2004). Research Methodology: Methods and Techniques (2nd ed.). New Age International Publishers.

Kraljic, P. (1983). "Purchasing must become supply management." Harvard Business Review, 61(5), 109-117.

Lee, H. L., Padmanabhan, V., & Whang, S. (1997). Information distortion in a supply chain: The bullwhip effect. Management Science, 43(4), 546-558.

Li, S., Ragu-Nathan, B., Ragu-Nathan, T. S., & Rao, S. S. (2006). The impact of supply chain management practices on competitive advantage and organizational performance. Omega, 34(2), 107-124.

Mangan, John, & Lalwani, Chandra. (2016). Global logistics and supply chain management Third Edition p 256-257, Copyright © 2016, 2012 and 2008 John Wiley & Sons Ltd.

Mark, J., Smith, A., & Johnson, B. (2009). Exploring Qualitative Research Methods in Social Sciences. Journal of Research Methods, 5(2), 78-92.

Mohammed, A. (2014). Challenges in the Ethiopian logistics sector: An empirical study. Journal of Business and Economics, 5(3), 212-213.

Monczka, R. M., Handfield, R. B., Giunipero, L. C., & Patterson, J. L. (2015). Purchasing and supply chain management (6th ed.) p 3-5.

Mugenda, O. M. (2003). Research methods: Quantitative and qualitative approaches. Nairobi: Acts Press.

Rogers, D. S., & Tibben-Lembke, R. S. (1999). Going Backwards: Reverse Logistics Trends and Practices. Reverse Logistics Executive Council. P 9.

Rungtusanatham, M., Salvador, F., Forza, C., & Choi, T. Y. (2003). Supply-chain linkages and operational performance: A resource-based-view perspective. International Journal of Operations & Production Management, 23(9), 1084-1099.

Seuring, S., & Müller, M. (2008). From a literature review to a conceptual framework for sustainable supply chain management. Journal of Cleaner Production, 16(15), 699-171.

Simatupang, T. M., & Sridharan, R. (2005). The collaboration index: A measure for supply chain collaboration. International Journal of Physical Distribution & Logistics Management, 35(1), 44-62.

Simchi-Levi, D., Kaminsky, P., & Simchi-Levi, E. (2008). Designing and Managing the Supply Chain: Concepts, Strategies, and Case Studies. McGraw-Hill. P 100-105.

Tekle, A., & Aredo, D. (2019). "Logistics and supply chain management practices in Ethiopia: A review of literature." Journal of Economics and International Finance, 11(3), 27-37.

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. Strategic Management Journal, 18(7), 509-533.

Tilahun, S., & Woldesenbet, A. (2018). "Logistics and supply chain management challenges in Ethiopia: A systematic review." Logistics Research, 11(1), 1-17.

Vollmann, T. E., Berry, W. L., Whybark, D. C., & Jacobs, F. R. (1997). Manufacturing planning and control for supply chain management (4th ed.). McGraw-Hill Education. P 6-7.

Wang, G., Gunasekaran, A., Ngai, E. W., & Papadopoulos, T. (2016). Big data analytics in logistics and supply chain management: Certain investigations for research and applications. International Journal of Production Economics, 176, 98-110.

Zhu, Q., Sarkis, J., & Lai, K. (2013). Institutional-based antecedents and performance outcomes of internal and external green supply chain management practices. Journal of Purchasing and Supply Management, 19(2), 106-117.

4) Time Budget / schedule of the study

No.	Activities to be accomplished	Projected Schedule Duration								Remark
		Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	
1.	Preparation of proposal									
2.	Submission of draft proposal									
3.	Preparation of the Final Proposal									
4.	Review of literature									
5.	Data Collection									
6.	Data analysis and discussions									
7.	Submission of the 1st draft									
8.	Final report submission and Presentation of report									

5) Financial Budget

No.	Budget items	Unit Cost/Birr	Total Cost/Birr

1.	Stationary expense	5,000	5,000
2.	Utilities Expenses	1000	1000
3.	Other Expenses	700	700
4.	Sub Total		6,700
5.	Contingency (5%)		575
	Grand Total Cost		7,275

ANNEX 1 : Questionnaire to be filled by ESLSE'S staff

Dear Respondent,

This questionnaire is designed to gather data for my Master's thesis on "Assessing the Supply chain management capabilities In the case of: the Ethiopian Shipping and Logistics Service enterprise." All information collected will be strictly confidential and used solely for academic purposes. Your honest participation is crucial to the success of this study. There is no need to identify yourself on the questionnaire.

For any inquiries, please feel free to contact the researcher:

Best Regards,

Fraol Girma

E-mail: Fraolg7@gmail.com

Phone No: 251+978-81-81-47

Part I: Demography of respondents

1) Work experience at ESLSE:

A)1-5 years B) 6-10 years C) above 10 years

2) Age of respondents:

A) Under 25yrs B) 25-40yrs C) 41-55yrs D) above 55 yrs

3) Sex

.A. Male ( ) B) .Female ( )

4) Education level

A)Diploma B) BSc/BA C) MSc and above

5 What job position do you hold

A)Operation Manager ( ) B) Supply chain Manager ( ) C) Other ( )

6 Please rate the supply chain capability of your company using using a 5 point likert scale where, 1= Strongly Disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= strongly agree

No	Supply chain capability	Scale				
A)	Resource recognition capability	1	2	3	4	5
1	ESLSE has mechanisms to identify its internal resources, such as fleet capacity and inventory levels, to facilitate its supply chain process (Planning,Sourcing, Manufacturing, Delivery, and Returns).					
2	ESLSE recognizes the skills and expertise of its workforce to contribute effectively to the supply chain process (Planning,Sourcing, Manufacturing, Delivery, and Returns).					
3	ESLSE actively seeks out and leverages external resources, such as supplier relationships and market intelligence, to enhance its supply chain process (Planning,Sourcing, Manufacturing, Delivery, and Returns).					

4	ESLSE identifies market trends and customer demands to adapt its supply chain process (Planning,Sourcing, Manufacturing, Delivery, and Returns).					
5	ESLSE fosters a culture of resource recognition and awareness among its employees to enhance the efficiency and effectiveness of its supply chain processes.					
6	ESLSE utilize technology and data analytics to identify and analyze internal and external resources for optimizing the supply chain process (Planning,Sourcing, Manufacturing, Delivery, and Returns).					
7	Overall, ESLSE has capability to recognize both its internal and external resources to facilitate its supply chain processes (Planning,Sourcing, Manufacturing, Delivery, and Returns).					
B)	Resource utilization capability	1	2	3	4	5
8	ESLSE effectively allocates its internal resources to utilize and optimize supply chain processes (Planning,Sourcing, Manufacturing, Delivery, and Returns).					
9	ESLSE efficiently utilize technological tools and systems to enhance resource utilization in supply chain processes (Planning,Sourcing, Manufacturing, Delivery, and Returns).					
10	ESLSE's utilization of workforce skills and expertise as effective in improving supply chain processes (Planning,Sourcing, Manufacturing, Delivery, and Returns).					
11	ESLSE effectively manages its inventory levels within the supply chain processes(Planning,Sourcing, Manufacturing, Delivery, and Returns) to minimize shortages and overstocking, thereby					

	optimizing resource utilization.					
12	ESLSE make efficient use of its transportation and logistics resources to streamline supply chain processes (Planning,Sourcing, Manufacturing, Delivery, and Returns).					
13	ESLSE's initiatives in sustainability and waste reduction as contributing to improved resource utilization in the supply chain processes (Planning,Sourcing, Manufacturing, Delivery, and Returns).					
14	ESLSE's effectiveness in utilizing both internal and external resources to facilitate its supply chain processes (Planning,Sourcing, Manufacturing, Delivery, and Returns).					
C)	Resource integration capability	1	2	3	4	5
15	ESLSE effectively integrates internal resources, such as departmental collaboration and standardized processes, to enhance supply chain processes (Planning,Sourcing, Manufacturing, Delivery, and Returns).					
16	ESLSE collaborates with external partners, such as suppliers and distributors, to streamline supply chain processes (Planning,Sourcing, Manufacturing, Delivery, and Returns).					
17	ESLSE leverages advanced technology to integrate internal and external resources, such as information systems and data analytics, for better supply chain processes (Planning,Sourcing, Manufacturing, Delivery, and Returns).					
18	ESLSE effectively communicates with suppliers and customers to align supply chain activities and ensure smooth integration of supply chain processes (Planning,Sourcing, Manufacturing, Delivery, and Returns).					
19	ESLSE is adaptable in integrating internal and external resources within the supply chain processes (Planning,Sourcing,					

	Manufacturing, Delivery, and Returns). to respond to changes in market conditions or customer demands.					
20	ESLSE's efforts in enhancing overall business performance and competitiveness significantly contribute to the supply chain processes integration.					