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EFFECTS OF SUPPLY CHAIN MANAGEMENT PRACTICES ON OPERATIONAL PERFORMANCE OF FLOUR FACTORIES IN GURAGE ZONE

MBATHESIS RESEARCH

ZEDAGIM SISAY

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Wolkite University

School Of Graduate Studies

Effects of Supply Chain Management Practices on Operational Performance of Flour Factories in Gurage Zone

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Zedagim Sisay

Advisor: Tilahun Kidane (Ph.D.)

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Wolkite, Ethiopia

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SCHOOL OF GRADUATE STUDIES

ADVISORS'APPROVAL SHEET

I hereby certify that we have read and evaluated this Thesis entitled "**Effects of supply chain management practices on operational performance of flour factories in Gurage Zone**", prepared under our guidance by **Zedagim Sisay**. I recommend that the Thesis shall be submitted as fulfilling the requirements for the award of Master's in Business Administration.

Tilahun Kidane (Ph.D.) _____ _____

Advisor Signature Date

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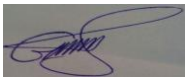
As members of the Board of Examiners of the Master's of Art Thesis open defense examination, we have read and evaluated this Thesis prepared by **Zedagim Sisay** and examined the candidate. We hereby certify that, the thesis is accepted for fulfilling the requirements for the award of the degree of Master in Business Administration.

Approved by:

1. Getachew Mohammed(Ph.D.)		**17/05/2025**
Name of External Advisor	Signature	Date
2. Abas Mohammed (Ph.D.)		**17/05/2025**
Name of Internal Examiner	Signature	Date
3. _____	_____	_____
Name of Chairman, DGC	Signature	Date

Final approval and acceptance of the Thesis is contingent upon the submission of its final copy to the Council of Postgraduate Program (CPGS) through the candidate's department or school graduate committee (DGC or SGC).

DECLARATION

This research under the title **"EFFECTS OF SUPPLY CHAIN MANAGEMENT PRACTICES ON OPERATIONAL PERFORMANCE OF FLOUR FACTORIES IN GURAGE ZONE"** is my original work and has never been presented in any other university or college for the award of degree in any other university. All sources of materials used for the thesis have been duly acknowledged and it is in partial fulfillment to the requirement of the program of Masters of Degree in Business Administration.

Declared by

Zedagim Sisay

_____ _____

Student Signature Date

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Abbreviations and Acronyms

3PLs-A third party logistics provider

CRM-Customer relationship management

JIT-Just In Time

LEIS-Level of information sharing

LOGPR-Logistic process responsiveness

OPPER-Operational performance

OUTS-Outsourcing of services

RBV-Resource Based View

SCM-Supply Chain Management

STSP-Strategic Supplier partnership

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Abstract

This study was conducted with an objective of investigating the effect of supply chain management practices on operational performance of flour factories in Gurage zone. The researcher used a quantitative approach and descriptive and explanatory research design to achieve the objective of the study. The study also used primary data source and the data collection instrument was structured close ended survey questionnaires using the five-point Likert scale adopted from previous studies. The target population was 200 respondents. Using census method 199 questionnaires were filled and returned for the analysis. The researcher used the Statistical Package for Social Science (SPSS) tool in order to find the results of descriptive and inferential statistics analysis. Some studies on only few components of SCM were taken as independent variable to study the effect of SCM on operational performance. This study therefore targeted to fill this gap by studying the effect of five major components of SCM on operational performance. The result of this finding indicated that the four predictors (Strategic supplier partnership, Level of information sharing, Customer relationship Management, and Outsourcing of Services) have significant and positive coefficient of Beta values indicating that they have positive effect on operational performance under the study. While Logistics process responsiveness has insignificant alpha value, which indicated that it has insignificant effect on operational performance under the study. Therefore, it is recommended that in order to achieve growth in operational performance, it is frugal for the organization to give appropriate emphasis to the constructs of supply chain management practices.

***Key Words**: Strategic supplier partnership, Level of information sharing, Customer relationship Management, and Outsourcing of Services, and operational performance.*

CHAPTER ONE

1. INTRODUCTION

This chapter covers the essential components of the research, including the background of the study, problem statement, research objectives, hypotheses, significance, scope, and limitations of the study. It also provides definitions of key terms used in the study and outlines the overall structure of the research.

1.1. Background of the study

Globally, industrial businesses use Supply Chain Management (SCM) as a strategy to gain a competitive edge (Kyeremeh & Dza, 2018). SCM involves planning and managing sourcing, procurement, conversion, and logistics activities. As the global business surroundings evolve, Factories have had to adapt through significant changes. Practicing SCM has become necessary for staying spirited and enhancing profitability (Childerhouse & Towill, 2003).

Operational performance, driven by effective SCM, serves as a competitive advantage, enabling businesses to differentiate themselves by operating at lower costs and higher profits (Power et al., 2001). This is often measured through key performance indicators (KPIs) such as inventory turnover, order fulfillment rate, production cycle time, cost efficiency, quality consistency, and customer satisfaction.

According to Alvarado and Kotzab (2001), firms leveraged core competencies and restructured supply chain management procedures to eliminate surplus inventory within their inter-organizational systems. This led to improved inventory turnover rates and more accurate demand planning, both of which are critical KPIs for operational performance.

Tan et al. (2008) applied factor analysis and identified three essential dimensions of supply chain management practices: information sharing, customer relationship management, and service outsourcing. These practices directly contribute to operational performance by enhancing order fulfillment rates, cycle time efficiency, and customer satisfaction—all key indicators used to evaluate supply chain success.

In case study-based research, Li et al. (2006) highlighted five core supply chain practices: outsourcing, strategic supplier partnerships, information sharing, lean manufacturing, and customer relationships. These elements were shown to significantly improve supply chain responsiveness, resulting in better delivery reliability, cost efficiency, and production flexibility—further demonstrating the link between SCM and operational KPIs.

Chavosh et al. (2011), analyzing the Malaysian electronics industry, considered strategic supplier partnerships, logistics process responsiveness, and customer relationship management as independent variables influencing operational performance. Their findings revealed that effective supply chain design and customer relationship efforts improved information delivery quality, reduced lead times, and lowered operating costs, reinforcing their impact on core performance metrics. A time series study conducted in Singapore by Benito and Gonzalez (2010) found that SCM implementation enhanced internal coordination, inter-functional teamwork, and employee satisfaction, which in turn improved broader operational outcomes such as process efficiency, productivity, and business reliability. These improvements are directly linked to operational KPIs that reflect the effectiveness of SCM in a dynamic business environment.

In Ethiopia, firms are not fully benefiting from Supply Chain Management (SCM) due to short of outsourcing services, limited information sharing, and insufficient willingness to manage supply chains effectively (Belay, 2018). Gizaw (2016) found that customer relationship management and outsourcing services significantly improved business performance for Ethiopian trading enterprises. Traditionally, supply chain management in Ethiopia has been limited to a simple buy-and-sell relationship. Hailemickael (2011) observed that SCM practices in Ethiopia are immobile in the early stages, with only a few companies integrating them into their operations. However, many manufacturers and distributors are beginning to recognize the possible for cost reduction and service improvements through better SCM practices. Felke (2016) also noted a significant performance gap in product and service activities in Ethiopia.

Gemechu et al. (2019) evaluated supply chain practices in the Gurage zone regarding the export of live animals and found that integrated demand planning, procurement, cycle-time

compression, connections with suppliers and customers, and dynamic deployments that drive business activity were not established.

Although some previous studies have explored the impact of supply chain management on operational performance in developing countries, there remains a noticeable research gap, particularly in areas such as strategic supplier partnership, logistics process responsiveness, information sharing, customer relationship management, and outsourcing of services—especially within the Ethiopian context and more specifically in the study area.

In light of this, the current study aims to address part of this empirical gap by examining how supply chain management practices influence the operational performance of flour factories located in the Gurage Zone.

1.2. Statement of the problem

In recent years, supply chain management (SCM) has evolved into a critical strategic function that significantly influences organizational competitiveness and performance across industries (Ivanov et al., 2021; Christopher, 2016). The increasing globalization of markets, technological advancements, and heightened customer expectations has compelled firms to adopt more integrated and responsive supply chain strategies. However, despite the growing importance of SCM, there remains a noticeable gap in comprehensive studies that address the multifaceted impacts of supply chain practices on operational performance, especially in developing economies (Gunasekaran et al., 2017). Inefficiencies in any segment of the supply chain can propagate throughout the system, increasing operational costs and reducing overall performance. Effective and timely information exchange, along with collaborative decision-making, has been identified as a key enabler of supply chain responsiveness and efficiency (Chopra & Meindl, 2019). As supply chains become increasingly interdependent, competitive advantage is no longer derived solely from individual firms, but from the performance of the entire supply chain network

Because so many companies' value chains are interconnected, a competitive advantage may be derived from the whole supply chain relatively than just one company. Nowadays, supply chain management (SCM) is linked to strategic concerns like the capacity to develop and

distribute new products or to develop and execute new business models, and it is not just about fulfilling orders (Laudon, 2011).

Gibson et al. (2005) and Handfield (2002) conducted studies that concentrated their research efforts on examining the connection between supply chain management's effects on operational performance. These studies operationalized business performance using parameters related to customer relationship management, information sharing level, and logistics process responsiveness. Their research revealed the connection between supply chain management's influences on operational performance. Due to the biased and aim operationalization of the firm's performance and the influence of the organizations on the relationship between supply chain management methods and operational performance, these studies have yielded varying conclusions.

Competition today is no longer just between companies themselves, but rather between their supply chains (Hartono et al., 2015). This shift is driven by the demands of global markets, which require quicker time-to-market, reduced overhead costs, faster response times, and improved product and service quality (Yang and Burns, 2003).

Handfield and Betchel (2002) on the supplier side underlined that role of relationship with supplier in increasing supplier responsiveness and Chen and Paulraj (2004) suggested the antecedence and repercussions of buyer-supplier relationship. The downstream connections between producers and retailers were the main emphasis of Alvarado and Kotzab (2001). Some recent studies have examined the connections between strategic supplier partnerships, outsourcing of services, and operational performance while taking into account both the upstream and downstream aspects of the supply chain at the same time.

Frohlich and Westbrook (2001) looked into how supplier-customer integration affected operational performance; Kushwaha (2012) discovered that supply chain management practices improved operational performance; and Ghatebi (2013) examined how supply chain management practices affected competitive advantage. However, it is impossible to draw firm conclusions about how supply chain management and performance are related (Cousins et al., 2006). Despite a surge in empirical research in recent years, comparability is undermined by significant differences in research design. The primary limitation was the use

of different units of analysis, different approaches to performance measurement, and disagreements over the definition and dimensionality of supply chain management practices.

Additionally, there are practical gaps in Gurage Zone flour factories, such as supply chain incoherence led by the production department, low supplier relationships throughout the region, information sharing, waiting for government unions to receive maize, supply shortages, and poor customer relations, all of which contribute to poor performance. However, they are unable to adequately address both the region and the entire nation. Customers, on the other hand, are searching for competitors who produce some goods elsewhere. Inadequate supply chain reaction and SCM procedures to enhance operational performance are the cause of this (Birhanu et al., 2015).

Although all of the aforementioned components are included in the measurement of supply chain management's impact on operational performance (including strategic supplier partnerships, logistics process responsiveness, information sharing level, customer relationship management, and service outsourcing), Khan et al. (2017) state that the focus of the study is on how supply chain management paradigms' key practices affect operational performance. There are now no established guidelines or standards by which we may evaluate the functioning of an organization. This area's lack of clarity and comparability issues leads to misunderstandings and complicate the process of developing a clear plan.

There exists a knowledge gap since researchers get different results in their study of effects of supply chain management practices for instance, Ho (2011) and Mwale (2014) found that outsourcing practices in their respective nations did not correlate with or have an impact on organizational performance. While Aboneh (2017) found no significant link between organizational performance and two factors (supplier relationship management and degree of information sharing), Emaway (2020) found a favorable but statistically insignificant relationship between supplier integration and operational performance. According to Getachew Alemu (2020), supply chain management techniques improve operational performance. This debating result is one of the necessities to do research.

Methodological gaps of before assessing current situation try to investigate causal effects and due to time and budgetary constraints, earlier research samples did not include distributors,

which prevented them from being generalized or applied to the entire chain of the company being studied. However, this study includes distributors in addition to employees (Balda, 2011).

There exists a literature research gap on the effect of supply chain management practices on operational performance from dimensions of Strategic supplier partnership, Logistics process responsiveness, Level of information sharing, Customer relationship Management, and Outsourcing of Services on Operational performance that included forward and backward integration in Ethiopia in general and Gurage Zone flour factories in particular. Most previous researches are done from perspectives of internal operation, training, information technology, lean practices, information integration, customer integration and supplier integration.

Therefore, this study is distinctive in its approach as it helps address gaps in the existing literature, methodology, and practical application. By examining the relationship between supply chain management practices and operational performance, it makes a valuable contribution to the ongoing discussion, particularly within the context of Flour Factories in the Gurage Zone

1.3. Objectives of the study

1.3.1. General objective

The General objective of this research is to explore the practices of supply chain management and evaluate their influence on the operational performance of flour factories within the Gurage Zone.

1.3.2. Specific objective

To accomplish the aim of this study, the following specific objectives have been developed:

1. To assess the current supply chain management practice in the case study area
2. To assess the level of operational performance of Flour Factories in Gurage zone
3. To examine the effect of strategic supplier partnership on operational performance of Flour Factories in Gurage zone.
4. To investigate how Logistics process responsiveness affects operational performance of Flour Factories in Gurage zone

5. To investigate the effect of information sharing on operational performance of Flour Factories in Gurage zone
6. To examine the effect of Customer relationship Management on operational performance of Flour Factories in Gurage zone
7. To examine the effect of Outsourcing of Service on Operational performance of Flour Factories in Gurage zone

1.4. Research Hypothesis

Based on the background and problem statement outlined earlier, the following hypotheses have been developed

H1: Strategic supplier partnership has a significant positive effect on operational performance of Flour Factories in Gurage zone

H2: Logistics process responsiveness has a significant positive effect on operational performance of Flour Factories in Gurage zone

H3: Level of information sharing has a significant positive effect on operational performance of Flour Factories in Gurage zone

H4: Customer relationship Management has a significant positive effect on operational performance of Flour Factories in Gurage zone

H5: Outsourcing of Services has a significant positive effect on operational performance of Flour Factories in Gurage zone

1.5. Significance of the study

The findings of this study are expected to be valuable to various stakeholders, including corporate managers, policy makers, academics, and practitioners. For corporate managers, the study offers practical insights into how effective supply chain management (SCM) practices—such as strategic supplier partnerships, logistics responsiveness, information sharing, and outsourcing—can enhance operational performance. These insights can guide decision-making, improve resource allocation, and increase customer satisfaction, especially in manufacturing environments like the flour factories in the Gurage Zone. Managers can use

the results to assess and redesign their supply chain strategies to respond more effectively to market demands and operational challenges.

For policy makers, the study highlights critical areas in the supply chain that require support through public policies and infrastructure development. For instance, policies that promote efficient logistics systems, digital information sharing, and collaborative networks between suppliers and manufacturers could enhance overall industrial productivity. In the context of the Gurage Zone, where manufacturing is growing but still faces systemic inefficiencies, these findings can inform regional development strategies and investment priorities. Policy makers may also use the results to create training programs or incentives aimed at improving SCM capabilities across similar industrial sectors.

In particular, the following are the primary implications of this study: Since there are currently few studies conducted in flour factories and the related field in Gurage zone, it opens the door for educators or training institutions to take into account when creating training on the issues relating to the SCM and also acts as a springboard for further and more in-depth research in the area.

1.6. Scope of the study

This study focuses on flour factories in the Gurage Zone of Central Ethiopia, a region selected due to its relevance to the local economy and the availability of accessible data and resources, which enhance the quality and reliability of the findings. The research focuses specifically on seven flour factories: Menbere, Yadot, Jafar, Afamily, Sheger, Global, and Sirbeza, selected based on their operational scale. The research centers on five core dimensions of supply chain management strategic supplier partnership, logistics process responsiveness, level of information sharing, customer relationship management, and outsourcing of services and examines their influence on operational performance. These dimensions were carefully selected to align with the study's objectives and to ensure that the variables reflect both theoretical grounding and practical significance. Operational performance is evaluated using key performance indicators (KPIs) such as production efficiency, order fulfillment rate, cycle time, inventory turnover, customer satisfaction, and

cost reduction By concentrating on variables that directly inform the research questions, the study maintains clarity and relevance while contributing to existing knowledge. A quantitative research design was adopted to test hypotheses, identify patterns, and support generalizations across the population.

1.7. Limitation of the study

Some respondents were initially hesitant to disclose certain information due to concerns about confidentiality and the potential for sensitive business data to be shared with competitors. To address this issue and build trust, the researcher provided an official introduction letter from Wolkite University verifying their status as a student conducting academic research. In cases where the survey was self-administered, a valid student identity card was also presented. These measures were intended to reassure participants about the academic purpose of the study and the confidentiality of their responses, thereby encouraging fuller participation.

1.8. Operational Definition of terms

Supply chain management (SCM)- is a network of interactions designed to deliver superior value, i.e., managing relationships with customers and suppliers both upstream and downstream to deliver lower costs to the supply chain overall while increasing customer value (Christopher, 2005).

Operational performance: -It describes how well a company delivers accurate goods and services in a reasonable amount, at a reasonable cost, and in a reasonable amount of time.

Strategic supplier partnership- It is the organization's long-term relationship with its suppliers. It is meant to aid each participating firm obtains large, long-term benefits by exploiting their operational and strategic assets.

Customer relationship management-provides the framework for creating and keeping relationships with clients (Li et al., 2004).

Level of information sharing: describes the extent to which a supply chain partner is given access to critical and private information (Ayman & Noor, 2014).

Logistics process responsiveness- is the capacity of a company's distribution, warehousing, and outbound transportation system to adapt to shifts in client demand.

1.9. Organization of the study

The remainder of the document is structured as follows: The second chapter discussed literature reviews, which cover conceptual frameworks, empirical literature, and theoretical literature. The third chapter offered description of the study area, research design, research approach, sampling method, data analysis techniques, and reliability and validity measures made. Chapter four presents the result of descriptive statistics and regression model analysis of the survey data. The fifth chapter offered summary of major findings, conclusions, recommendations and suggestions of the research.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURES

The researcher's literature review was the main topic of this chapter. It contains an overview of the numerous studies that other scholars have carried out regarding how supply chain management techniques affect. This chapter contained theories of supply chain management, components of supply chain management practices, empirical literature review, conceptual framework and literature gaps of the study.

2.1. Theoretical review

2.1.1. Concept of supply chain management

Supply chain management (SCM) can be described as the strategic, coordinated management of business functions both within an organization and across its supply chain partners. This coordination aims to improve the long-term performance of both the individual organization and the broader supply chain (Mentzer, 2001). The focus of SCM is on how organizations can leverage the technology, processes, and capabilities of their suppliers to gain a competitive advantage. By integrating internal functions with those of external partners, SCM enhances the overall competitiveness of the organization (Kim, 2006).

A supply chain consists of at least three interconnected entities that handle the flow of products, services, finances, and information, moving from the source to the customer (Handfield, 2002). According to these definitions, key elements of SCM include upstream parties (such as suppliers and their networks), downstream parties (such as distributors and customers), and the integration of all the entities involved. Internal organizational functions are also crucial to the effective management of the supply chain. Handfield (2002) further elaborated on the upstream parties, which involve processes and functions within the organization's supply network, and the downstream parties, which focus on the product’s journey through distribution channels to the final user.

Managers play an essential role in ensuring timely delivery and minimizing the impact of any unavoidable delays within the supply chain. Effective communication and a shared

understanding between the internal departments and external partners are vital to this coordination. As SCM encompasses both the internal control of materials and information, as well as external interactions between organizations (Cooper et al., 2007), managers must also oversee these external relationships."

Over time, a greater common understanding between parties and the ability to reduce production risks can lead to higher efficiency. Initially applied mainly in manufacturing to improve responsiveness and flexibility, SCM is now recognized as a strategic tool that enhances an organization's competitiveness and overall effectiveness (Gunasekaran et al., 2003).

2.1.2. Theories of Supply Chain Management

Given its significance to this study, the researcher has chosen the Relational View Theory, which is elaborated on below.

2.1.2.1. Relational view theory

According to Chopra and Meindl (2007), From the initial source or supplier to the manufacturer to additional middlemen to end users or customers, the supply chain is an integrated system of a number of interdependent business entities, including organizations and/or individuals that directly participate in value creation through efficient and effective flows of goods, services, money, and information in both upstream and downstream directions. A well-functioning supply chain also depends on the existence of an integrated business chain of processes. The integration of company processes, value generation for customers at all levels, and collaborative business thought and practice are among the supply chain's unique features (Chopra & Meindl, 2001).

The Relational View theory suggests that relationships between organizations can be a key driver of superior performance. This study is grounded in the Relational View (RV) theory**,** which serves as the base theoretical framework**.** The theory emphasizes that value can be created through strategic inter-organizational relationships, making it highly relevant for analyzing supply chain management (SCM) practices. It provides a lens to understand how collaboration, trust, and knowledge sharing among supply chain partners can lead to superior

operational performance. It highlights four primary sources of relational rents: investments in assets specific to the relationship, significant knowledge sharing, access to complementary and rare resources, and reduced transaction costs. These factors are further enhanced by effective governance mechanisms, such as informal safeguards like trust and reputation (Holcomb & Hitt, 2007; Rungtusanatham et al., 2003). Similar to the Resource-Based View (RBV), relational resources and capabilities must be rare, valuable, and difficult to replicate or substitute to provide a sustainable competitive advantage.

Responsiveness is gauged by how quickly a company can adapt to changes in market demand, deliver products to customers on time, maintain high levels of customer service, and manage lead times to fulfill customer orders (Perry, 2000).

Effective customer relationship management requires various supply chain activities, including technology transfer, innovative product development, efficient internal operations, enhanced customer service, product quality control, and cost efficiency. These efforts collectively aim to boost customer satisfaction and loyalty (Benito & Gonzalez, 2010).

Information has become a critical factor in the business environment, significantly altering competitive dynamics. Today, it allows organizations to track the progress of products and orders across different stages in the supply chain (Cao et al., 2008).

The relationship between SCM practices and performance can be better understood through the lens of the relational view. Information technology plays a direct role in facilitating accurate and timely knowledge exchange. Long-term partnerships with suppliers and customers can lower transaction costs by fostering trust and reputation development (Mentzer et al., 2001; Li et al., 2006). These relationships also promote knowledge sharing and ensure investments in relationship-specific assets.

2.2. Components of Supply Chain Management Practices

Recent literature has identified various categorizations of supply chain management (SCM) components. However, most of these categorizations share key common elements. In particular, the SCM components most frequently found in the manufacturing sector include customer and supplier relationship management, internal operational integration within a

company, the use of information technology, and company responsiveness. According to the literature reviewed, these five SCM components are hypothesized to have a positive impact on the overall performance of business organizations within the supply chain (Chen & Antony, 2004; Gebreyesus, 2016; Lee et al., 2007).

Table 1: Dimensions of supply chain management practices

AssefaBalda(2011)	Key components of supply chain management include supplier and customer relationships, internal operations, information sharing, the use of information technology, and training
GetachewAlemu(2020)	Managing supplier relationships, building customer connections, sharing information, and optimizing internal operations
Kohet al.(2007)	Key practices in supply chain management include Just-In-Time (JIT) supply, utilizing multiple suppliers, maintaining safety stock, subcontracting, working with a limited number of suppliers, fostering strong partnerships with suppliers, strategic planning, outsourcing, third-party logistics (3PL), and building close relationships with customers.
Omainet al. (2010)	Customer relationship management, strong supplier partnerships, information exchange, logistics integration, and strategic site selection.
Ho (2011)	Outsourcing, strategic partnerships with suppliers, customer relationship management, information exchange, postponement strategies, quality of information exchange, and lean practices
Sukatiet al. (2011)	Strategic partnerships with suppliers, customer relationships, and the exchange of information.
Talibet al. (2011)	Customer relationships, materials management, strategic partnerships with suppliers, information and communication technologies, organizational culture, and strong supplier collaborations.
Adebayo (2012)	Strategic partnerships with suppliers, customer relationships, extent and quality of information sharing, and internal supply chain processes (such as postponement)
Woldemichael (2012)	Strategic partnerships with suppliers, customer relations, extent and quality of information sharing, and internal lean practices
Valmohammadi (2013)	Factors such as the geographical closeness of suppliers, outsourcing, strategic planning, information technologies like EDI, ERP, e-procurement, and CRM, maintaining safety stock, strategic supplier partnerships, supply chain performance, information sharing and coordination, postponement and customization, supply chain benchmarking, and subcontracting all play significant roles in supply chain management.

Mwale (2014)	Key elements in supply chain management include outsourcing, strategic partnerships with suppliers, customer relationship management, information exchange, postponement strategies, the quality of shared information, and lean practices.

Source: Compiled from different literature

2.2.1. Strategic Supplier Partnership

It is described as the organization's long-term relationship with its suppliers. Strategic supplier partnerships prioritize long-term, direct relationships and promote cooperative problem-solving and planning. Organizations and suppliers may collaborate more closely and cut down on pointless time and effort. Effective supplier partnerships can be a crucial component in directing supply chain management, claim Li et al. (2006). Additionally, strategic supplier partnerships allow suppliers to have a more direct impact on a company's quality performance (Sadikoglu & Zehir, 2010).

Supply chain participants who have strong bonds are more likely to share rewards and risks and can sustain their partnership over time (Landeros & Monczka, 1989). It is intended to help each participating firm attain major, long-term benefits by utilizing their operational and strategic strengths (Noble, 1997). These kinds of strategic alliances are formed to encourage mutual gain and continued involvement in one or more important strategic domains, like essential raw materials, technology, goods, and markets (Yoshino & Rangan, 1995).

Organizations can collaborate more successfully with a select group of significant suppliers who are prepared to share accountability for the goods' success when they have strategic partnerships with them. Early supplier involvement in the product design process can help choose the best technologies and components, provide more economical design options, and aid in design evaluation (K. C. Tan, 2002). Organizations that are strategically aligned can collaborate closely and cut down on unnecessary time and effort (Blasmeier, 1996). A cutting-edge supply chain may depend heavily on a successful supplier partnership (Noble, 1997). Increasing the desired supplier's functional competency is the primary goal of strategic relationships with suppliers (Rosenzweig, Roth, & Dean Jr, 2003).

2.2.2. Logistics Process Responsiveness

Logistics process responsiveness refers to how efficiently a company’s outbound logistics—encompassing transportation, distribution, and warehousing—can adapt to shifting customer

demand (Duclos et al., 2003). It is a critical factor in a firm's ability to serve the end consumer effectively and maintain competitiveness. Logistics and distribution management involves a wide array of activities, including the movement of goods from suppliers to manufacturers, then to distribution centers, and finally to the end user. This system also includes warehousing, packaging, shipping, transportation planning, inventory management, reverse logistics, and the tracking and delivery of orders.

This study specifically examines the outbound logistics aspect of the focal firm. Yap and Cheng (2012) emphasize that a company's logistics system is pivotal in delivering value to customers. Achieving this value requires not only speed but also flexibility throughout the logistics network to accommodate diverse and changing customer needs (Lummus et al., 2003). To navigate uncertainty, companies often introduce adaptability within their supply chains (Simchi-Levi, Kaminsky, & Simchi-Levi, 2008). When this adaptability is combined with quick response capabilities, firms are better positioned to reduce operational risk and remain competitive (Simchi-Levi et al., 2008). Therefore, logistics responsiveness plays a key role in the successful execution of an agile and demand-driven supply chain strategy (Duclos et al., 2003).

Key attributes of logistics responsiveness include the ability to quickly scale operations and adjust to fluctuating demand. This includes being able to modify warehouse capacity, manage a wide variety of products, switch transportation carriers as needed, and meet specific customer packaging or customization requirements. Prater et al. (2001) argue that responsive logistics systems must be supported by seamless access to multiple transportation modes, enabling organizations to pivot rapidly when market conditions shift. According to Lummus et al. (2003), essential elements of logistics flexibility that contribute to supply chain responsiveness include the capacity to:

- Swiftly react to sudden changes in demand,
- Adjust warehouse operations to accommodate demand surges,
- Shift transportation strategies or carriers in response to needs
- Fulfill unique or one-time customer requests,
- Expedite deliveries efficiently when necessary.

2.2.3. Level of information sharing

The level of information sharing refers to the extent to which private or nonpublic information is distributed to relevant parties within the supply chain for mutual benefit (Moberg, 2002). Information plays a crucial role in bridging gaps within supply chains by ensuring that systems at every level effectively disseminate essential details about demand management, stock reorder points, safety stock, and material resource planning. Effective information sharing among companies and their supply chain partners helps maintain optimal stock levels and reduce issues related to product shortages. Additionally, sharing operational details, such as the need for raw material deliveries, can involve different members of the supply chain providing valuable insights (Chen & Paulraj, 2010). The quality of this shared information is determined by its accuracy, usefulness, accessibility, and its ability to meet organizational needs.

In Kenya, multinational manufacturing firms depend heavily on reliable information about their operating environment. Such information is vital for these companies to adapt and align their strategies to a favorable business environment through effective data gathering, sharing, and application (Simchi-Levi et al., 2008).

Information has become a powerful factor in today's business landscape, significantly altering competitive dynamics. Information technology provides businesses with access to private data from their partners, enabling them to track product progress and orders across various stages of the supply chain (Cao et al., 2008). This capacity to share knowledge effectively with supply chain partners is a crucial aspect of modern supply chain management. Information sharing is essential for building a cohesive, integrated supply chain. One key quality of information is its interoperability—ensuring that systems within the supply chain can communicate with each other. In the current era, advancements in internet and e-commerce technologies present new opportunities to create a "smart" and integrated supply chain (Christopher & Towill, 2002).

2.2.4. Customer Relationship Management

According to Claycomb, Dröge, and Germain (1999), it includes the full range of procedures used to handle customer complaints, establish enduring connections with customers, and

raise customer satisfaction. (Noble, 1997) recognizes customer relationship management as an integral component of SCM methods. Devoted relationships are the most sustainable benefit due to their fundamental hurdles to competition, as noted by Day (2000). Maintaining and concentrating on the customer relationship will allow businesses to better respond to the needs of their clients, which will increase client loyalty, encourage repeat business, and make them more willing to pay higher rates for superior products (Carr & Pearson, 1999).

Customer relationship management is a crucial part of supply chain management procedures, and the primary objectives of SCM are customer happiness and loyalty (Stalk & Hout, 1990) (Noble, 1997). An era where customer relationship management is becoming essential for business survival is being ushered in by the rise of mass customization and personalized service (Wines, 1996). Successful supply chain management (SCM) program implementation requires positive connections with customers and other supply chain participants (Moberg, Cutler, Gross, & Speh, 2002). Additionally, according to Magretta (1998), a company can maintain customer loyalty, differentiate its product from rivals, and significantly increase the value it offers to its clients by establishing a lost customer relationship.

According to Niknia (2007), the primary objectives of customer relationships are to find new company prospects, decrease lost opportunities, decrease customer attrition, foster customer loyalty, enhance customer service, boost organizational performance, cut expenses, and boost income. According to the literature review and practicality in Ethiopia, customer relationships are defined for the purposes of this study as a means of establishing enduring relationships with customers through fostering customer loyalty, lowering the number of defective products, enhancing customer services, lowering prices and costs, handling customer complaints, and attempting to raise customer satisfaction.

2.2.5. Outsourcing of service

Outsourcing refers to the practice of transferring the responsibility for certain business functions to an external service provider, a shift from previously managing those functions in-house (Batt, 2004). Organizations typically decide to outsource after evaluating their core business activities. Many companies today are choosing to outsource specific services in order to enhance the efficiency of their existing systems and to reduce operational costs,

enabling them to concentrate more on their primary business activities (Benito & Gonzalez, 2010).

The advantages of outsourcing include cost savings, access to specialized expertise, increased productivity, an enhanced corporate image, greater managerial focus on employee well-being, and the introduction of new systems and practices from outsourcing partners. However, these benefits can only be realized if the appropriate functions are outsourced to the right third-party providers (Supalak, 2010). As such, a company's decision-making process should involve discussions with all relevant parties, including senior management, staff, and the external service providers. It is also crucial for firms to be cautious about maintaining control over their customer relationships and supplier trust. A careful balance and ongoing monitoring of outsourcing activities are necessary to ensure long-term success.

2.3. Operational Performance

It's not hyperbole to say that operations management can "create or split" any factory. This isn't just because the operations department is big and typically houses the greater part of a company's employees and property; it also gives the company the capacity to struggle by enabling it to respond to customers and build the skills that will keep it in front of its rivals in the future (Nigel et al., 2010).

Factory's performance indicates how it scores beside predetermined parameters of its performance. Performance is measured in terms of how a certain request is handled, performed and how it is accomplished successfully utilizing the appropriate standard of doing it. It is the outcome of all of the organization's operations and strategies. Accordingly, it is a gauge of how well a company or certain organizational units achieve the predetermined goals (Slack et al., 2010).

The bulk of global manufacturing companies constantly struggle to improve their performance. In order to support their supply chain strategies, these businesses have implemented and used various performance management tools. Organizations are finding it more and more difficult to monitor and evaluate processes on an ongoing basis. Financial tools, such as financial ratio analysis, benchmarking, variance analysis, statistical performance measures, or a combination of these approaches, can be used in practice to

quantify an organization's strength (Boyer & Lewis, 2002). In quantitative research, operational performance is typically measured through key performance indicators (KPIs) that allow for objective and data-driven analysis. In this study, the selected KPIs include production efficiency, order fulfillment rate, cycle time, inventory turnover, customer satisfaction, and cost reduction, which are widely recognized for their relevance in evaluating supply chain and manufacturing performance (Gunasekaran, Patel, & McGaughey, 2004).

2.4. Empirical Literature Review

The impact of three aspects of supply chain incorporation included supplier, customer, and internal lean incorporation on industry and operating performance was evaluated by Flynn et al. (2010). They originate that internal incorporation is directly related to both business and operating performance, while customer incorporation is directly related to operational performance. While supplier incorporation is not directly related to either type of performance, the incorporation of customers and suppliers is related to operational performance and internal and external integration also affects each other in addition to performance. As supply chain integration progresses, the impact of the integration of corporate competitive capacity and supply chain operational capability on performance enhancement diminishes (Otchere et al, 2013).

Kim (2006) found that effective supply chain integration plays a more critical role for sustainable performance enhancement in little firms, while in great firms, the close relationship between the level of supply chain management practices and competition capacity has a more significant effect on performance improvement. According to Otchere et al. (2013), there is a direct relationship between supply chain integration and business performance. Their findings indicate that internal collaboration has a significant impact on a firm's overall performance, and that increased levels of integration are generally associated with improved outcomes.

Chavosh et al. (2011) carried out a study on Malaysia’s electronics industry aimed at developing a model for evaluating supply chain performance. The research identified several key factors—namely, the quality of information sharing within the supply chain, supply chain design, flexibility, and delivery efficiency—as independent variables that influence operational performance. The results of this study showed that supply chain design has a

favorable effect on organizational performance through quality information sharing and delivery. Furthermore, operational performance is directly impacted by the exchange and transmission of high-quality information. The findings also demonstrated how customer relations affect delivery and organizational effectiveness. Through flexibility, high-quality information sharing has a direct impact on operational effectiveness. The study explains the substantial impact that customer relationships have on operational performance.

Ghatebi (2013) conducted a study examining how various supply chain management practices influence competitive advantage within manufacturing firms located in Khuzestan province, Iran. The research focused on several key practices as independent variables—namely, strategic partnerships with suppliers, customer relationship management, the quality of information sharing, and internal lean operations. The findings revealed a strong and statistically significant positive relationship between these supply chain practices and the operational performance of the companies, indicating their crucial role in enhancing competitiveness.

A research by Lenny et al. (2007) explored the impact of supply chain management practices on the performance of SMEs in Turkey. Using exploratory factor analysis (EFA), the study identified two key groups of practices: outsourcing and multi-supplier strategies (OMS), and strategic collaboration along with lean practices (SCLP). The results revealed that both SCLP and OMS positively and significantly influence operational performance. However, the study found that neither SCLP nor OMS had a direct and significant effect on supply chain management-related operational performance.

Another study on the subject of supply chain management measurement and its impact on operational performance were carried out by Priscila and Luiz (2011). They found that responsiveness, process integration, long-term relationships, and high-quality information sharing are all independent factors that affect organizational performance in the case of Brazilian businesses. The study's conclusions provided evidence that supply chain management indicators had a positive impact on operational performance.

Agus (2011) examined the dimensions of supply chain management in the context of Malaysian manufacturing companies. The study specifically looked into the relationships

between supply chain management and these associations. The analysis showed that the dimensions of supply chain management—namely, "lean production," "responsiveness," "strategic supplier partnership," and "quality of information"—seem to be of primary importance and have a significant impact on operational performance and product quality.

A study on supply chain management practices in Nigeria was carried out by Adebayo (2012). This report examined several supply chain management approaches, including internal lean practices, customer relations practices, strategic supplier partnerships, and information quality. The results describe the relationship between supply chain management practices and organizational performance and empirically support five important aspects of supply chain management practices. According to the report, the supply chain management practices mentioned have a significant and positive impact on organizational performance. Mahbubul (2013) did a research on implications of Supply Chain Management Practices on organizational performance in the pharmaceutical business of Bangladesh. The results of the study suggested that supply chain management methods as observed in the industry comprise three elements, namely, quality information exchange, Strategic supplier partnership, and Customer relationship. Nevertheless, operational performance is impacted by the first two, whereas customer relationships have no effect on it. Overall, it is clear from the literature studies above that research on supply chain management metrics and methods, as well as how they affect various organizational and supply chain partner viewpoints, is growing and producing solid bases.

Table 2: Summary of Empirical Effects by SCM Function on Operational Performance

SCM Function	Empirical Impact on Operational Performance (OP)
Strategic supplier partnership	Improves input quality, reduces lead times, and increases inventory and procurement efficiency (Ghatebi, Agus, Adebayo)
Logistic process responsiveness	Enhances delivery speed, customer satisfaction, and order accuracy (Priscila & Luiz, Agus)
Level of information sharing	Increases coordination, flexibility, production planning, and reduces operational errors (Chavosh, Adebayo, Mahbubul)
Customer relationship management	Improves delivery efficiency and customer satisfaction, but may have limited direct effect in some sectors (Chavosh, Ghatebi, Mahbubul)
Outsourcing of services	Supports cost reduction and resource focus; boosts general operational efficiency (Lenny et al.)

Source: Compiled from different literature

2.5. Conceptual Framework

A synthesis of the theoretical and empirical literature in the field of study served as the foundation for the development of the study's conceptual framework. The conceptual framework of this study is based on these literatures and is applied to the Gurage Zone flour factories. The dependent and independent variables are chosen using the BSC principles in accordance with Kaplan and Norton's work in order to assess the factory's operational performance (Kaplan and Norton, 2003).

The main components of supply chain management and the metrics used to measure them are chosen for this thesis because they are pertinent to the study's setting. As a result, supply chain management as a whole is divided into five main parts. Strategic supplier partnerships, responsive logistics processes, information sharing levels, customer relationship management, and service outsourcing are some of the elements that make up supply chain management.

Every element of supply chain management is thought to improve the factory's operational performance based on the results of a review of empirical studies (Power et al., 2001; Gunasekarana, et al., 2004; Koh, et al., 2007; Lazarevic & Sohal, 2007; Mollel A., 2015). As a result, the study's conceptual framework is developed as shown in the chart below.

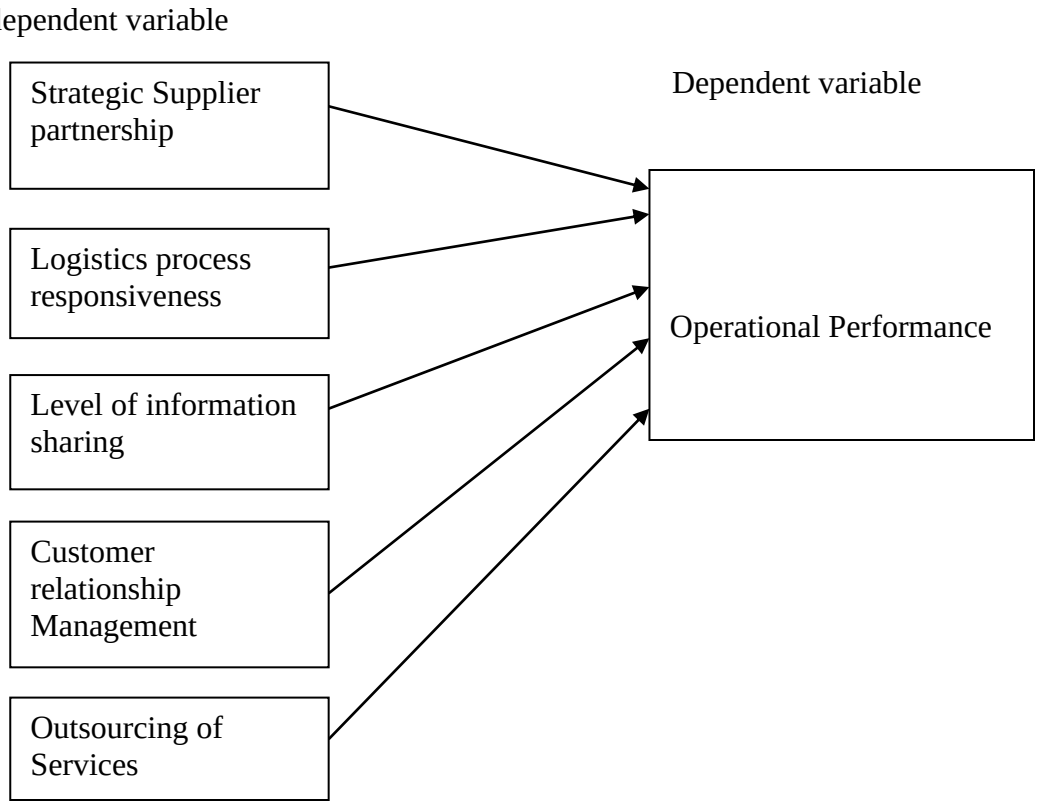

Figure 1: Conceptual Framework

Source: Own designed from different literature

2.6. Literature Gap of the Study

Most existing studies examining the impact of supply chain management (SCM) on operational performance tend to focus on a single dimension—such as customer satisfaction, employee satisfaction, technological development, or internal organizational structure.

The literature discussed in the preceding sections highlights a gap in research concerning the broader impact of SCM on operational performance. A summary of these research gaps can be found in the works of Lazarevic & Sohal (2007), Mollel (2015), Sohal & Power (2001), Gunasekaran et al. (2004), and Koh et al. (2007).

Several previous studies have considered only limited aspects of supply chain management as independent variables when assessing its effect on operational performance. To address this shortcoming, the current study aims to examine the influence of five key components of SCM on operational outcomes. These components include strategic supplier partnerships,

logistics process responsiveness, the extent of information sharing, customer relationship management, and the outsourcing of services.

Table 3: Summary of Literature Review and Research Gaps

Author(Year)	Focus of the study	Key Findings	Research Gaps	Focus of Current Study
Amanuel Belay(2018)	Supply chain management practices and organizational performance in east Africa bottling share company	Found supply chain management practices significantly affect organizational performance	The study was based on east African bottling share company and organizational performance	In addressing the contextual gaps, the current study was centered in Gurage zone flour factories and operational performance
Hana Feleke(2016)	Supply chain management practices and Customer satisfaction in Ethiopian sugar corporation	Found supply chain management practices affect customer satisfaction	Customer satisfaction was used to asses supply chain management practices	Addressed since operational performance used
AssefaBalda(2011)	Assessment of supply chain management practices	Found supply chain management practices poorly practiced	Descriptive study was used	Addressed regression, Correlation analysis used and validity, reliability of data kept
Ken Mutua (2017)	Supply chain management practices and operational performance in Nairobi	Found supply chain management practices affect operational Performance	The study was done in Nairobi, Kenya	Addressed in Gurage zone, Ethiopia context
Aboneh (2017)	Effects of supply chain management practices on organizational performance in pharmaceutical firms	Found supply chain management practices affects organizational performance	The study used descriptive and in pharmaceutical firms	The study addressed causal method and in flour factories

Source: (Researcher, 2025)

CHAPTER THREE

3. RESEARCH DESIGN AND METHODOLOGY

3.1. Description of the study area

Gurage Zone is located in the Central Ethiopia region of Ethiopia, positioned approximately 150 kilometers southwest of Addis Ababa, the capital city. It lies between latitude 7° 00' N to 8° 30'Nand longitude 37° 00' E to 38° 00' E. Gurage Zone, with its varied topography, climate, and rich cultural heritage, presents a unique context for research in the fields of agriculture, socio-economic development, and environmental sustainability. Its proximity to Addis Ababa offers both opportunities and challenges in terms of modernization and rural development. Research in the region provides valuable insights into balancing traditional livelihoods with contemporary development needs. The population of around 2 million people is predominantly Gurage, with Amharic as the common lingua franca, and a young, gender-diverse community. Agriculture is the economic backbone, with subsistence and commercial farming, livestock, and horticulture playing key roles.

Yadot food complex, Global food complex, Menber flour factory, Sheger food factory, Jafar flour factory, Sirbeza flour factory, Afamily flour factory are the major Factories located in Gurage Zone since 2012 E.C. In addition to grinding wheat and producing flour, the companies sell cattle fodder and chicken fodder. Most of companies get reward from their administration by participating in voluntary activity.

3.2. Research Design

Research design is a comprehensive plan for data collection in an empirical research project. It develops the framework for data collection, measurement, and analysis (Kothari, 2003). As a result, design lays out the goals the researcher hopes to accomplish by examining the hypothesis and conclusions drawn from the data analysis.

A descriptive survey is possible when the population is small and variable, allowing the researcher to cover every aspect of the population, claims Rajab (2018). Because of the nature of the study and the size of the population, a more explanatory research design was adopted.

The researcher employed the descriptive and explanatory research approach to investigate the effect of the independent variables on the dependent variable under investigation. Descriptive research helps to evaluate the existing state of affairs by defining or summarizing a population or event without elaborating on its causes. Its main objective is to gather and communicate facts. Conversely, explanatory research seeks to identify the reasons and relationships between variables in order to explain why a phenomenon occurs. In order to comprehend the effect of the relationships between the explanatory (outsourcing of services, strategic supplier partnerships, logistics process responsiveness, level of information sharing, and customer relationship management) and explained (operational performance) in Gurage Zone flour factories, the researcher also employed cross-sectional field survey research.

3.3. Research Approach

The phenomenon of collecting numerical data that can be analyzed mathematically is referred to as quantitative research. Since the developed propositions need to be examined in relation to a variety of variables, numerical techniques are appropriate for determining the strength of relationships (Creswell, 2003).

The qualitative research allows the subject being studied to give considerably deeper answers to questions posed to them by the researcher and it also gives vital insights that would have been missed by any other method (Sekaran, 2003). Compared to qualitative or quantitative research methods alone, the mixed research approach offers both subjective and numerical assessment to comprehend the study challenge (Creswell, 2003).

In order to collect numerical data, measure variables, make predictions, and use statistical processes to analyze and draw conclusions, the researcher used a quantitative research approach (Cooper and Schilder, 2003). In order to improve overall consideration of the recognized essential concerns that determine customer satisfaction under investigation, it is anticipated that it will help gather pertinent data and evaluate the theoretical frameworks.

3.4. Population, Sampling and Sample size

3.4.1. Population

According to Schutt (2011), a population refers to the complete group of individuals or entities to which the results of a study are intended to apply. In this research, the target

population comprised permanent employees and distributors of the factory, specifically those who hold at least a certificate and possess sufficient knowledge of the study variables. These individuals were selected because they are assumed to have a clear understanding of supply chain management practices and their role in enhancing customer satisfaction and organizational performance. Based on reports from the respective companies, the total number of employees and distributors are 200.

Table 4: Target population

No	Factory	Town	Employees	Distributors
1	Global	Wolkite	11	2
2	Yadot	Emdiber	40	6
3	Menbere	Butajera	59	8
4	Sheger	Butajera	16	2
5	Jafar	Butajera	12	3
6	Sirbeza	Butajera	24	4
7	Afamily	Butajera	11	2
Tot			173	27

Source: (Survey, 2025)

3.4.2. Sampling and Sample size

According to Schutt (2011), a population refers to the complete group of individuals or entities to which the results of a study are intended to apply. In this research, the target population comprised permanent employees and distributors of the factory, specifically those who hold at least a certificate and possess sufficient knowledge of the study variables. These individuals were selected because they are assumed to have a clear understanding of supply chain management practices and their role in enhancing customer satisfaction and organizational performance.

Based on company records, the total number of employees and distributors is 200. However, not all employees were included in the study. Only those who met specific inclusion criteria—namely holding at least a certificate and having relevant knowledge—were considered. Therefore, the study did not adopt a full census of all employees but instead used a purposive sampling approach within the defined population.

As Gupta (2007, p.101) notes, when the population is limited, a census may be appropriate. However, in this study, the decision to include only qualified and relevant participants was made to ensure the reliability and validity of the data, focusing on those most likely to provide informed responses related to the study's objectives.

3.5. Data sources

To achieve the study's goal, the researcher employed primary data, which offers an acceptable way to evaluate sample data and a suitable way to draw conclusions about extrapolating the results from a sample of replies to the full population (Creswell, 2003). Thus, self-administered, closed-ended, structured questionnaires were used to gather primary data, primarily from respondents who are actively employed by the factory and wholesalers.

3.6. Model Specification

This study seeks to examine the effect of five independent variables on the operational performance of flour factories. The regression model used is as follows:

OPPER = ß0 + ß1 (STSP) + ß2 (LOGPR) + ß3 (LEIS) + ß4 (CUSRM) + ß5 (OUTS) + e

Where:

Bo= constant term

B1, B2, B3, B4 and B5 = coefficients of the independent variables

OPPER = Operational performance

STSP = Strategic supplier partnership

LOPR= Logistics process responsiveness

LEIS= Level of information sharing,

CUSRM= Customer relationship Management

OUTS= Outsourcing of Services

e = error term

3.7. Measurement of variables

The study's independent variables are determinants that affect the Gurage Zone's flour factories' operational performance. These factors fall into five categories: customer relationship management, logistics process responsiveness, level of information sharing,

strategic supplier partnerships, and service outsourcing. Therefore, the researcher used several questionnaires from various authors using five-point Likert scales, with 5 denoting strongly agree, 4 agree, 3 neutral, 2 disagree, and 1 strongly disagree, to measure the full representation of independent variables and the dependent variable of operational performance.

3.7.1. Measurement of Independent Variables

In this study, the independent variables are key factors that affect the operational performance of flour factories in the Gurage Zone. These variables are composed of five components, each measured using a five-point Likert scale ranging from 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, and 1 = strongly disagree.

1. **Strategic Supplier Partnership** refers to a long-term collaboration between an organization and its suppliers, aimed at utilizing the strategic and operational strengths of each party to deliver long-term benefits (Stuart, 2007). To assess the level of strategic supplier partnership, five items were developed based on the work of Kushwaha (2012).
2. **Logistics Process Responsiveness** describes the ability of a system or department to efficiently complete assigned tasks within a specific time frame (Faisal, 2011). Five items were created to measure the level of logistics responsiveness, based on Adebayo's (2012) work.
3. **Level of Information Sharing** pertains to the accuracy, timeliness, sufficiency, and reliability of information exchanged between parties (Feldmann and Muller, 2003). To evaluate this aspect, six items were developed, drawing from Benito (2010).
4. **Customer Relationship Management (CRM)** involves a range of practices aimed at managing customer complaints, fostering long-term customer relationships, and enhancing customer satisfaction (Tan et al., 2008). To gauge the level of CRM, five items were adapted from Cousins (2006).
5. **Outsourcing of Services** refers to the process of contracting external entities to handle certain business functions. Five items were prepared to measure the extent of outsourcing within an organization, based on Ketchen et al. (2007).

3.7.2. Measurement of Dependent Variable

The dependent variable of the study is operational performance. It refers to how well an organization achieves its market-oriented goals as well as its financial goals (Yamin, 2009). To measure the dependent variable of this study, 5(five) items was prepared by adopting Li Suhong et al. (2006) using the five-point Likert scales rate ranging from 5= strongly agree,4=Agree, 3= Neutral, 2= Disagree, 1 = strongly disagree. Thus, the respondents were requested to select their own choice of the five-point Likert scale alternatives in order to specify their level of agreement or disagreement on each statement.

3.8. Validity and Reliability of instruments

3.8.1. Validity

Zikmund (2003) defines validity as a scale's ability to gauge how thoughtful and strong-minded a plan is. If the conceptual and operational definitions fit better, there may be a better way to test validity. It illustrates how the construct and its indicators are related.

In a similar vein, Karpf (2012) claimed that both internal and external validity demonstrate how accurately a measure or score captures a concept. While internal validity looks at whether a change in a dependent variable is actually brought about by a corresponding change in a hypothesized independent variable and not by factors unrelated to the research context, external validity of research findings refers to whether the observed associations can be generalized from the sample.

Items that can be given and are made by adopting from previous scholars in the area and data were acquired from the credible sources of respondents who are working of flour plants in Gurage Zone, and distributors. This illustrates the strengths and weaknesses of the questionnaires. To ensure the format, relevance, language, clarity, and arrangement of the questions, the researcher does a field pilot test for 18 employees. The researcher makes significant changes based on the pre-test comments, including improving sentence structure, sequence, and clarity; eliminating questions that are redundant; and avoiding questions that are pointless.

3.8.2. Reliability

According to Cronbach (1951), a common method for estimating the reliability of a scale is through the use of a split-half reliability coefficient, which reflects the standard of all

potential split-half reliabilities for a construct. This is quantified by the coefficient Alpha, also known as Cronbach's Alpha. A higher value of this coefficient indicates a more reliable measuring instrument, with values ranging from 0 to 1. For a scale to be considered reliable or acceptable, its value should typically exceed 0.6.

In addition, Saunders et al. (2003) define reliability as the extent to which a data collection method consistently produces similar findings. This consistency can be seen in repeated observations or conclusions drawn by other researchers. It also emphasizes the importance of transparency in how raw data is interpreted. Chronbach's Alpha should be more than 0.70 in order to create a trustworthy scale, and any scale that has Chronbach's Alpha below this threshold should be removed. Sekaran (2005).

Table 5: Reliability test

No	Variable	Description	Cronbach Alpha	Number of items
1	Independent	Strategic supplier partnership	0.749	5
		Logistics process responsiveness	0.747	5
		Level of information sharing	0.750	6
		Customer relationship management	0.757	5
		Outsourcing of services	0.781	5
2	Dependent	Operational performance	0.763	6
		Overall Reliability	0.791	32

Source: (Survey, 2025)

3.9. Data Analysis Techniques

The data collected from respondents were analyzed and presented using the Statistical Package for Social Sciences (SPSS), with related tables and graphs. The data were stored, edited, coded, and entered into the computer for analysis.

Descriptive statistics were employed to summarize the results through tables, frequency distributions, and percentages to analyze the demographic characteristics of the respondents. Mean scores and standard deviations were used to examine the distribution of observations, as well as the consistency and similarity of responses between the independent and dependent variables under study (Saunders et al., 2009).

To analyze the relationship between the independent variables (Strategic supplier partnership, Logistics process responsiveness, Level of information sharing, Customer

relationship management, and Outsourcing of Services) and the dependent variable (operational performance), the Pearson correlation coefficient was applied (Field, 2009, pp. 179–182).

Regression analysis was utilized to verify if the findings met the basic assumptions, and multiple regression analysis was used to assess the impact of determinant factors on operational performance.

The multiple regression equation was constructed using the following variables: (Strategic supplier partnership, Logistics process responsiveness, Level of information sharing, Customer relationship management, and Outsourcing of Services) with operational performance. The regression model is presented as follows:

3.10. Ethical Consideration

Every participant in the study was assured the right to privacy and respectful treatment throughout the research process. The study was conducted in a manner that ensured no physical or psychological harm to any individual. All data collected was treated with strict confidentiality and used solely for academic purposes. Furthermore, all forms of assistance, collaboration, and sources of information were properly credited and acknowledged.

CHAPTER FOUR

4. DATA PRESENTATION, ANALYSIS AND INTERPRETATION

The purpose of this chapter was to explain multiple regression analysis, correlation, and descriptive statistics in order to provide empirical findings. The demographic details of the participants, data analysis of descriptive results, correlation results; regression results, hypothesis testing, and discussion are all covered.

4.1. Response Rate

In order to gather pertinent data for the study, survey questionnaires with 40 items were typically given to respondents who work in flour plants in the Gurage zone. 99.5% of the surveys that were issued were correctly completed, returned, and used for analysis; the remaining 1 questionnaire was not returned, accounting for under 0.5% of the total. Communicating professionally and politely, both in initial invitations and follow-up reminders, helps create a positive impression which can result in more responses.

4.2. Demographic Characteristics of Respondents

The survey's demographic variables include years of experience, factory name, gender, and qualifications. Understanding the demographic profile of respondents is essential as it provides context to the findings and allows for the identification of patterns or trends across different segments of the population.

Table 6: Demographic Characteristics of Respondents

Characteristics	Items	Frequency	Percent
Gender	Male	110	55.3
	Female	89	44.7
	Total	199	100
Factory name	Global	13	6.53
	Yadot	46	23.12
	Afamily	12	6.03
	Jafar	15	7.5
	Sheger	18	9.05
	Sirbeza	28	14.1
	Menbere	67	33.66
	Total	199	100
	Less than 30 year	40	20.1

Age	31-40 year	28	14.1
	41-50 year	84	42.2
	Greater than 50	47	23.6
	Total	199	100
Work Experience	1-4 years	29	14.6
	5-8 years	61	30.7
	9-10 years	52	26.1
	Greater than 10	57	28.6
	Total	199	100
Educational level	Diploma	57	28.6
	Degree	100	50.2
	Masters	20	10.1
	TVET	22	11.1
	Total	199	100

Source: (Survey, 2025)

Out of the 199 total respondents, 110 (55.3%) are male, while 89 (44.7%) are female. As shown in Table 6 above, the distribution of respondents by gender is unequal.

As shown in table 6 among the total respondents Menbere Flour factory were the largest one covers 67 (33.66%) whereas, Afamily contains the smallest respondents of 12(6.05%),Others include Yadot contains 46 (23.12%), Global 13(6.53%), Jafar 15(7.5%), Sirbeza 28(14.1%), Sheger 18(9.1%).

The age group with the highest valid percentage, 20.1%, consists of respondents under 30 years old. In contrast, the age groups of 31-40 and 41-50 account for 14.1% and 42.2%, respectively. Additionally, respondents over 50 years old make up 23.6% of the valid responses.

Table 6 shows that among the 199 respondents, 57 (28.6%) hold a diploma, 100 (50.2%) have a bachelor's degree, 20 (10.1%) possess a master's degree, and the remaining 22 (11.1%) are TVET certified. This indicates that the majority of the respondents hold a bachelor's degree.

Furthermore, Table 6 reveals that 29 (14.6%) of the respondents have 1-4 years of work experience, while the largest group, 61 (30.7%), have 5-8 years of experience. Additionally, 52 (26.1%) respondents have 9-10 years of experience, and the remaining 57 (28.6%) have more than 11 years of experience. This means that over 85% of the respondents have more than five years of experience, suggesting that the respondents is composed largely of

individuals with substantial industry knowledge, operational insight, and familiarity with supply chain practices. Their extensive experience enhances the reliability and relevance of the data collected, particularly in evaluating organizational and operational performance from a well-informed perspective.

4.3. Results of Descriptive Statistics

Descriptive statistics were used to analyze the valid (N) number of observations, as well as the mean and standard deviation of the respondents in this study. This analysis helps to understand the respondents' perceptions of supply chain management practices and their impact on the operational performance of flour factories in the Gurage Zone.

According to Zaidaton & Bagheri (2009), a mean score below 3.39 is considered low, a score between 3.40 and 3.79 is considered moderate, and a score above 3.8 is considered high. Based on this framework, the research presents the results of the mean scores in the following sections.

Since all data were converted into continuous variables by computing each item within the variables, it is ideal to use mean and standard deviation to assess the respondents' agreement with their responses and the variability of these responses from the five-point Likert scale.

4.3.1. Descriptive Statistics of Assessing Current supply chain management practices

Descriptive statistics were employed to outline the fundamental characteristics of the data gathered from respondents. Frequency distributions were presented for both the respondent characteristics and business attributes, using frequency counts along with the mean and standard deviation.

The study focused on interpreting the mean and standard deviation values according to general concepts. The mean score represents the average of all values within a given distribution. A low mean score suggests disagreement among responses, whereas a high mean score indicates agreement with the responses.

Table 7: Descriptive statistics of current supply chain management practices

Questions	N	Mean	Std. Deviation
The current SCM practices effectively support the organization's strategic goals.	199	2.91	1.36
The supply chain is agile and can adapt to changes in the market environment.	199	3.18	1.39
Overall, our SCM practices are aligned with industry best practices and standards.	199	2.95	1.38
Grand mean and Standard deviation	**199**	**3.01**	**1.18**

Source: (Survey, 2025)

As shown in the above table, the mean score and standard deviation of current supply chain management ranges from 2.91 to 3.18 and 1.36 to 1.39 respectively. The supply chain is agile and can adapt to changes in the market environment (M=3.18, SD= 1.39) while the lowest mean score is that the current SCM practices effectively support the organization's strategic goals. (M=3.91, SD=1.36). The grand mean and Standard deviation are 3.01 and 1.18 which is similar to individual items. As indicated above, the mean result is low which is below the average.

4.3.2. Descriptive Statistics of Determinant Factors

Strategic supplier partnership

Research data collected on strategic supplier partnership was analyzed and the results are presented as follows

Table 8: Descriptive Statistics of Strategic supplier partnership

Questions	N	Mean	Std. Deviation
The Factory considers quality as its number one criterion in selecting suppliers	199	2.85	1.24
The Factory regularly solves problems jointly with its suppliers	199	2.96	1.29
The Factory has continuous improvement programs that including key suppliers	199	2.94	1.24
The Factory actively involves its key suppliers in new product development processes	199	2.87	1.31
The Factory facilitates customers 'ability to seek assistance	199	2.89	1.35
Grand mean and Standard deviation	**199**	**2.88**	**.848**

Source: (Survey, 2025)

According to this study, the above table shows that the items are evaluated based on 5-point Likert scales (5 being strongly agreed to 1 being strongly disagreed). The mean score and standard deviation of Strategic supplier partnership from 2.85 to 2.96 and 1.24 to 1.35 respectively. From this predicting variable, the highest mean score is that The Factory regularly solves problems jointly with its suppliers (M=2.96, SD= 1.29) while the lowest mean score is that the factory considers quality as its number one criterion in selecting suppliers (M=2.85, SD=1.24). The grand mean and Standard deviation is 2.88 and 0.848 which is similar to each items. The mean result is low which is below 3.39 and there is low variation in standard deviation result.

Logistics process responsiveness

Research data collected on logistics process responsiveness was analyzed and the results are presented as follows

Table 9: Descriptive Statistics of Logistics process responsiveness

Questions	N	Mean	Std. Deviation
The Factory logistics system responds rapidly to unexpected demand change	199	3.33	1.32
The Factory logistics system rapidly adjusts warehouse capacity to address demand changes	199	3.34	1.33
The Factory logistics system rapidly varies transportation carriers to address demand changes	199	3.21	1.45
The Factory logistics system effectively delivers expedited shipments	199	3.14	1.35
There is increased capacity to offer services to customers	199	3.35	1.32
Grand mean and Standard deviation	**199**	**3.27**	**.734**

Source: (Survey, 2025)

As shown in the above table, the mean score and standard deviation of Logistics process responsiveness ranges from 3.14 to 3.35 and 1.32 to 1.45 respectively. The highest mean score is that the there is Increased capacity to offer services to customers with (M=3.35, SD= 1.32) while the lowest mean score is that the Factory logistics system effectively delivers expedited shipments (M=3.19, SD=.917). The grand mean and Standard deviation are 3.27 and .734 which is similar to individual items. The mean result is low which is below the average.

Level of information sharing

Research data collected on level of information sharing was analyzed and the results are presented as follows

Table 10: Descriptive Statistics of Level of information sharing

Questions	N	Mean	Std. Deviation
There is efficient internal communication	199	3.72	1.25
There is adequacy of IT systems throughout the supply chain	199	3.54	1.29
Exchange of information between suppliers and the Factory is reliable	199	3.65	0.96
There is an automated ordering system to major suppliers	199	3.38	1.42
The Factory partners share business knowledge of core business processes with us.	199	3.67	1.24
The Factory trading partners keep us fully informed about issues that affect our business.	199	3.64	1.23
Grand mean and Standard deviation	**199**	**3.60**	**.684**

Source: (Survey, 2025)

The mean score and standard deviation of Level of information sharing as shown in table above ranges from 3.38 to 3.72 and 0.96 to 1.42 respectively. The highest mean score is that There is efficient internal communication with (M=3.72, SD= 1.25) while the lowest mean score is that there is an automated ordering system to major suppliers (M=3.38, SD=1.42). The grand mean and Standard deviation is 3.60 and .684.The mean result is moderate and the standard deviation indicates the variation of respondents' response Level of information sharing is low.

Customer relationship Management

The data gathered on customer relationship management was analyzed, and the findings are summarized below

Table 11: Descriptive Statistics of Customer relationship management

Questions	N	Mean	Std. Deviation
There is effective management of customer complaints	199	3.30	1.36
There is long term relationship with customers to improve customer satisfaction	199	3.58	1.23
The Factory frequently interacts with customers to set reliability, responsiveness, and other standards	199	3.60	1.28
The Factory frequently measure and evaluate customer satisfaction	199	3.55	1.22
The Factory frequently determines future customer expectations	199	3.46	1.29
Grand mean and Standard deviation	**199**	**3.50**	**.8162**

Source: (Survey, 2025)

According to Table 11 above, the highest score is for the factory's frequent interaction with customers to establish reliability, responsiveness, and other standards, with a mean of 3.60 and a standard deviation of 1.28. This is followed by the establishment of long-term relationships with customers to enhance customer satisfaction, which has a mean of 3.58 and a standard deviation of 1.23. The lowest mean score is for the effective management of customer complaints, with a mean of 3.30 and a standard deviation of 1.36. The overall mean and standard deviation are (M = 3.50, SD = 0.8162), indicating a relatively moderate.

Outsourcing of Services

The data gathered for the study on outsourcing services was analyzed, and the findings are outlined below.

Table 12: Descriptive Statistics of Outsourcing of Services

Questions	N	Mean	Std. Deviation
The process of managing business with the outsource vendor met expectations	199	3.61	1.29
The quality of the service is up to contracted levels	199	3.15	1.38
The service is contracted for the minimum quantity level is required	199	3.20	1.38
The total amount of HR expenditures actually decreased as a result of outsourcing	199	3.10	1.34
The outsourcing increased the Factory profits	199	3.23	1.37
Grand mean and Standard deviation	199	**3.26**	**.738**

Source: (Survey, 2025)

As presented in the table, the mean scores for outsourcing services range from 3.10 to 3.61, with standard deviations between 1.29 and 1.38. The highest mean score is for the process of managing business with the outsourced vendor meeting expectations, which has a mean of 3.61 and a standard deviation of 1.29. On the other hand, the lowest mean score relates to the total reduction in HR expenditures due to outsourcing, with a mean of 3.10 and a standard deviation of 1.34. The overall mean score is 3.26, with a standard deviation of 0.738. This mean result is considered low, as it falls below 3.39.

4.3.3. Descriptive Analysis of the Dependent Variable

The respondents' answers to each individual statement were evaluated using the mean score and standard deviation. The level of agreement or disagreement with the provided statements was assessed by summarizing their responses on a five-point Likert scale.

Table 13: Descriptive Statistics of Dependant variable

Question	N	Mean	Std. Deviation
The Factory production cost is decreasing over time	199	3.59	1.33
The Factory productivity rapidly increasing over time	199	3.35	1.40
The Factory have lower number of defects per unit of products	199	3.42	1.39
The Factory operation's has higher customization flexibility	199	3.39	1.43
The Factory deliver customer order on time	199	3.60	1.31
The Factory has improved decision making process	199	3.65	1.20
Grand mean and Standard deviation	**199**	**3.50**	**.635**

Source: (Survey, 2025)

The table above presents the overall mean and standard deviation values, which are (M = 3.50, SD = 0.635). The mean scores for the six individual items range from 3.35 to 3.65, and the standard deviation values vary from 1.20 to 1.43. These results suggest that, on average, respondents tend to agree with their perceptions of the employees and distributors in relation to operational performance. According to Zaidaton & Bagheri (2009), the mean scores for operational performance are considered moderate, while the relatively low standard deviation indicates that the responses are not highly varied.

The descriptive statistics results show that the mean score represents the simple average of all values in a given distribution. A low mean score suggests disagreement among responses, while a high mean score reflects agreement.

4.4. One sample T test result

To determine whether respondents' perceptions of supply chain management practices significantly differ from a neutral midpoint value, a one-sample t-test was conducted. The results are summarized in Table 14.

Table 14: One sample t-test

One-Sample Test

	Test Value = 3					
	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
STSPAV1	-2.081	198	.039	-.1251	-.244	-.007
LGPRAV1	5.204	198	.000	.2704	.168	.373
LE AV1	12.458	198	.000	.6040	.508	.700
CRM AV1	8.624	198	.000	.4990	.385	.613
OUTSAV1	4.935	198	.000	.2583	.155	.362

Table 14 presents the results of a one-sample t-test conducted to determine whether the mean scores of key supply chain management practices significantly differ from the neutral test value of 3. The variables assessed include Strategic Supplier Partnership (STSPAV1), Logistics Practices (LGPRAV1), Lean Practices (LEAV1), Customer Relationship Management (CRMAV1), and Outsourcing Practices (OUTSAV1).

The results show that all variables except Strategic Supplier Partnership had mean scores significantly greater than 3 ($p < 0.05$), indicating positive perceptions among respondents. Strategic Supplier Partnership (STSPAV1), however, had a mean significantly lower than 3 ($t(198) = -2.081$, $p = 0.039$), suggesting a slightly less favorable perception. These findings imply that while most supply chain practices are perceived positively, there may be room for improvement in the area of supplier partnerships

4.5. Results of Correlation Analysis

According to Field (2009), correlation measures the relationship between two variables, specifying the extent to which they are related. In this study, the researcher employed the Pearson product-moment correlation, a commonly used bivariate statistical method, as the categorical data was transformed into continuous data.

The researcher applied Pearson correlation analysis to examine the relationships between various pairs of variables, including tangibility, reliability, responsiveness, empathy, assurance, and perceived customer satisfaction. Correlation (r) is a parametric method that

quantifies the strength of association between two variables. Cohen (1992) proposed the following interpretation: an r value between 0.10 and 0.29 indicates a weak relationship, between 0.30 and 0.49 suggests a medium correlation, and between 0.50 and 1.0 signifies a strong relationship between variables.

Table 15: Results of Correlation Analysis

Correlations

		STSPAV1	LGPRAV1	LE AV1	CRM AV1	OUTSAV1	OP AV1
STSPAV1	Pearson Correlation	1					
	Sig. (2-tailed)						
LGPRAV1	Pearson Correlation	.207**	1				
	Sig. (2-tailed)	.003					
LE AV1	Pearson Correlation	.293**	.299**	1			
	Sig. (2-tailed)	.000	.000				
CRM AV1	Pearson Correlation	.334**	.445**	.408**	1		
	Sig. (2-tailed)	.000	.000	.000			
OUTSAV1	Pearson Correlation	.278**	.280**	.415**	.344**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
OP AV1	Pearson Correlation	.580**	.383**	.617**	.575**	.537**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	

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

Source: (Survey, 2025)

Relationship between Strategic Supplier Partnership and Operational Performance

As shown in Table 15, the study reveals a strong and positive correlation ($r = .580$, $p < .01$) between Strategic Supplier Partnership and Operational Performance at a 99% confidence level. This indicates that as the level of Strategic Supplier Partnership increases, Operational Performance improves accordingly. Conversely, if Strategic Supplier Partnership decreases, Operational Performance also declines in a similar direction.

Relationship between Logistics Process Responsiveness and Operational Performance

The data presented in the table 15 shows a moderate, positive relationship ($r = .383$, $p < .01$) between Logistics Process Responsiveness and Operational Performance at a 99% confidence level. This implies that as Logistics Process Responsiveness increases, Operational Performance also improves. Similarly, when Logistics Process Responsiveness decreases, Operational Performance moves in the opposite direction.

Relationship between Level of Information Sharing and Operational Performance

The table 15 illustrates a strong, positive correlation ($r = .617$ $p < .01$) between Level of Information Sharing and Operational Performance at a 99% confidence level. This indicates that as Level of Information Sharing increases, Operational Performance also increases. In contrast, a decrease in the Level of Information Sharing corresponds with a decline in Operational Performance.

Relationship between Customer Relationship Management and Operational Performance

According to the data, there is a strong, positive relationship ($r = .575$, $p < .01$) between Customer Relationship Management and Operational Performance at a 99% confidence level. This suggests that as Customer Relationship Management improves so does Operational Performance. Conversely, if Customer Relationship Management decreases, Operational Performance is expected to decrease as well.

Relationship between Outsourcing of Services and Operational Performance

The study indicates a strong, positive relationship ($r = .537$, $p < .01$) between Outsourcing of Services and Operational Performance at a 99% confidence level. This means that as the extent of Outsourcing of Services increases, Operational Performance is likely to improve. On the other hand, a reduction in Outsourcing of Services leads to a decrease in Operational Performance.

4.6. Testing assumptions of multiple linear regression

The most prevalent assumptions, including the linearity, normality, and multicollinearity problems should be taken into account and met in order to accept the regression results. In order to determine whether or not the assumptions of multiple linear regressions were broken, the following tests were carried out.

Multicollinearity Test

Table 16: Multicollinearity Test

Independent variables	Collinearity statistics	
	Tolerance	VIF
Strategic supplier partnership	.843	1.187
Logistics process responsiveness	.775	1.290
Level of information sharing	.728	1.374
Customer relationship management	.675	1.481
Outsourcing of services	.768	1.303

Source: (Survey, 2025)

One of the assumptions of multiple linear regressions is that the independent variables should not be highly correlated with each other. When such a high correlation exists, it leads to a problem known as multicollinearity. According to Gujarati and Porter (2010), multicollinearity can be identified by examining the tolerance values and Variance Inflation Factors (VIF). Specifically, a tolerance value below 0.10 or a VIF greater than 10 indicates the presence of multicollinearity.

As shown in the results of this study, the VIF values range from 1.187 to 1.481, and the tolerance values range from 0.675 to 0.843. These values fall within the acceptable range (VIF between 1 and 10, and tolerance between 0.1 and 1.0), indicating that there is no multicollinearity issue in the regression model used in this study.

Autocorrelation

One of the most commonly used tests for autocorrelation is the Durbin-Watson (DW) test. The DW statistic is typically available in most statistical software packages. The value of the DW statistic falls within the range of 0 to 4, meaning that $0 \leq DW \leq 4$. According to the findings of this study, as shown in Table 17 below, the Durbin-Watson result is 1.675.

Therefore, it can be concluded that the model does not exhibit autocorrelation.

Test of Normality

As noted by Field (2013), multiple regression analysis assumes that the variables follow a normal distribution. Keith (2006) further explains that this implies the errors are normally distributed, and a plot of the residual values should resemble a normal curve. To verify this assumption, the model's P-P plot can be used, where the residuals are considered more normally distributed the closer the dots are to the diagonal line.

This refers to a symmetrical distribution of data, which forms a bell-shaped curve with the highest frequency of scores around the center and smaller frequencies at the extremes, as described by Brooks (2008). If the dependent variable is not normally distributed, it may pose issues during regression analysis, as the model's primary assumption would be violated.

As shown in Figure 2 below, the histogram in this study closely resembles a bell curve, suggesting that the data is normally distributed.

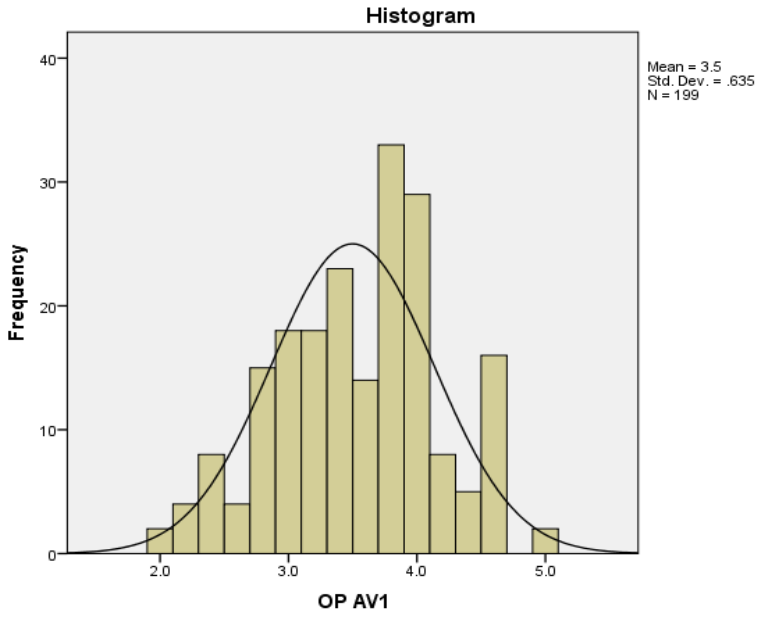

Figure 2: Normality Test

Source: (Survey, 2025)

Assumption of Homoscedasticity Test

The assumption of homoscedasticity suggests that the variance of errors remains consistent across all observations, meaning the variances along the line of best fit stay similar as you move along it. According to Field (2009), linearity implies that the mean values of the outcome variable for each increase in the predictor(s) lie along a straight line.

To assess whether the assumptions of homoscedasticity and linearity are satisfied, one can generate a scatter plot using SPSS. If the plot displays a funnel shape, it may indicate the presence of heteroscedasticity. If the plot funnels out and forms a curvilinear shape, it suggests violations of both linearity and homoscedasticity assumptions. On the other hand, if the plot shows a random scatter of dots that are evenly distributed, it indicates that both assumptions of homoscedasticity and linearity are likely met.

As observed in Figure 3 below, the scatter plot forms a roughly straight line with an even distribution, which suggests that the assumptions of linearity and homoscedasticity are reasonably satisfied.

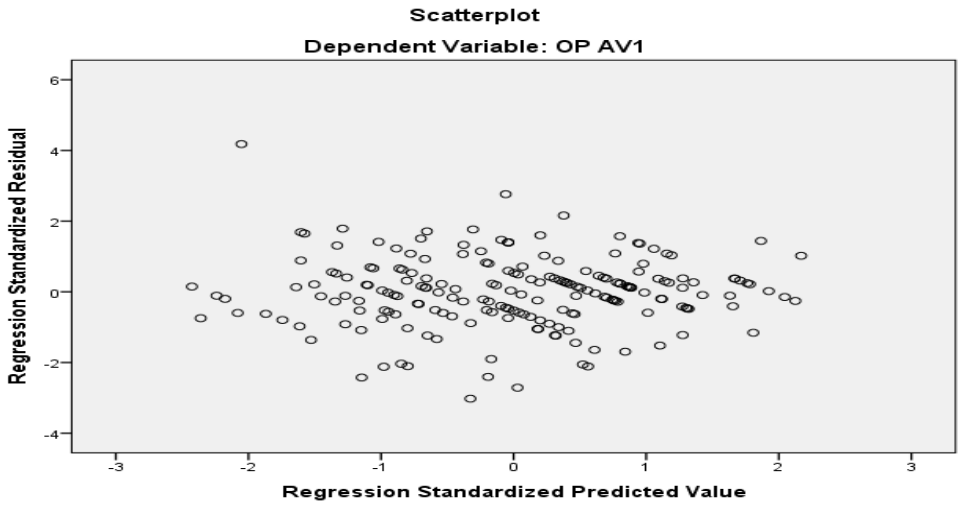

Figure 3: Autocorrelation Test

Source: (Survey, 2025)

4.7. Analysis of Multiple Regression

The researchers aimed to develop a predictive model for the data and use it to estimate the dependent variable's values based on one or more independent variables (Brooks, 2008). In this study, multiple regression analysis was used to examine the combined impact of the independent variables—Strategic Supplier Partnership, Logistics Process Responsiveness, Level of Information Sharing, Customer Relationship Management, and Outsourcing of Services—on the dependent variable, operational performance.

Table 17: Regression Model Summary

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.814[a]	.662	.654	.3737	.662	75.718	5	193	.000	1.675

a. Predictors: (Constant), OUTSAV1, STSPAV1, LGPRAV1, LE AV1, CRM AV1

b. Dependent Variable: OP AV1

Source: (Survey, 2025)

Table 17 above illustrates the overall impact of the independent variables on the dependent variable. The adjusted R-squared value was calculated at .654, indicating that 65.4% of the variation in operational performance, the dependent variable, can be explained by the five independent variables: Strategic Supplier Partnership, Logistics Process Responsiveness, Level of Information Sharing, Customer Relationship Management, and Outsourcing of Services. This suggests that 65.4% of the key factors influencing the dependent variable are accounted for by these five variables, while the remaining 34.6% of the factors are not addressed in this study.

Table 18: ANOVA Output

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	52.862	5	10.572	75.718	.000[b]
	Residual	26.948	193	.140		
	Total	79.810	198			

a. Dependent Variable: OP AV1

b. Predictors: (Constant), OUTSAV1, STSPAV1, LGPRAV1, LE AV1, CRM AV1

Source: (Survey, 2025)

This model evaluates the suitability of the overall multiple regression model for the data (Field, 2009). The ANOVA results, presented in the table, show the general significance of the model. The model's outcome, $F(5, 193) = 75.718$, $p < .01$, suggests that the independent variables in the study have a significant impact on the dependent variable, operational performance. Thus, the collective influence of the independent variables—Strategic Supplier Partnership, Logistics Process Responsiveness, Level of Information Sharing, Customer Relationship Management, and Outsourcing of Services—strongly predict the dependent variable (operational performance) in this study.

Table 19: Coefficients Output

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.318	.176		1.806	.072
	STSPAV1	.252	.034	.337	7.398	.000
	LGPRAV1	.046	.041	.053	1.113	.267
	LE AV1	.294	.046	.317	6.459	.000
	CRM AV1	.183	.040	.235	4.623	.000
	OUTSAV1	.186	.041	.216	4.529	.000

a. Dependent Variable: OP AV1

Source: (Survey, 2025)

If the Beta value for the predictor variables is positive, it suggests a positive relationship with the dependent variable, whereas a negative Beta value indicates a negative relationship (Field, 2009). Based on this analysis, four predictors—Strategic Supplier Partnership, Level of Information Sharing, Customer Relationship Management, and Outsourcing of Services—show significant positive Beta values, signifying their positive impact on operational performance in the study. On the other hand, the predictor "Logistics Process Responsiveness" has an insignificant p-value, indicating its minimal effect on operational performance within the study.

The 'B' coefficient for Strategic Supplier Partnership reveals that an increase of one unit in this variable results in a .252 increase in operational performance, assuming other variables remain constant. Similarly, the 'B' coefficient for Level of Information Sharing indicates that a one-unit increase in this variable leads to a .294 increase in operational performance, with all other factors held constant. The 'B' coefficient for Customer Relationship Management shows that a one-unit increase in this variable results in a .183 increase in operational performance, assuming other variables stay constant. Finally, the 'B' coefficient for Outsourcing of Services indicates that a one-unit increase in this variable leads to a .186 increase in operational performance, with all other variables held constant.

The regression model is expressed as follows:

$$\mathbf{OPPER = \beta_0 + \beta_1(STSP) + \beta_2(LOGPR) + \beta_3(LEIS) + \beta_4(CUSRM) + \beta_5(OUTS) + e}$$

Where:

- ✓ β_0 = constant term
- ✓ β_1, β_2, β_3, β_4, and β_5 = coefficients (slopes) for the independent variables
- ✓ OPPER = Operational performance
- ✓ STSP = Strategic supplier partnership
- ✓ LOGPR = Logistics process responsiveness
- ✓ LEIS = Level of information sharing
- ✓ CUSRM = Customer relationship management
- ✓ OUTS = Outsourcing of services
- ✓ e = error term

The specific equation for operational performance is:

$$\mathbf{OPPER = 0.318 + 0.252(STSP) + 0.294(LEIS) + 0.183(CUSRM) + 0.186(OUTS)}$$

4.8. Hypothesis Testing and Discussions

Five hypotheses have been put forth by the researcher to be investigated. The following hypotheses have been confirmed based on the results of multiple regression analysis using standardized coefficients:

Table 20: Hypothesis Testing

Description	**Standardized Beta value**	**P-Value**	**Decision**
Strategic supplier partnership has no significant positive effect for operational performance of Flour factories in	**0.337**	**.000**	**Rejected**

Gurage zone			
Logistics process responsiveness has no significant positive effect for operational performance of Flour factories in Gurage zone	**0.053**	**.267**	**Accepted**
Level of information sharing has no significant positive effect for operational performance of Flour factories in Gurage zone	**0.317**	**.000**	**Rejected**
Customer relationship Management has no significant positive effect for operational performance of Flour factories in Gurage zone	**0.235**	**.000**	**Rejected**
Outsourcing of Services has no significant positive effect for operational performance of Flour factories in Gurage zone	**0.216**	**.000**	**Rejected**

Source: (Survey, 2025)

Customer Relationship Management:

The results from the multiple regression analysis (with a standardized coefficient of $\beta = 0.235$, at $P < 0.05$) indicate that customer relationship management (CRM) has a significant positive effect on operational performance in the study. This means that for each unit increase in CRM, operational performance improves by 0.235 units, assuming all other factors remain constant. This demonstrates the strong influence of CRM on operational performance in the study area. The findings align with previous studies by Alireza et al. (2011) and Lazarevic & Sohal (2007). Based on these results, the null hypothesis is rejected in favor of the alternative hypothesis.

Level of Information Sharing:

The analysis shows that the level of information sharing significantly influences operational performance, with a standardized coefficient of $\beta = 0.317$ ($P < 0.05$). This implies that a one-unit increase in the level of information sharing leads to a 0.317 increase in operational performance. These findings are consistent with previous research by Shinn (2013) and Priscila & Luiz (2011).

Strategic Supplier Partnership:

The multiple regression analysis reveals a significant positive effect of strategic supplier partnerships on operational performance, with a standardized coefficient of $\beta = 0.337$ ($P < 0.05$). This suggests that for every unit improvement in supplier partnership management, operational performance increases by 0.337 units, assuming other variables are unchanged. The result supports the conclusion that strategic supplier partnerships positively impact operational performance in the Gurage zone flour factories. The null hypothesis is rejected,

and the alternative hypothesis is accepted. This outcome is consistent with findings by Gunasekaran et al. (2004) and Lambert (2008), although it contradicts Adebayo's (2012) findings.

Outsourcing of Services:

The multiple regression analysis shows that outsourcing services positively impacts operational performance, with a standardized coefficient of $\beta = 0.216$ ($P < 0.05$). This indicates that for every unit increase in outsourcing services, operational performance improves by 0.216 units, assuming other factors remain constant. The results support the previous research by Supalak (2010) and Batt (2004), leading to the rejection of the null hypothesis in favor of the alternative hypothesis.

Logistics Process Responsiveness:

The regression analysis reveals that logistics process responsiveness does not significantly affect operational performance, as the significance value is greater than 0.05 ($0.267 > 0.05$). Consequently, the alternative hypothesis is rejected. This finding indicates that logistics process responsiveness does not have a meaningful relationship with operational performance in the Gurage zone flour factories. This result contradicts the findings of Cheng (2011) but is in line with Lummus et al. (2003).

CHAPTER FIVE

5. CONCLUSIONS AND RECOMMENDATIONS

5.1. Introduction

Based on the analysis found through the distributed questionnaires to 199 employees and distributors of Flour factories in Gurage zone, the following major findings and conclusions, recommendations were discussed so far.

5.2. Summary of Major Findings

The primary aim of this study was to examine the impact of supply chain management practices on the operational performance of flour factories in the Gurage Zone. The key findings are summarized as follows:

- **Information Sharing**: This practice has a significant and positive influence on operational performance. It is identified as the strong factor driving the operational performance of flour factories in the Gurage Zone
- **Customer Relationship Management**: This practice also has a significant and positive effect on operational performance and is considered a critical determinant in influencing the operational performance of these factories in the Gurage Zone.
- **Strategic Supplier Partnerships**: The study found that this practice has a significant and positive effect on operational performance, making it one of the key factors that influence the performance of the Gurage Zone flour factories.
- **Outsourcing Services**: Outsourcing has a significant and positive impact on operational performance and is recognized as a major determinant influencing the operational performance of flour factories in the Gurage Zone.
- **Logistics Process Responsiveness**: This variable was found to have an insignificant effect on operational performance. The regression results showed that it had an inconsequential alpha value, indicating that it does not have a meaningful impact on the operational performance of the Gurage Zone flour factories.

5.3. Conclusions

The researcher came to the following conclusions based on the study's findings. A Factory's success is favorably and dramatically impacted by supply chain management. A

Factory can improve its operational performance by using more effective supply chain management practices. Individually, strategic supplier partnership helps factory in increasing their performance by focusing on only few and very important supplier. Building strong relationships with customers leads to increased loyalty, more purchases, and the acceptance of premium rates, and improve a factory's operational performance. Level of information sharing positively and significantly affect operational performance of the factory by lowering cost of doing business and increases responsiveness of dynamisms in the market and the general environment. In addition, outsourcing non-core functions allows companies to focus more on their core competencies such as product development, marketing, or sale), which can lead to enhanced operational performance

However, because the factory has predictable demand, logistics process responsiveness has little to no effect on the factory's operational performance. This means that logistics process responsiveness may not have a significant impact on production, efficiency, and outputs for factories that have predictable demand.

5.4. Recommendations and Suggestions

The study highlights four key factors that significantly influence operational performance in Flour Factories within the Gurage Zone. These factors include Strategic Supplier Partnership, Level of Information Sharing, Customer Relationship Management (CRM), and Outsourcing of Services. The study found these factors to have a positive relationship with operational performance, while Logistics Process Responsiveness was deemed insignificant and did not affect operational performance in the studied factories.

Based on these findings, several recommendations were made. First, the level of information sharing was identified as a crucial driver. It is suggested that practitioners of Gurage Zone Flour factories focus on improving the timely and accurate exchange of information with suppliers. Clearly defining the timing and methods for transmitting information to suppliers will enhance operational efficiency.

Additionally, Customer relationship management was found to be a critical determinant of operational performance. The study recommends that the procurement departments of these

factories implement consistent and effective supply chain relationship management practices. These practices could include integrated efforts in selling, marketing, and customer service, all aimed at fostering mutual benefits with customers.

Strategic supplier partnership also plays a pivotal role in improving operational performance. The study encourages management teams in Gurage Zone Flour factories to strengthen existing collaborations with suppliers. Maintaining stable procurement processes and fostering long-term, positive relationships with suppliers will be key to business success in this area.

Furthermore, the outsourcing of services emerged as a significant factor in enhancing operational performance. The study advises that the production and procurement departments in Flour factories closely monitor and evaluate the services they outsource. Attention should be given to minimizing equipment setup times and clearly stating production and delivery schedules to improve service delivery.

Finally, the inclusion of distributors alongside employees in the target population of this study provides valuable insights into the broader effect of supply chain management practices. While the study offers valuable insights through a cross-sectional approach, future research could benefit from employing a longitudinal design to gain a deeper understanding of these relationships over time.

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Appendix -A Questionnaire

Wolkite University

College of Business and Economics

Department of Management

Questionnaires to be filled by employees and distributors

The following questions are prepared for research purpose to be undertaken to investigate the supply chain management practice & its effect on the operational performance of the Flour Factories in Gurage Zone. So, you need to consider each question and rank it from strongly disagree to strongly agree. There are no correct or incorrect answers you will be required to answer them based upon your experience in factory.Thus, you are kindly requested to answer the following questions appropriately as per the requirements listed below. Your participation in this questionnaire is crucial for my research. Please be assured that all responses will remain anonymous and confidential. The information provided will be used solely for research purposes and will not be shared or used for any other reason. Company-specific information will also be handled with the utmost care and confidentiality.If you have any questions regarding this research study, you may contact me at Tel +251988183714.

Thank you very much for your cooperation,

ZEDAGIM SISAY

Section 1(one) – Demographic Information

Complete the following biographical information by indicating your response that is the most applicable answer to you in respect of each of the following items.

1. Please indicate your sex ----------

2. Please indicate your factory name----------

3. Please indicate your age: A) Less than 30 B) 31-40 C) 41-50 D) above 50

4. Indicate your work experience in year: A) 1-4 B) 2-5 C) 5-10 D) above10

5. Indicate your educational level: A) Diploma B) Degree C) Masters D) Other/specify….

Section 2 (two): Questions Related to assessing current supply chain management practices

Using the following Rating Scales under the columns Please tick (√) the number that you feel most appropriate, using the scale from 1 to 5 (Where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree.

No	Items	Scales				
Items related to assessing current supply chain practices		**1**	**2**	**3**	**4**	**5**
1	The current SCM practices effectively support the organization's strategic goals.					
2	The supply chain is agile and can adapt to changes in the market environment.					
3	Overall, our SCM practices are aligned with industry best practices and standards.					

Section 3 (three): Questions Related to factors affecting Operational Performance

This section is seeking your opinion regarding to factors that affect operational performance. Please tick (√) the number that you feel most appropriate, using the scale from 1 to 5 (Where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree.

No	Items	Scales				
Part I. Items related to Strategic supplier partnership		**1**	**2**	**3**	**4**	**5**
1	The Factory considers quality as its number one criterion in selecting suppliers					
2	The Factory regularly solves problems jointly with its suppliers					
3	The Factory has continuous improvement programs that including key suppliers					
4	The Factory actively involves its key suppliers in new product development processes					
5	The Factory facilitates customers 'ability to seek assistance					
Part II. Items related to Logistics process responsiveness		**1**	**2**	**3**	**4**	**5**
6	The Factory logistics system responds rapidly to unexpected demand change					
7	The Factory logistics system rapidly adjusts warehouse capacity to address demand changes					
8	The Factory logistics system rapidly varies transportation carriers to address demand changes					
9	The Factory logistics system effectively delivers expedited shipments					
10	There is Increased capacity to offer services to customers					
Part III. Items related to Level of information sharing		**1**	**2**	**3**	**4**	**5**

No	Items	Scales				
11	There is efficient internal communication					
12	There is adequacy of IT systems throughout the supply chain					
13	Exchange of information between suppliers and the Factory is reliable					
14	There is an automated ordering system to major suppliers					
15	The Factory partners share business knowledge of core business processes with us.					
16	The Factory trading partners keep us fully informed about issues that affect our business.					
Part IV Items related to Customer relationship Management		**1**	**2**	**3**	**4**	**5**
17	There is effective management of customer complaints					
18	There is long term relationship with customers to improve customer satisfaction					
19	The Factory frequently interacts with customers to set reliability, responsiveness, and other standards					
20	The Factory frequently measure and evaluate customer satisfaction					
21	The Factory frequently determines future customer expectations					
Part V. Items related to Outsourcing of Services		**1**	**2**	**3**	**4**	**5**
22	The process of managing business with the outsource vendor met expectations					
23	The quality of the service is up to contracted levels					
24	The service is contracted for the minimum quantity level is required					
25	The total amount of HR expenditures actually decreased as a result of outsourcing					
26	The outsourcing increased the Factory profits					

Section 3(three): Operational performance: is how well an organization achieves its market-oriented goals as well as its financial goals in the past five years. To what extent do you agree on the organizational performance of the company based on the following parameters? Please mark √ in appropriate box to your opinion using 1/ strongly disagree 2/ Disagree 3/ Not sure 4/ Agree 5/ strongly agree

	Part VI. Items related to Operational Performance	**1**	**2**	**3**	**4**	**5**
1	The Factory production cost is decreasing over time					
2	The Factory productivity rapidly increasing over time					
3	The Factory have lower number of defects per unit of products					
4	The Factory operation's has higher customization flexibility					
5	The Factory deliver customer order on time					
6	The Factory has improved decision making process					

መጠይቅ

በጉራጌ ዞን የሚገኙ የዱቄት ፋብሪካዎች የስራ አፈጻጸም ላይ ያለውን የአቅርቦት ሰንሰለት አያያዝ፣አሰራር እና ያለውን ተጽእኖ ለመመርመር ለሚደረገው ጥናትና ምርምር የሚከተሉት ጥያቄዎች ተዘጋጅተዋል። ስለዚህ፣ እያንዳንዱን ጥያቄ ግምት ውስጥ ማስገባት እና ከጠንካራ አለመስማማት እስከ ጠንካራ መስማማት ደረጃ መስጠት አለቦት። በፋብሪካ ውስጥ ካልዎት ልምድ በመነሳት ምንም አይነት ትክክለኛ ወይም የተሳሳቱ መልሶች የሉም። በመሆኑም ከዚህ በታች በተዘረዘሩት መስፈርቶች መሰረት የሚከተሉትን ጥያቄዎች በአግባቡ እንድትመልሱ በአክብሮት እንጠይቃለን። በዚህ መጠይቅ ውስጥ ያለዎት ተሳትፎ ለምርምር ወሳኝ ነው። እባክዎ ሁሉ ምላሾች ማንነትዎን የማይገልጹ እና ሚስጥራዊ ሆነው እንደሚቆዩ እርግጠኛ ይሁኑ። የቀረበው መረጃ ለምርምር ዓላማዎች ብቻ የሚያገለግል ሲሆን ለሌላ ምክንያት አይጋራም ወይም ጥቅም ላይ አይውልም። የኩባንያ-ተኮር መረጃ በከፍተኛ ጥንቃቄ እና ሚስጥራዊነትም ይከናወናል። ይህንን ጥናት በተመለከተ ማንኛውም አይነት ጥያቄ ካሎት በስልክ +251988183714 ሊያገኙኝ ይችላሉ።

ስለ ትብብርዎ በጣም አመሰግናለሁ

ክፍል 1 (አንድ) - የስነ-ሕዝብመረጃ

ለእያንዳንዳቸው ከሚከተሉት ንጥሎች አንጻር ለእርስዎ በጣም ተገቢው መልስዎን በማመልከት የሚከተለውን የህይወት ታሪክ መረጃ ያጠናቅቁ።

1. እባክዎን ጾታዎን ያመልክቱ ----------
2. እባክዎን የፋብሪካዎን ስም ያመልክቱ ----------
3. እባክዎን እድሜዎን ያመልክቱ፡ ሀ) ከ30 በታች ለ) 31-40 ሐ) 41-50 መ) ከ50 በላይ

4. የስራ ልምድዎን በአመት ያመልክቱ፡ ሀ) 1-4 ለ) 2-5 ሐ) 5-10 መ) ከ10 በላይ

5. የትምህርት ደረጃዎን ያመልክቱ፡ ሀ) ዲፕሎማ ለ) ዲግሪ ሐ) ማስተርስ መ) ሌላ ከሆነ ይግለጹ.....

ክፍል 2 (ሁለት)፡ የወቅቱን የአቅርቦት ሰንሰለት አስተዳደር ልምዶችን ከመገምገም ጋር የተያያዙ ጥያቄዎች

በአምዶች ስር የሚከተሉትን የደረጃ ስሌቶች በመጠቀም እባኮትን (√) በጣም ተገቢ ሆኖ የሚሰማዎትን ቁጥር ላይ ምልክት ያድርጉ፣ ከ ፡ እስከ 5 ያለውን መለኪያ በመጠቀም (፡ = በጽኑ የማይስማሙበት፣ 2 = አልስማማም፣ 3 = ገለልተኛ፣ 4 = እስማማለሁ እና 5 = በጥብቅ እስማማለሁ ።

ተ.ቁ	ነገሮች	መለኪያ				
		1	2	3	4	5
የአሁኑን የአቅርቦት ሰንሰለት ልምዶችን ከመገምገም ጋር የተያያዙ ነገሮች						
4	አሁን ያለው የአቅርቦት ሰንሰለት አስተዳደር ልምዶች የድርጅቱን ስትራቴጂካዊ ግቦች ውጤታማ በሆነ መንገድ ይደግፋሉ።					
5	የአቅርቦት ሰንሰለቱ ቀልጣፋ እና ከገበያ አካባቢ ለውጦች ጋር መላመድ ይችላል።					
6	በአጠቃላይ፣ የአቅርቦት ሰንሰለት አስተዳደር ተግባሮቻችን ከኢንዱስትሪ ምርጥልምዶች እና ደረጃዎች ጋር የተጣጣሙ ናቸው።					

ክፍል 3 (ሶስት)፡ የአሠራር አፈጻጸምን ከሚነኩ ምክንያቶች ጋር የሚዛመዱ ጥያቄዎች

ይህ ክፍል የክዋኔ አፈጻጸምን በሚነኩ ሁኔታዎች ላይ የእርስዎን አስተያየት ይፈልጋል። ከ ፡ እስከ 5 ያለውን መለኪያ በመጠቀም (√) በጣም ተገቢ መስሎ የሚሰማዎትን ቁጥር ላይ ምልክት ያድርጉ (፡ = በጽኑ የማይስማሙበት፣ 2 = አልስማማም ፣ 3 = ገለልተኛ ፣ 4 = እስማማለሁእና 5 = በጥብቅ ይስማማሉ።

ተ.ቁ	ነገሮች	መለኪያ				
ክፍል ፤. ከስልታዊ አቅራቢ ሽርክና ጋር የተያያዙ ነገሮች		1	2	3	4	5
1	ፋብሪካው አቅራቢዎችን ሲመርጥ ጥራትን እንደ አንድ መስፈርት አድርጎ ይቆጥራል።					
2	ፋብሪካው በየጊዜው ችግሮችን ከአቅራቢዎቹ ጋር በጋራ ይፈታል።					
3	ፋብሪካው ቁልፍ አቅራቢዎችን ጨምሮ ተከታታይ የማሻሻያ ፕሮግራሞች አሉት					
4	ፋብሪካው በአዳዲስ የምርት ልማት ሂደቶች ውስጥ ቁልፍ አቅራቢዎቹን በንቃት ያካትታል					
5	ፋብሪካው ደንበኞችን 'እርዳታ የመፈለግ ችሎታን ያመቻቻል					
ክፍል ፤፤. ከሎጂስቲክስ ሂደት ምላሽ ሰጪነት ጋር የተያያዙ ነገሮች		1	2	3	4	5
6	የፋብሪካ ሎጂስቲክስ ስርዓት ያልተጠበቀ የፍላጎት ለውጥ ፈጣን ምላሽ ይሰጣል					
7	የፋብሪካ ሎጂስቲክስ ሲስተም የፍላጎት ለውጦችን ለመፍታት የመጋዘን አቅምን በፍጥነት ያስተካክላል					
8	የፋብሪካ ሎጂስቲክ ስስርዓት የፍላጎት ለውጦችን ለመፍታት የትራንስፖርት አጓጓዦችን በፍጥነት ይለዋወጣል።					
9	የፋብሪካ ሎጅስቲክስ ስርዓት ፈጣን ጭነትን በብቃት ያቀርባል					
10	ለደንበኞች አገልግሎት የመስጠት አቅም ጨምሯል።					
ክፍል ፤፤፤. ከመረጃ መጋራት ደረጃ ጋር የሚዛመዱ ነገሮች		1	2	3	4	5
11	ውጤታማ የውስጥ ግንኙነት አለ					
12	በአቅርቦት ሰንሰለት ውስጥ የአይቲ ሲስተምስ በበቂነት አለ።					
13	በአቅራቢዎች እና በፋብሪካው መካከል የመረጃ ልውውጥ አስተማማኝ ነው					
14	ለዋና አቅራቢዎች አውቶማቲክ የማዘዣ ስርዓት አለ።					

ተ.ቁ	ነገሮች	መለኪያ				
15	የፋብሪካው ኣጋሮች ስለ ዋና ሥራ ሂደቶች የንግድ ሥራ እውቀት ይጋራሉ።					
16	የፋብሪካው የንግድ ኣጋሮች ንግዶቻቸንን ስለሚነኩ ጉዳዮች ሙሉ በሙሉ ያሳውቁናል።					
ክፍል IV ከደንበኛ ግንኙነት አስተዳደር ጋር የተያያዙ ነገሮች		1	2	3	4	5
17	የደንበኛ ቅሬታዎች ውጤታማ አስተዳደር አለ					
18	የደንበኞችን እርካታ ለማሻሻል ከደንበኞች ጋር የረጅም ጊዜ ግንኙነት አለ					
19	ፋብሪካው አስተማማኝነትን፣ ምላሽ ሰጪነትን እና ሌሎች ደረጃዎችን ለማዘጋጀት ከደንበኞች ጋር በተደጋጋሚ ይገናኛል።					
20	ፋብሪካው በተደጋጋሚ የደንበኞችን እርካታ ይለካል እና ይገመግማል					
21	ፋብሪካው የወደፊት ተስፋዎችን በተደጋጋሚ ይወስናል					
ክፍል ከሰርቪስ ወደ ውጭ መላክ ጋር የተያያዙ ነገሮች		1	2	3	4	5
22	ከውጭ ምንጭ አቅራቢው ጋር የንግድ ሥራን የማስተዳደር ሂደት የሚጠበቁበትን አሟልቷል።					
23	የአገልግሎቱ ጥራት እስከ ኮንትራት ደረጃዎች ድረስ ነው					
24	አገልግሎቱ ለሚያስፈልገው አነስተኛ መጠን ደረጃ ኮንትራት ነው					
25	በአጠቃላይ የሰው ሃይል ወጪዎች ወደ ውጭ በመላክ ምክንያት ቀንሰዋል					
26	የውጭ ንግድ ሥራ የፋብሪካውን ትርፍ ጨምሯል።					

ክፍል 3(ሶስት)፡ የስራ ክንዋኔ፡- ድርጅት ባለፉት አምስት አመታት ውስጥ በገበያ ላይ ያተኮሩ ግቦችን እንዲሁም የፋይናንስ ግቦቹን ምን ያህል እንዳሳካ ነው። በሚከተሉት መለኪያዎች ላይ በመመስረት በኩባንያው ድርጅታዊ አፈፃፀም ላይ ምን ያህል ይስማማሉ? እባኮትን 1/ በጣም አልስማማም 2/ አልስማማም 3/ እርግጠኛ አይደለሁም 4/ እስማማለሁ 5/ በጥብቅ እስማማለሁ በመጠቀም በተገቢው ሳጥን ውስጥ (√) ምልክት ያድርጉበት

ክፍል VI. ከአሰራር አፈጻጸም ጋር የተያያዙ ነገሮች		1	2	3	4	5
1	የፋብሪካው የምርት ዋጋ ከጊዜ ወደ ጊዜ እየቀነሰ ነው።					
2	የፋብሪካው ምርታማነት ከጊዜ ወደ ጊዜ እየጨመረ ነው።					
3	ፋብሪካው በእያንዳንዱ የምርት ክፍል ዝቅተኛ ጉድለቶች አሉት					
4	የፋብሪካው አሠራር ከፍተኛ የማበጀት ችሎታ አለው።					
5	ፋብሪካው የደንበኞችን ትዕዛዝ በሰዓቱ ያቀርባል					
6	ፋብሪካው የውሳኔ አሰጣጥ ሂደቱን አሻሽሏል።					