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THE EFFECT OF SUPPLY CHAIN MANAGEMENT PRACTICES ON THE SUPPLY CHAIN MANAGEMENT PERFORMANCE OF BREWERIES: EVIDENCE FROM META ABO BREWERY SC, ETHIOPIA

BY YONAS SBHAT
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A THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY, SCHOOL OF COMMERCE, DEPARTMENT OF LOGISTICS AND SUPPLYCHAIN MANAGEMENT FOR PARTIAL FULFILMENT FOR MASTER OF ARTS IN LOGISTICS AND SUPPLYCHAIN MANAGEMENT.

ADVISOR – TARIKU JEBENA (PhD)

Addis Ababa University School of Commerce
ADDIS ABABA, ETHIOPIA
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DECLARATION

I, the undersigned, hereby declare that the work contained in this thesis is my own original work and that I have not previously in its entirety or in part submitted at any university for a degree.

Signature: _____ Date: _____

Yonas Sbhat	_____	_____
Candidate	Signature	Date

Addis Ababa University

School of Graduate Studies

This is to Certify that the thesis prepared by Yonas Sbhat, entitled: ''The Effect of Supply Chain Management Practices on The Supply Chain Management Performance of Breweries: Evidence from Meta Abo Brewery SC, Ethiopia'' submitted in partial fulfilment of the requirements for the degree of Degree of Master of Arts in Logistics and Supply Chain Management complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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ABSTRACT

This study sought to determine how the Meta Abo Brewery Company in Addis Ababa's supply chain was affected by supply chain practices. In this study, qualitative and quantitative data were collected using both a descriptive and an explanatory study approach. The responders were employees of Ethiopia's Meta Abo Brewery SC in Addis Ababa. Even though this study circulated 272 questionnaires throughout the study area, only 228 of them were correctly completed and returned, resulting in an 84% response rate. While content analysis was applied to analyse qualitative data, statistics analysis was employed to analyse quantitative data. This analysis discovered that although this brewery's supply chain was regarded as a best practice, supply chain management performance was not evident. In addition, the results demonstrated a commendable level of supply chain effectiveness in categories such as contract farming, replacement, responsiveness, product, information, and financial flows. This study found that supply chain management performance is positively and significantly affected by contract farming, replacement, responsiveness, product, information, and financial flows. Furthermore, the case brewery's supply chain procedures and related performance were well regarded. Consequently, it can be contended that supply chain management performance will be improved through contract farming, replacement, responsiveness, product, information, and financial flows. As a result, this study contends that best practices in supply chain management, such as integrating supply management systems, developing tools for clarity and communication, supporting advancements in supplier performance, gathering, and analysing useful data, and having scalable solutions, should be promoted.

Keywords: **Addis Ababa, Beer, Brewery, Ethiopia, Supply Chain Practices, Supply Chain Performance.**

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ACRIMONY AND ABBREVIATION

ANOVA : Analysis of Variance

CRM: - Customer Relationship Management

ED: - Environmental Dynamism (ED)

EDI: - Electronic Data Interchange

ICT: - Information Communication Technology

JIT: - Just-in-Time

LM: - Logistics management

MNEs: - Multinational Companies

OLSR : Ordinary Least Squares Regression

OP: - Organizational Performance

PLS: - Partial Least Squares

RBV: - Resource-Based View

SC : - Supply Chain

SCF : - Supply Chain Finance

SCM: - Supply Chain Management

SCPs: - Supply Chain Practices

SD: - Supplier Development

SD :- Standard Deviation

SPSS: - Statistical Package for Social Sciences

SS: - Strategic Sourcing

CHAPTER ONE

INTRODUCTION TO THE STUDY

1.1 Background of the Study

As a result of how simple it is to understand global marketplaces, supply chain operations have gained widespread acceptance in today's agricultural, industrial, and service company sectors (Mwaura, 2021). Due to this, businesses have carefully analyzed how their supply chain processes may help them achieve bigger, more global goals. They manage the activities of the supply chain as well. Supply chain operations management assists firms in gaining a competitive advantage, lowers various expenses, and increases customer loyalty in terms of distribution speed, product and service efficiency, and post-sale support (Coronado et al., 2015).

The strategic control of resource flow along the supply chain is what supply chain management (SCM) refers to (Ronald, 2016). In order to create workable processes and goals among supply chain participants and add value for clients, supply chains must be systematized. Supply chain control is the take a look at of ways businesses can boom performance and offer price to the business enterprise via way of means of utilizing constrained resources. Due to how simple it is to open overseas markets; supply chain operations are now considered standard practice. It affirms that in order to increase efficiency, companies must have a solid understanding of their supply chain procedures (Hazen et al., 2021).

Supply chain management techniques were defined by Ronald (2016) as a series of actions taken by a business to advance the management of its supply chain. Research has been done to evaluate various supply chain practices in various industries. Supply chain management techniques enhance organizational performance in manufacturing organizations, claims Popoola (2019). While Tigist and Rajwinder (2021) found that, in the example of the beer industry, supply chain practices had an impact on operational performance; Mwaura (2021) found that industrial companies aspire to reach high supply chain management performance levels through supply chain practices. Businesses were found to have a solid awareness of their supply chain procedures in order to increase efficiency (Hazen et al., 2021). These studies examined and assessed the responses of top managers on the connection between supply chain management methods and performance. They have used a variety of elements, including supplier participation, supplier

quality management, supplier selection, process management, leadership, training, product design, and supplier quality. The majority of studies, including Coronado et al. (2015), Ronald (2016), and Mwaura (2021), concluded that supply chain quality practices were responsible for the general perception of performance increases.

This supports the idea that supply chain management techniques are essential for helping businesses increase their performance. As a result, leaders of organizations and businesses have widely accepted supply chain management. SCM (Supply Chain Management) helps companies in the industrial industry in Ethiopia succeed. It calls into question the relationship between a business, its suppliers, and its clients. Additionally, it appears as a network of businesses collaborating with their main stakeholders to skillfully offer goods to customers (Tigist and Rajwinder, 2021). Daniel (2016) suggested that SCM views the supply chain as a whole from a systemic perspective. This suggests that the idea of a partnership is developed in a multi-firm attempt to control the flow of goods from suppliers to the final client.

Due to the consistent processes of corporate internationalization and globalization, multinational enterprises (MNEs) execute their operations on these global platforms, which are becoming more complicated. Due to their operations in the host nations, MNCs have long played a prominent role in international business and are essential players in the global economy (Hazen et al., 2021). With the purchase of the state-owned Meta Brewery, Diageo, and Castle Group (now owned by BGI Ethiopia), a strong, well-known firm, entered the Ethiopian beer market. These businesses invested $1 billion in Ethiopia's industry through foreign direct investment (FDI) (Ethiopia Investment Commission, 2022).

These global firms, in addition to their beer and liquor brands, are the biggest spirits manufacturers in the world. Global breweries including Heineken, Diageo, and Bavaria are concerned about the beer market in Ethiopia. These breweries profit from both the production of beer and the availability of malted barley locally (Delelegne, Jos, and Maja, 2020). Strong market competition factors, health concerns, supply shortages, foreign exchange, and shifting business implications in the nation are the biggest obstacles MNCs must overcome (Tigist and Rajwinder, 2021). Therefore, it is crucial for this industry to evaluate its supply chain strategies and how they impact supply chain performance. This study investigated how supply chain management techniques

could improve the performance of the supply chain in the Ethiopian brewery sector.

1.2 Background of the Firm

Sebata, a town located 27 kilometers from Addis Ababa, is where the popular of the Meta Abo brewing factory is located. The brewery was founded in 1963 as a share business with an initial capital basis of two million Birr by the Ethiopian government and private residents of Ethiopia. It is the only brewery that receives water from a sizable soft spring water reservoir, locally referred to as St. Abo's holy water. It was formerly owned by the U.K.-based Diageo Plc. (DGE), and its capacity was 200,000 hl at the time. Its capacity has currently been increased by more than 350,000 hl, and BGI Ethiopia is now the owner. It will provide draught beer, Malta alcohol-free beer, and bottled beers like Meta and Meta Premium. The brewery's head office, liaison office, and distribution center are all located in Addis Ababa. The brewery owns 369,000 m2 of land, of which 25,000 m2 is built-up space. Most of the brewery's property is taken up by a parking lot, recreational grounds, and horticultural farms. 365,000 hectoliters of bottled and draft beer worth 195 million Birr were produced and sold by the Meta Abo Brewery in 2020. It had a profit of $3.974 million in the same year. Retailers receive 45% of the brewery's output, while distributors receive 55% (Meta Abo Brewery, 2022).

1.3 Statement of the Problem

The expansion of the beverage industry in Ethiopia has been viewed as being extremely important for the employment of local workers, the utilization of local raw resources, effective and professional supply chain management, and the manufacturing of quality products (Ethiopia Investment Commission, 2022). Unfortunately, over time, factors such as a lack of foreign currency (which affects the supply of spare parts), the preliminary stages of contract farming (which affects the supply of raw materials), internal issues such as sporadic electricity, and a lack of knowledge of supply chain management led to high costs, subpar business performance, and low levels of customer satisfaction. Breweries have been eliminated from Ethiopia's marketing landscape due to subpar performance and minimal earnings, as well as the ban on alcohol promotions in mainstream media (Tigist and Rajwinder, 2021).

Delelegne et al. (2020) noted specifically that Ethiopian breweries use various sourcing structures. They found that Heineken used three different sourcing arrangements while Diageo only used one.

Additionally, they discovered discrepancies between brewers surrounded by contemporary chain structures: Diageo only partners with pre-existing unions and producer organizations (POs), whereas Heineken additionally buys malted barley from lead farmers and recently formed dedicated malt barley POs. Diageo Plc, a British beverage corporation that bought Ethiopia's Meta -Abo brewery, collapsed after 11 years despite increasing the brewery's capacity and diversifying its portfolio with new lager beer brands due to inefficiencies in supply chain management. Nine years ago, Diageo was the first brewery to establish a new sourcing structure to buy malted barley. With Techno Serve, Meta Brewery has worked to offer smallholder farmers a full assistance system known as the "Meta Package." With over 6,000 smallholders, the initiative began in 2013 and primarily serves Southwest Shoa, Arsi, and West Arsi. 31 PCs and 5 FCUs that represent these farmers are used to conduct the program (Meta Abo Brewery, 2022). They discovered that there were logistical issues, side selling occurred because of the low, extraordinary price paid by purchasers, and that coordination between unions and POs was weak and unsupported.

On the other side, the Ministry of Industry bragged that a public-private collaboration with the regional government, multiple unions, and an NGO allowed Ethiopia to provide the bulk of malt barley locally (Ministry of Industry, 2022). The total market consumption of malt was approximately 120,000 metric tons in 2016, with a predicted increase to 250,000 metric tons in 2023, according to data from the Ministry of Trade and Regional Integration. Therefore, Diageo was unable to improve supply chain management, which would have improved the organization's performance, or help increase both its profit and supply chain performance. Fortunately, the initial meeting with representatives of the company that is currently in charge of Meta Abo Brewery SC, specifically BGI Ethiopia, is examining for new streams of studies in supply chain management and the issues of performance. Castel Group bought Meta Abo brewery for an unrevealed amount of money (Capital Newspaper, 2022).

The researcher used this excellent opportunity to evaluate several studies and discovered that in-depth analyses of specific variables, such as enhancing trust, managing manufacturing flow, product development and commercialization, information technology, and flexible supply chain management, are frequently conducted. Examples include Popoola (2019), Tigist and Rajwinder (2020), and Coronado et al. (2015). This research disregarded the impact of brewery supply chain strategies on supply chain performance, including contract farming (raw materials),

replenishment, responsiveness, product flow, product and information flow, and customer expectations. As a result, more study is needed to acquaint new variables with the current model. By introducing additional variables to the current model supply chain procedures, this study offered several essential values.

There aren't many academic study articles focusing on supply chain management strategies for supply chain performance, according to recent research (Delegne et al., 2020). Furthermore, there hasn't been any research on supply chain management in Ethiopia, especially (Daniel 2016). The majority of rising countries may not be able to use the research findings from mature nations because to variations in the supply of currencies, the development of infrastructure, and advancements in technology. In this approach, the current study may supplement the dearth of available literature in Ethiopian sectors, notably the beer industries.

1.4 Research Objectives

1.4.1 General Objective

The study's primary goal was to analyze data from Ethiopia's Meta Abo Brewery SC in order to determine how supply chain management performance affected the operation of the brewery industry's supply chain.

1.4.2 Specific Objectives

The specific objectives of the study are:

I. To examine the effect of contract farming on the supply chain management performance of Meta Abo Brewery SC in Ethiopia.
II. To assess the effect of replenishment on the supply chain management performance of the brewery industry predominantly in Meta Abo Brewery SC in Ethiopia.
III. To investigate the effect of product flow (effective delivery) on the supply chain management performance of the brewery industry predominantly in Meta Abo Brewery SC in Ethiopia.
IV. To analyse the effect of information flow (information sharing) on the supply chain management performance of the brewery industry predominantly in Meta Abo Brewery SC in Ethiopia.
V. To analyse the effect of financial flow on the supply chain management performance of the brewery industry predominantly in Meta Abo Brewery SC in Ethiopia.

1.5 Research Questions/Hypotheses

1.5.1 Research Questions

The following research questions hypotheses are tested in this thesis:

H_1: What is the effect of Contract Farming on the supply chain management performance of Meta Abo Brewery SC of Ethiopia ?

H_2: Dose Replenishment has significant effect on the supply chain management performance of the brewery industry predominantly in Meta Abo Brewery SC firm in Ethiopia ?

H_3: How does the Product Flow (Effective Delivery) mediate SCM practice's effects on the supply chain management performance of the brewery industry predominantly in Meta Abo Brewery SC firm in Ethiopia ?

H_4: What is the effect of Information Flow (Information Sharing) on the SCM practice's effects on the supply chain management performance of the brewery industry predominantly in Meta Abo Brewery SC firm in Ethiopia ?

H_5: What is the effect of Financial Flow on the SCM practice's on the supply chain management performance of the brewery industry predominantly in Meta Abo Brewery SC firm in Ethiopia ?

1.5.2 Research Hypotheses

The following hypotheses are tested in this thesis:

H_1: Contract Farming has a statistically significant effect on the supply chain management performance of Meta Abo Brewery SC of Ethiopia.

H_2: Replenishment has a significantly affect the supply chain management performance of the brewery industry predominantly in Meta Abo Brewery SC firm in Ethiopia.

H_3: Product Flow (Effective Delivery) does mediate SCM practice's effects on the supply chain management performance of the brewery industry predominantly in Meta Abo Brewery SC firm in Ethiopia.

H_4: Information Flow (Information Sharing) does reconcile SCM practice's effects on the supply chain management performance of the brewery industry predominantly in Meta Abo Brewery SC firm in Ethiopia.

H_5: Financial Flow does intervene SCM practice's effects on the supply chain management performance of the brewery industry predominantly in Meta Abo Brewery SC firm in Ethiopia.

1.6 Significance of the Study

Brewery production in Ethiopia is unavoidably crucial for employment generation and significantly increases commercial sourcing from smallholder farmers, replacing the current dependency on imports. The goal will be accomplished by giving farmers substantial training, increasing their output, and realizing Ethiopia's potential as a supplier of skilled labour and a producer with regionally competitive prices. This study supports the industrialization agenda of increasing food security and economic development because the industry provides a means of livelihood for smallholder malt barley farmers and leads to the creation of numerous direct and indirect jobs. It also supports the attraction of foreign direct investment and multinational company support. The results also provide a conceptual framework detailing the connection between SCM practices and SC performance, expanding our understanding of SCM practices that are relevant to the Ethiopian brewery. Since it would shed light on SCM practices, challenges encountered, and how such practices are impacting various performances, the study will be greatly beneficial to Ethiopia's publicly funded research institutes.

1.7 Scope of the Study

In this study, the impact of SCM practices on the SC performance of a brewery firm in Ethiopia was examined. To conceptualize SCM practices (contract farming, replenishment, product flow, and financial flow and information flow) as important brewery practices and organizational resources with the inherent capacity to produce SC performance, the study adopted the Resource View Based (RVB) theoretical framework. These five SCM techniques connect the internal operations of the brewery manufacturing companies with those on the upstream and downstream ends of the supply chain. From February to April 2023, a survey of a sample of Meta Abo Brewery SC personnel who have been granted business permits by the Ministry of Industry to operate in Ethiopia was done. The significant association and impact between SCM practices and the SCs performance of a brewery firm in Ethiopia were examined using an explanatory study design.

1.8 Limitations of the Study

Although every effort was taken to minimize the study's flaws, some nevertheless exist. The entire SCM field could not be addressed in a single study due to the complexity of the SCM concept and the interdependency among a network of businesses that make and supply a certain product. The unit of analysis for this study was the staff at the Meta Amo Brewery in Ethiopia and the SCM processes that linked them to the upstream and downstream actors in the chain.

Second, there were not enough recent studies on beer SCM techniques in the brewery supply chain, especially in Ethiopia. The researcher overcome this problem by tying together relevant data from different industries, both locally and internationally, to draw conclusions from the study. Thirdly, because not all Ethiopian breweries were represented in the study sample and because diverse levels of SCM practice employment existed there, generalizations about Ethiopian breweries may not be accurate. Finally, since data were collected using a cross-sectional survey design, the long-term effects of SCM practices on organizational performance were not considered in this study. Despite these drawbacks, the study provided useful insights into how SCM practices affect SC performance.

1.9 Operational Definition of Terms

- **Contract Farming** - encompasses agricultural manufacturing being done primarily based totally on a settlement among the consumer and farm producers. This study understands breweries facilitated the contractual agreement between aggregators and their firm (Melanie, 2021).
- **Information Flow** – provides the basis on which supply chain developments execute transactions and managers make decisions (Popoola, 2019).
- **Product Flow** refers to the undertaking of the flow goods from the internal handling to the consumer along with returns and other service requirements (Ronald, 2016).
- **Supply Chain Management Practices** - a set of methods undertaken by an organisation to effectively manage its supply chains (Charles, 2021).

This study considers five SCM practices as the independent variables including contract farming, availability of replenishment, product flow and information flow.

1.10 Organization of the Study

The study's thesis is divided into five chapters. Chapter one covers the study's history, problem statement, objectives, and hypothesis in addition to the study's justification, operational definition of terms, scope, and constraints. A review of earlier studies on SCM practices, SC performance, a list of research needs, and a conceptual framework are all outlined in Chapter 2. In chapter three, in addition to additional resources and methods utilized to address the research issue, the study methodology and design, population, sample size, sampling strategies, data collection methods, measurement of variables, and data analysis techniques are all covered. Chapter 4 presents the findings and opens with descriptive analysis of the study variables. Additionally, it displays the discussion of the study's findings, which is enhanced by allusions to related research and the context required to understand the findings. The findings from the data analysis presented in Chapter 5 are in accordance with the goal of the study. This chapter presents the conclusions and suggestions based on the research's findings. A list of references and appendices is supplied at the end as a last point.

CHAPTER TWO
RELATED LITERATURE REVIEW

2.1 Introduction

This part of the course covers the concepts of SCM, its methods, and supply chain management performance. The theoretical study aims to emphasize the essential components and tools for industrial supply chain management strategies, particularly in the brewing industry. Empirical

studies in this chapter cover the supply chain, its performance, and the factors affecting the supply chain's flow of raw materials, transformational procedures, and delivery of the finished product to the end user.

2.2 Review of Theoretical Literature

2.2.1 The Concepts and Theories of Supply Chain Management

2.2.1.1 The Concepts of Supply Chain Management

Various definitions of supply chain management (SCM) include everything a company does to maximize the use of its resources and operate as productively as feasible. SCM has been defined in a variety of ways because of its transdisciplinary roots. The domains of supply management and logistics management, as well as purchasing, led to the invention of SCM. According to Vitorino and Moori (2020), SCM is the combination of the supply base that resulted from the old purchasing and materials operations. The majority of how a supply chain is characterized is when three or more businesses are connected by one or more flows of goods, services, money, and information from a source to a customer (Mwaura, 2007). It is defined as the discipline that accomplishes supplies and processes through all of the stages of a project, product, or business deliverable (Shashi, 2022).

The three levels of supply chain management are operational, tactical, and strategic. Business enterprise management makes high-level, strategic Supply chain decisions that may be applicable to entire organizations at the strategic level. The decisions that are taken nearly entirely regarding the supply chain must reflect the overall corporate strategy that the organization is employing. The length of the supply chain will be covered by the strategic supply chain approaches that management must choose (Ronald, 2016). SCM strives to align the key companies or enterprises to achieve a flow of tangible and intangible goods to successfully satisfy the demands and preferences of customers while generating profits for the entire chain.

SCM decision-making demands take into account the SM, product development, clients, manufacturing, supply, and logistics. When connected with information technologies, supply chain (SC) strategies increase operations' agility and efficiency (Vitorino and Moori, 2020). The goal is to get dreams about how well a device works in general. Companies can't completely

struggle as individuals in the present business climate. To effectively compete on the global market, they should rely on the complementary firms in their supply chains. When a company's strategic supply chain is strengthened, it can offer what its customers need when they need it while spending as little money as possible to do it. Iteratively assessing the cost-benefit trade-offs of operational components is the supply chain method.

2.2.1.2 Supply Chain Practices

SCM practices are a set of techniques used to efficiently unite clients, manufacturers, and logistics with suppliers in order to improve the supply chain's long-term performance. In order to obtain the competitive edge needed to thrive in the face of international competition, these methods link the upstream and downstream operations of a focused organization, including manufacturing, processing, distribution, and retailing (Mwaura, 2021). Because of this, SCM methods aim to seamlessly integrate the management and coordination of all supply chain activities, from the origin of raw materials to the stop purchaser. Although the literature describes SCM practices as a multidimensional assembly from several angles, there is no agreement on the extent of these practices. Strategic supplier partnerships, customer relationships, information sharing, information quality, internal lean practices, and postponement were listed by Ronald (2016) as the components of SCM techniques. While the aforementioned behaviors that are pertinent to the supply chain were identified as ICT (Information and Communication Technology) Practices, Supplier Although the literature describes SCM practices as a multidimensional assembly from several angles, there is no agreement on the extent of these practices. CRM practices, ICT practices, logistics management (LM) practices, strategic sourcing (SS) techniques, and supplier development (SD) practices are all used by the modern observer.

These SCM techniques integrate internal business processes of the industrial firm with upstream and downstream supply chain activities (Charles, 2021). According to Shashi (2022), the phases are divided into tactical, strategic, and organizational stages to help understand the various supply chain activities, such as assembling, importing, manufacturing, and exporting final items to consumers. The business may be able to maximize its investment in inventory and produce a positive impact on cash flows and overall profitability while ensuring the organization fulfills its objectives with the aid of a real sales and operations planning process and Lean Six Sigma

techniques like Kannan systems and fast changeover.

2.2.1.3 Theory of Supply Chain Management Practices

The importance of collaboration and integration in intra- and inter-organizational actions on SCM to improve supply chain performance was emphasized. To achieve this, businesses strive to work collaboratively, integrating with their clients and suppliers to stay abreast of changes in demand and to ensure the quality of the product. The resource-based view itself was mostly created in the late 1980s and early 1990s, though it was later modified with expansions. For a competitive advantage to be durable, resources must be heterogeneous and immovable. Additionally, resources must meet the requirements of being valuable, uncommon, unique, and non-substitutable in order to provide a competitive advantage (Tobias, 2013). Porter (1980; 1985), who suggested that competitive advantage is the cause of superior performance in competitive marketplaces, was cited by Luri, Luis, and Jaime (2006). It was discovered that the attractiveness of the industry and the firm's competitive position within it influence strategic decisions. Additionally, a company's ability to provide value to its clients gives it a competitive advantage. However, industrial attractiveness alone is insufficient to account for a firm's performance.

They came to the conclusion that the firm's resources, not the industry's attractiveness, are the source of competitive advantage. The concept of dynamic talent was also used to describe how well a company could integrate, build, and reconfigure internal and external competencies to deal with rapidly changing surroundings. In light of this, they talk about organizational capabilities, resources, production factors, and core competencies that allow the use of firm-specific assets in clusters, including groups and individuals. In this sense, skills aren't just valuable within the company but also have value outside of it (Tobias, 2013). Through SCM, RBV focuses on finding sources of competitive advantage and studying the organization of chains and industrial clusters. The RBV conducts with competitive advantages related to the firm‘s possession of heterogeneous resources (technological, organization, financial, physical, human, and reputations) and capabilities (combination of a number of resources) (Mwaura, 2021).

Regarding SCM, the resource-based view (RBV) helps organizations become more agile,

adaptable, and aligned. In the development of distinct capabilities to boost corporate performance, the resources of heterogeneity, allocation, independence, utilization, and imitability stand out. Companies have focused their efforts on developing partnerships and collaborating with partners upstream and downstream, delivering benefits across the SC, in order to increase performance and thrive in a market that is becoming more and more competitive. The RBV uses its resources, including both material and intangible assets, both human and non-human, in this scenario to enhance the value of its goods and services (Vitorino and Moori, 2020). The existence and scope of the firm were described economically by Transaction Cost Economics (TCE), however Transaction cost economics (TCE) appeared as an economic description for the presence and scope of the firm. Nobel Prize winner Ronald Coase (1937) declared that firms exist due to what he termed 'marketing costs' (now transaction costs), or the price of using the open market price mechanism. The benefit of TCE is that it provides a clear and structured framework to assist in the decision-making process (Mwaura, 2021).

Additionally, Tobias (2013) argued that dynamic capacities might result in new resource configuration by being processes within enterprises that use resources and affect the market. Dynamic capabilities are defined as an agency's capacity to proactively develop, expand, or control its base of valuable resources. This definition gives consideration to the search and selection process for dynamic capabilities. Capabilities can be developed through external acquisition, which entails the search and selection of suitable individuals, because they are seen as resources (Hazen et al., 2021). Assets are said to be connected across organizational boundaries in order to realize this. Therefore, the relational viewpoint complements the original resource-based approach by recognizing that rents can be generated jointly through knowledge sharing with partners and alliances. The resource-based view first focused on the development of returns based on resources and skills in-house. Such partnerships can give a company a competitive edge by working with complementary resources or by efficiently building an alliance portfolio and utilizing resources. As long as partners actively contribute network resources, it is preferable to support and sustain this relationship, which improves the company's market performance if it can avoid becoming reliant on its partner.

2.2.2 The Nature of Beer Supply Chain Management

Beer has a rich and interesting past. The magnificent beverage is cherished everywhere, whether in Africa, America, Japan, or England. Interest in it hardly seems to wane. Currently, beer isn't

just drunk as a warm beer after work; especially now that summer is here, the beer gardens are packed early, and a cold beer is just a part of life. Worldwide, beer breweries continue to be a popular trip location (Daniel, 2016). Beer, like all other products, follows the supply and demand rule of thumb, but the brewing process and beer delivery network can be intricate. It initially evolved with the raw materials required for production and packaging and halted when the beer was produced.

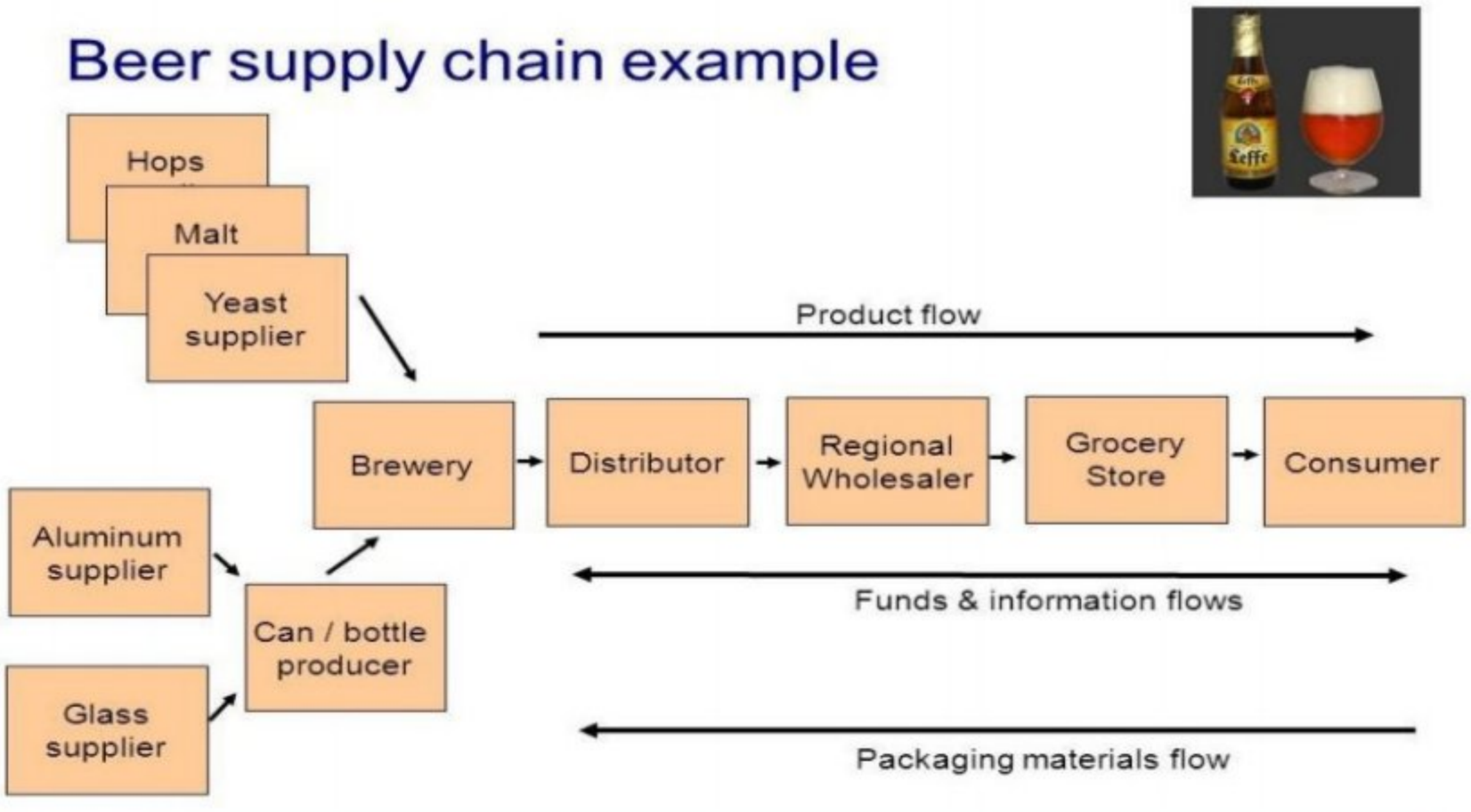

Figure 1 Brewery Supply Chain Practices

Source: (Melanie, 2021).

One of the most well-known drinks in the world, beer has long been a mainstay in many different civilizations. From the creation of the formula all the way to production, brewing, bottling, and delivery to the consumer, the beer supply chain is a series of essential steps. Finding crucial raw ingredients like malt, hops, and yeast, as well as the people, actions, information, and resources required to get a beer into your customers' hands, are all part of the journey from the sphere to the refrigerator (Melanie, 2021). There are multiple channel participants in complex beer supply chains, including growers, brewers, distributors, and retailers. Modern supply chains are entirely built on the direct-to-customer model, which has been made possible by the expansion of e-Commerce and made necessary through the Covid-19 pandemic (Shashi, 2022).

Water, malt, hops, and yeast are examples of essential raw resources. For improvements and variations on the traditional brew, additional ingredients including coffee beans, spices, and sugar are also employed. Beer packaging comprises the bottling and labeling of bottles, PETs, cases, and kegs. It is a component of the beer supply chain. Compared to other packaging materials, glass is reusable, recyclable, and keeps beer fresher for a longer period of time. Glass is also a great insulator, keeping beer cooler for a longer period of time than conventional single-use packaging. Glass also lessens the risk of deterioration because it doesn't interact chemically with other products, and beer bottles made of amber glass exclude light from entering the bottle (Ronald, 2016).

The beer packaging industry is competitive and appears to be dispersed. On the basis of price, capacity, volume, and value, suppliers compete. Effective logistics and shipping should be used to support the beer supply chains. Product supervision may control the status of all incoming and outgoing deliveries to the warehouse utilizing batch tracking tools provided by brewery software, ensuring on-time deliveries and customer supply replenishment. Distribution encompasses a wide range of activities and supply chain participants. Distribution activities include quality auditing, marketing, training, and food pairing. Different businesses, ranging from wholesalers through retailers, restaurants, bottle shops, pubs, and clubs, are involved in the beer supply chain. Brewing processes can be connected along the full supply chain thanks to brewery software, from theories to sales and financial data (Melanie, 2021).

2.2.3 The Concepts and Theories of Supply Chain Performances

2.2.3.1 Concepts of Supply Chain Management Performance

The supply chain connects the people, activities, documents, resources, and businesses necessary to deliver a good or service to the customer. The wholesaler, supplier, and ultimately the end-user is where it starts and where it finishes. In order to accomplish their goals and satisfy the needs of their customers, organizations aim to achieve eminent levels of success. To accomplish the goals and objectives, a supply chain must be computed and connected to a set of preset benchmarks (Mwaura, 2021).

The importance of supply chain management efficiency assessment and how it is carried out have been debated for millennia. To make sure that the supply chain's output increases, the

existing and expected numbers must be compared, and the right steps must be done. The majority of businesses in the food and beverage industry are well on their way to attaining supply chain organizational excellence thanks to the use of policy deployment, lean six sigma, and balanced scorecards as supply chain success measures. These companies benefit from shorter turnaround times, reduced prices, and lower inventories (Shashi, 2022). According to Popoola (2019), the choice of sourcing strategy and supplier engagement strategy can have an impact on the effectiveness and competitiveness of the company's supply chain. The supply chain management performance was defined as a system that offers a formal definition of the supply chain management performance model based on jointly agreed-upon objectives, metrics, and measurement techniques that specify the steps, duties, and responsibilities of supply chain contributors, as well as the machine law through them.

2.2.3.2 Theory related to Supply Chain Management Performance

The institutional environment greatly influences the formation of formal structures in an organization more so than market pressures, which makes institutional theory an ideal theory for supply chain management performance. Organizational efficiency is enhanced as new structures gain legitimacy. In order to preserve their legitimacy in the institutional environment, organizations must maintain specific structures and practices. It is also obvious that it affects supply chain management and procurement performance (Eunice, 2015). This theory emphasizes the importance of protocols in making sure that everyone involved in the procurement process is treated fairly.

2.3 Review of Empirical Literature

Tobis (2013) focused on the relationship between the resource-based view and supply management, as well as the concept's contribution to four crucial selection points related to the buying cycle: make or buy, sourcing techniques, supplier portfolio and relationship techniques, as well as contract awarding. In this regard, the analysis of the literature revealed that the resource-based view influences all four decision points, with the make or purchase decision having the highest significance and contract awarding having the lowest, and so it can be taken into account throughout the entire decision-making process.

2.3.1 Beer Supply Chain Management Practices

Supply chain management techniques in the circular economy were researched by Hazen et al. in 2021: conceptual framework and research plan. Initiatives related to the circular economy (CE) are spreading in both wealthy and developing nations. The reorganization of fundamental supply chain management (SCM) processes that underpin present production and consumption configurations is a step in the middle of these projects. The article discusses the interactions between the eight primary SCM processes (customer relationship management, supplier relationship management, customer service management, demand management, order fulfilment, manufacturing flow management, product development and commercialization, returns management) and the five CE principles (closing, slowing, intensifying, narrowing, dematerializing loops).

Bahl, Gupta and Elzinga (2021) envisioned to offer a background for emerging strategies for the supply chain of craft beer that can make the enterprise efficient and profitable, and in the meantime, generate sustainability benefits from lowering waste, keeping natural resources, and lowering pollution. The framework for craft beer supply chain includes four classes that contribute to craft beer sustainability: ingredient procurement, recycling efforts, and energy usage and distribution systems – some of these mimicking those used by microbrewers. Each of the kinds is in addition subdivided. Successful practices and examples are highlighted for every of the subcategories. Ronald (2016) found that most Multinational Manufacturing Companies have adopted supply chain management practices to a great extent which has enhanced service delivery, improved decision making enhanced overall cost reduction and real time delivery of goods and services. On other hand, Kumah (2018) examined the supply chain practices, adopted by the numerous supply chain partners, in a food supply chain which includes small enterprises. Kimbi et al., (2022) recognized the socio-economic and institutional characteristics influencing sorghum farmers' participation in brewery contract farming. The study also analyzed the benefits and challenges of contract farming as reported by farmers. Supply chain practices together with inner and outside integration; statistics sharing, lean manufacturing and traceability have been examined. It revealed that the focal firms collaborate more with their suppliers than with customers.

2.3.2 Beer Supply Chain Performances

Popoola (2019) contributed by adding new variables to existing model. Furthermore, reading of previous literature show that supply chain management most particularly in Nigeria has not been sufficiently researched also in many developing African Sahara countries. The findings from developed countries might not be relevant to most developing countries because of differences in infrastructure development and advance technology. The main purpose of this study is to examine the supply chain-management factors that could enhance the organization performance in manufacturing companies. This study discovered that supply chain-management factors including supply chain management practice, managing manufacturing flow, product development and commercialization, information technology, trust enhancement, flexible supply chain management enhance performance in manufacturing companies.

Eyob (2019) tested the overall performance of supply chain with the case of Heineken brewery in Addis Ababa. The study used seven independent variables related to supply chain management performance including: integration with suppliers, integration with Customers, supply chain reliability, supply chain responsiveness, supply chain agility, supply chain operational price and stock control Practice. This study revealed that the downward supply chain is more dependable and flexible than the upstream supply chain.

Ohue and Akhator (2021) inspected the nature of relationship that exists between supply chain management and performance of brewing firms in South-South, Nigeria. Explicitly, this study seeks to examine the extent of linkage between agile supply chain and organizational innovation. The study was fastened on Ludwig von Bertalanffy systems theory of 1950s. Survey studies layout became followed for the study; a complete populace of two hundred forty-eight (248) was used for the study. Based on the study results, it concluded that there exists a strong significant positive relationship between supply chain control and overall performance of brewing corporations in South-South, Nigeria. Shobayo (2017) inspected the imprint of supply chain management performance of Nigerian manufacturing firms with specific interest on supply chain strategy and supply chain flexibility. The study adopted an ex post-facto research design using secondary sources to generate the data. The data were gathered from the annual reports of studied manufacturing firms between 2011 and 2016. Findings revealed that supply chain management does not have a significant overall stamping on performance.

2.3.3 Role of SCM Practices in SC Performances specifically focused on to Beer Industry.

Ronald (2016) assessed the connection among supply chain control practices and operational overall performance of multinational manufacturing corporations in Kenya. The look at discovered that the connection between supply chain control practices and operation overall performance as represented via way of means of R2 became 0.6654 translating to 66.54% of the versions in operational overall performance being defined with the aid of using the independent variable within the study. While Tigist and Rajwinder (2021) assessed the effect of supply chain practices on operational performance in the case of the brewery industry. The study used the partial least squares (PLS) technique withinside the estimation of the structural equation model (SEM) effect in SCPs on OP. A measurement PLS version is advanced the use of SmartPLS software (version 3) and subtle with reliability and validity tests. The consequences display that strategic supplier partnership and customer relationship management are undoubtedly and extensively associated with OP of the Ethiopian Brewery Industry.

Shashi (2022) investigated the effect of the perceived performance of e-supply chain control on client pleasure withinside the case of Heineken Brewery Company in Addis Ababa. Using explanatory research design, the finding of the study indicates that the downward supply chain is more reliable and flexible than the upstream supply chain. Mwaura (2021) compiled several preceding research on supply chain management and efficiency those who found a strong correlation between supply chain management techniques and supply chain performance. Higher levels of supply chain management techniques resulted in better supply chain efficiency, according to the findings. However, Ronald (2016) argued that overall supply base management, quality management, and supply chain management are not always effective in terms of execution or achieving optimal outcomes after implementation. Ugoani and Ugoani (2017) examined supply chain management and productivity in Nigeria. Exploratory research design was used, secondary source of data was used, regression analysis was used to analyse the collected data. Through regression evaluation it become discovered that for a one percentage boom in supply chain control productiveness will increase through 1.88 percentage. Sukati et al. (2019) scrutinized the link involving supply chain management (SCM) and performance of consumer goods industry in Malaysia. The returned copies of the questionnaire were 70% while 60% was usable questionnaires. The results indicated that SCM is related to performance.

2.4 Summary of Gaps in the Empirical Studies

Tobis (2013) concluded that the resource-based viewpoint can thus be advantageous when making supply management decisions. However, there are some limitations because there is not literature for every option, therefore some of the argument is predicated on assumptions. Therefore, to support and justify the belief, future research should focus on how the resource-based view affects contract awarding. Focus companies have established strategies to integrate and coordinate the operations of their sectors, such as production, purchase, sales, and logistics, to meet the goals of company performance, according to Vitorino and Moori (2020). This is a result of supply chain competitiveness. On the other hand, firms and academics now seem to be more interested in the subject of supply chain management, according to Popoola (2019). Businesses must be able to lesser costs, advance quality, and respond rapidly to customer requests to thrive. Supply chain management practices can be implemented as one way to gain that competitive edge.

This study adopted the Resource View Based (RVB) theoretical framework as of (Mwaura, 2021) to conceptualize SCM practices (contract farming, replenishment, product flow, and information flow) as significant brewery practices and organizational resources with the inherent capacity to produce supply chain performance. Supply chain management methods (collaboration, agility, and integration) are used to increase supply chain efficiency by optimizing the integrated operations of the supply chain and its partners. To successfully boost supply chain efficiency, the tactics would not be enough on their own. It has been asserted that businesses can achieve high supply chain success rates by combining the three supply chain management methodologies.

2.5 Measurements of Beer Supply Chain Management Practices

Twelve SCM practices were identified by Popoola (2019), including close ties with consumers and suppliers. Benchmarking the supply chain, JIT Supply E-procurement, having a small number of suppliers or numerous, strategic planning, outsourcing, subcontracting, keeping safety stock, and 3PL are some examples. While evaluating the SC and innovation management in manufacturing industries, Coronado et al. (2015) identified four SCM techniques. These include supply chain management, customer service, production, and logistics. The following elements of SCM were mentioned in research by Tigist and Rajwinder (2020): partnership, information technology, operational flexibility, performance measurement, management commitment, and demand characterisation.

Ronald (2016) discovered that apparent developments in operational performance are associated with improvements in SC quality management. Charles (2021) defined SCM practices as the set of activities that organizations undertake to promote effective Management of the Supply chain, SCM practices are described include supplier partnership, outsourcing, cycle-time compression, unremitting process flow and information technology (IT) sharing, SC practices is a way of reducing duplication effects by focusing on core competencies, and use inter-organizational standard such as activity based costing or EDI and eliminating needless waste along the SC.

Contract farming in the brewing sector promotes higher-quality relationships between growers, sellers, and all other value chain facilitators although contract farming involves many different approaches. All agricultural inputs, including machinery, seeds, and fertilizers, are typically given to contract farmers in poor nations on credit (Daniel, 2016). In 2020, Mehedi, Liu, Zeraibi, Swati, Rashid, Feiyu, and Man described contract farming as an agreement for the production and sale of agricultural products between the buyer and the seller of agricultural output. This clause is based on the farmers' duty to supply goods in accordance with the quantity and quality requirements set by the buyers and the business's promise to assist farmers' efforts to produce and acquire goods.

Retailers and producers collaborate to gauge consumer demand and choose the best supply management and replenishment strategy to satisfy it. The primary weakness of VMI is the lack of visibility into the entire supply chain; point of sale (POS) data and backroom inventory level data are ignored, while the replenishment process (and the inventory policy) is based on changes in stock levels in the customer's primary warehouse or distribution centre (Nathan, 2019). Efficient (or Continuous) Replenishment (ECR), which is one step ahead of VMI, leverages POS data to estimate sales while also displaying stock levels in retailers' storefronts. It aims to transfer the decoupling to establish an order of responsiveness and replenishment (Jack and Vorst, 2004).

2.6 Measurements of Beer Supply Chain Performances

Supply chain overall performance evaluates may be labelled extensively into two categories. These are qualitative measures (such as customer satisfaction and product quality) and quantitative measures (such as order-to-delivery lead time, supply chain response time, flexibility, resource utilization, delivery performance, etc.). Improving supply chain performance requires a multi-dimensional tactic that addresses how the organization will benefit distinct customer requirements

(Mwaura, 2021). Hazen et al., (2021) stated that supply chain performance can be measured both in terms of customers' level of satisfaction and the costs incurred. Supply chain performance is influenced by several factors like sourcing strategy, distribution strategy and inventory management strategy, collaboration with partners, information technology, etc.

Popoola (2019) inscribed as performance measurement is defined as the process of quantifying the efficiency and effectiveness of action. Effectiveness is the quantity to which customer's necessities are met, whilst performance measures how economically a firm's sources are applied to acquire a predetermined degree of consumer satisfaction. Moreover, it was described performance measurement as the feedback on operations which are geared towards customer satisfaction, strategic decisions, and objectives. He also points out that performance measurement reflects the need for improvement in operational areas which are referred to as bottlenecks in performance measures.

Mwaura (2021) claimed as the key performance measures is concentrated on value- adding supply chain processes and the factors that will affect the core business processes that create wealth to customers. It put the parameters that can be used to evaluate the performance of the supply chain that included lead time. The others included cost of order processing, shipping and delivery and capacity-including warehousing, transportation, and shipping capacity. Mohammad et al., (2017) discussed the architecture of a multi-period supply chain (SC) network where customer expectations are dependent on facilities that can meet them depending on delivery lead-times. Due to potential disruptions, potential client needs are stochastic, and facility capacity varies at random.

2.7 Conceptual Framework of the Study

An analysis of the literature of earlier studies on your problem is frequently used to construct conceptual frameworks. They may be conveyed visually or through text. A conceptual framework, according to Kothari (2019), is a structure that explains the relationships between variables that are assumed to be significant in a study.

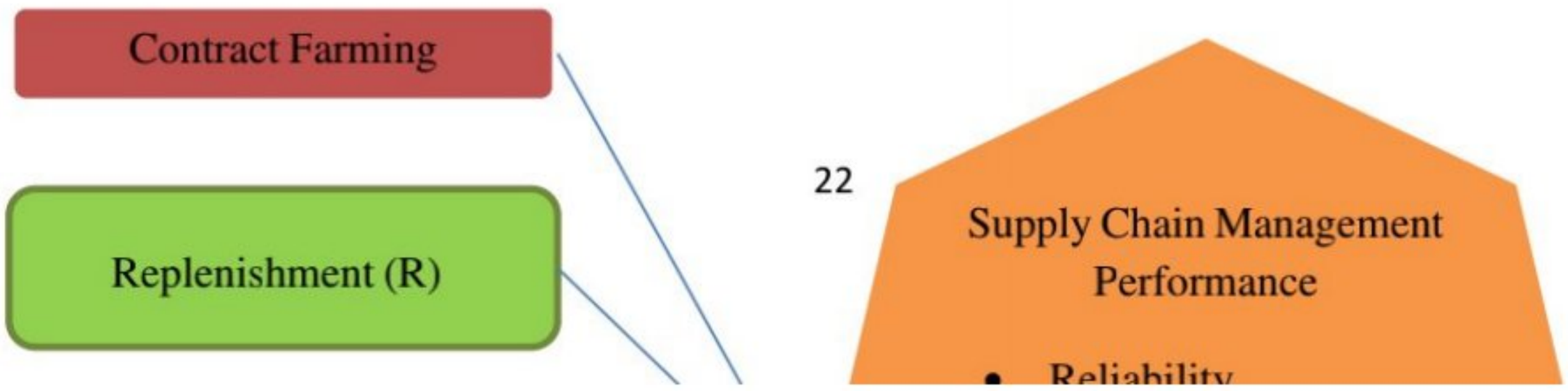

Figure 2 Conceptual Framework

Adapted from Mwaura (2021)

This research is one of the recent studies on supply chain management (SCM) practices is done on Ethiopian manufacturing industry, and it focuses particularly on the practices that manufacturing companies in this nation need to implement to make their supply networks a strong competitive vehicle for their development. For the sake of this study, its factors were adapted from Al-Shboul, Barber, Garza-Reyes, Kumar and Abdi (2017) employed seven dimensions (strategic supplier partnership, level of information sharing, quality of information sharing, internal lean practices, customer service management, postponement and total quality management) into a supply chain management (SCM) practices (SCMPs) and studies its contributing relationship with the hypothesized concepts of supply chain performance (SCP) in manufacturing firms. The outcomes suggest that SCMPs have a superb impact on SCP. But this study modified some variables as strategic supplier partnership was amended as contract farming. This is because it is an arrangement between two companies or organizations to help each other or work together according to the definition of a strategic supplier partnership. Other variables like level of information sharing and quality of information sharing were taken as information flow and replenishment and financial and product flow was replaced to addresses customer service management, postponement, and total quality management constructs.

This study offered concrete proof that increased SCMP levels can improve supply chain and business performance. Additionally, it offers SC managers of manufacturing companies a multi-dimensional operational assessment of the SCMPs' architecture for evaluating how thorough their companies' SCMPs are. Thus, this study constituted five independent variables contract farming, replenishment, product flow, and financial flow and information flow and one dependent variable called SC management performance. One endogenous and five exogenous variables were used in this investigation. Supply chain management performance is an endogenous variable, whereas SCM methods are exogenous variables. This study effectively mirrored supply chain management strategies, notably collaboration, which is used to improve the integrated operations of the supply chain and its partners to promote supply chain efficiency. Additionally, from the standpoint of the resource-based view, this study has considered raw materials suppliers and their worries, as the supplier is seen as a potential source of valuable resources and the preferred customer status to gain a competitive advantage (Kimbi et al., 2022).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The methodological issues that were employed to perform the research are discussed in this chapter, along with a justification of each action that was taken. It comprises the target population and sampling design, sample size and sampling techniques, data sources, data collection instrument, validity and reliability, and methods of data analysis. It also includes the research design and research approach.

3.2 Research Paradigm, Approach and Design

A researcher is extremely expected to clarify about his or her philosophical position or worldview on his or her research. This makes it easier for the audience to comprehend the analysis's point of view and how the study's findings fit into the body of literature already on the topic at hand. The study's research paradigm, methodology, and designs are described below.

3.2.1 Research Paradigm

A research philosophy describes how one goes about learning about the world. It pertains to how individuals view the world, assess what they have seen, and arrive at moral judgments. Additionally, it specifies how and how much research should be done (Popoola, 2019). The two fundamental schools of thought are ontology and epistemology. The first part of studying philosophy is ontology, which is concerned with what gives reality. The notion that social entities exist in a reality distinct from social actors who are interested in their existence, according to Saunders et al. (2009), is known as objectivism. A paradigm is a way of viewing social phenomena that allows for the expansion of a particular understanding of those phenomena as well as the pursuit of explanations.

This study's functionalist paradigm was chosen because it was predicated on the rationality of human behaviour and the possibility of explaining organizational behaviour through hypothesis testing. This work has favoured the deductive approach, using current ideas to construct a hypothesis (Saunders et al., 2009). In positivist science, deductive techniques were used in relation to research philosophies. The way the research question is written—"Is there a meaningfully positive link between independent and dependent variable dimensions"—indicates that previous studies have provided some evidence to support the claim that the situation is as it is.

3.2.2 Research Approach

This study used a mixed-methods approach to research. Depending on the goal of the study and the nature of the research topic, it may be necessary to combine both qualitative and quantitative methodologies to achieve this. Given the sort of data sought, research can be divided into qualitative and quantitative methodologies. Additionally, a mixed-method study that incorporates the benefits of both methodologies is called as this (Croswell, 2014). The mixed research approach has been used as per the guidelines of Susan and Donna (2012) who discussed how supply chain

management research using mixed approaches should be carried out.

3.2.3 Study Design

The plan defining the methods and actions to be taken to collect and analyse the required data for a research project is known as the research design. Descriptive research is appropriate when a problem is well-structured, but it is not the intention to investigate the connections between causes and symptoms. Explanatory research is useful for examining relationships between causes and symptoms (Croswell, 2014).

As a result, this study used two types of research approaches specifically descriptive and explanatory. The similar research design methodology was applied in Ohue and Akhator's study from 2021 to examine how supply chain management affected the supply chain management effectiveness of brewing enterprises in Nigeria. As a result, this study aimed to look at the status of supply chain practices and supply chain management performance in the manufacturing business, as well as how the various service quality dimensions are used in the examined firm. The causal relationship between supply chain management methods and performance was also examined in this study. It examined how supply chain practices affected performance and tried to contextualize its results using statistical analysis.

3.3 Population and Sampling

3.3.1 Population of the Study

All individuals or objects (units of analysis) having the desired qualities make up the population. The employees of the surveyed company explicitly Meta Abo Brewery SC were the study's target population. Consequently, the target population was 1,250 employees and premium customers (MetaAbo Brewery SC, 2023) from all employees, premium customer, and management levels. However, many respondents came from the middle and lower levels of management because they are the ones who play a leading role in the implementation of supply chain integration.

3.3.2 Sampling Design

The researcher paid close attention to the study's design and sample size because sampling procedure affects the validity of generalization and conclusion. Both probability and non-probability sampling techniques were used in this investigation. When choosing samples from the

target population using probability sampling techniques, the Meta Abo Brewery SC employees and premium customers of the surveyed industry were given preference, along with information about their current employment. To choose equally from senior, middle level, and other staff members depending on their proportion relative to others, it is crucial to use this sampling technique. All officials, premium consumers, and targeted staff could participate in the survey. To calculate the sample size from each branch and select using systematic random sampling technique, the researcher first developed a proportionate stratified sample. Additionally, it used a straightforward random sample technique to select staff, premium clients, and officials to take part in the study.

3.3.3 Sample size

According to Creswell (2014), sampling is the process of choosing a group of people for research in such a way that each person chosen is a representative of the larger group from which they were chosen. The sample size for this study was 272 people, who were chosen for the survey based on the sampling technique using the following formula, namely Yamane's (1973) formula: that is shown below:

$$n = \frac{N}{1 + N(e)^2} \quad n = \frac{850}{1 + 850\ (0.05)^2}$$
$$= 272$$

Where n = the sample size N = size of population e = the level of accuracy (e = 0.05)

Table 1 Sample Size Determination

No	Employees	Distributed Questionnaire	Returned	Response Rate
1	**Addis Ababa Main office**	**41**	**31**	**76%**
	Employees	31	24	**77%**
	Managers and Supervisors	10	7	**70%**
2	**Warehouses Staffs**	**46**	**38**	**83%**

	Employees	28	21	**75%**
	Managers and Supervisors	19	17	**89%**
3	**Regional Distribution**	**23**	**18**	**78%**
	Managers and Supervisors	6	4	**67%**
	Employees	17	14	**82%**
4	**Sebata Brewery**	**162**	**141**	**87%**
	Total	**272**	**228**	**84 %**

Source: Meta Abo Brewery SC, 2023

For sake of interview, this study used purposive sampling technique to choose the greatest number of distributors to gather accurate data on supply chain operations and performance. The number of responses from each actor to be included from the overall sample population was chosen based on the percentage of premium customers and staff of Meta Abo Brewery SC at each marketing performer list. Finally, the researcher employed the chosen respondents from each branch to fill out the questionnaire using the random sampling procedure to obtain the predetermined number of sample respondents.

To gather information from the target population, Meta Abo Brewery SC premium customers and employees of the questioned organization in Addis Ababa would be subjected to stratify percentage sampling based on their location. This method is chosen since it helps to reduce bias while interacting with the population. Using this method, the sampling frame can be divided into homogeneous groups (strata) before the sample's components are chosen. In this investigation, stratified random sampling was employed. It was employed since stratified random sampling is an objective sampling technique that divides heterogeneous populations into homogenous subgroups before selecting within each subset to ensure representativeness (Kothari, 2019).

3.4 Variables of the Study

This study constituted five independent variables contract farming, replenishment, product flow, and financial flow and information flow and one dependent variable called SC management performance.

3.4.1 Independent Variables

- **Contract Farming** – defined as a consistent contract between the buyer and the seller of agricultural production, which generates an agreement for the production and sale of agricultural products (Mehedi et al., 2020) and a score ≥ 3 (75% and above) was categorized as a good practice and a score of ≤2 (50% and below) indicated a poor practice.
- **Replenishment** - refers to the economies of scale which can be attained by uniting the replenishment of items and dropping the ordering costs (Nathan, 2019) and a score ≥ 3 (75% and above) was classified as the total costs can be reduced by pooling the replenishment orders and a score of ≤ 2 (50% and below) indicated a poor.
- **Information Flow** - to technologies that people use to share, distribute, and gather information and to communicate, through computers and computer networks (Timothy, 2016) and a score ≥3 (75% and above) was classified as a valuable information flow and a score of ≤2 (50% and below) indicated a poor flow.
- **Product Flow** – describe flow of products based on both physical supply and physical distribution and recognized that logistics takes place (Shashi, 2022) and a score ≥3 (75% and above) was classified as the most required in supply chain objective and a score of ≤2 (50% and below) indicated a poor practice.

3.4.2 Dependent Variable

Supply chain management performance - is a measure of identifying the extent to which the procurement and Supply Chain function can reach the objectives and goals with minimum costs (Charles, 2021) and a score ≥3 (75% and above) was classified as superior performance and a score of ≤2 (50% and below) indicated an inferior performance.

3.5 Measurement Design and Scale Reliability and Validity

3.5.1 Measurement Design

Numerous techniques have been employed to gather or obtain data for statistical analysis. Direct observation, experiments, and surveys are three of the most widely used techniques. This study employed the survey method, which involves asking participants for information. Personal interviews and a self-administered questionnaire were used to deliver this study.

3.5.1.1 Questionnaire

The researcher designed the questionnaires (see Appendix I) in two categories: general profile information and five Likert scale questions examining the level of company satisfaction. This is the main approach for gathering data. Strongly disagree, disagree, neutral, agree, and strongly agree are the five categories on the interval scale. The questionnaire was modified from Eyob (2019) on supply chain performance, Ronald (2016), and Charles (2021) about supply chain management methods. Open and closed questions were also be added.

3.5.1.2 Interview

For the study's qualitative data collection, an interview checklist was created as shown in Appendix II. Twelve specialists in the brewery manufacturing industry who were marketers, relators, distributors, and customers were therefore questioned for the study.

3.5.2 Validity

The accuracy with which data collection techniques measure the variables they are designed to measure is what is meant by validity (Sounders et al., 2012). The researcher has made several efforts to accomplish this goal. This thesis established face and content validity to guarantee the survey's appearance, relevance, and representativeness. It was conducted with a variety of participants, including the subject-matter expert instructor and examiner.

3.5.3 Retest

Ten employees at the Heineken Brewery SC in Addis Ababa pre-tested the poll. This beer-making sector has a great deal of experience with Ethiopian brewery methods and contract farming, and it has a focus on business promotion in Ethiopia. To ensure the validity of the survey results, the survey questions were developed using prior empirical research and a literature study.

3.5.4 Reliability

The internal consistency of the variables in the research instrument was evaluated in this study using Cronbach's alpha. A reliability coefficient called Cronbach's alpha is used to assess the scale's internal consistency.

Table 2 Reliability Test Results

Reliability Statistics
30

Variables	Cronbach's Alpha	No of Items
Contract Farming	*.904*	*5*
Replenishment	*.810*	*5*
Product Flow	*.887*	*5*
Information flow	*.905*	*5*
Financial flow	*.862*	*6*
Supply Chain Performance	*.903*	*10*

Source: Study Result, 2023

For questions using a Likert scale, the Cronbach's alpha statistic was computed to assess the reliability of the questionnaire used in the study. It is known that the range of Cronbach's alpha is 0 to 1; the more closely the Cronbach's alpha approaches 1, the more reliable the questionnaire. According to Hassan (2018), the value of the alpha increases if the test items are connected to one another, meaning they assess the same variable. The high Cronbach's alpha for each variable demonstrates the validity and internal consistency of the questions in each variable.

3.6 Data Sources and Collection Procedures

3.6.1 Data Type and Source

In this study, primary and secondary data both were used. Primary data was gathered from Meta Abo Brewery SC employees and premium customers or through a survey of the manufacturing sector that includes all Meta Abo Brewery SC employees, premium customers, and management. The literature evaluation was produced mostly using secondary sources that have been gathered from pertinent papers of the company under study. Because it is important to understand what is happening on the ground to produce conclusions and suggestions, the researcher used both primary and secondary data. This might be done to increase the veracity of the study's data.

3.6.1.1 Primary Data Source

Primary information sources allowed for the direct, unbiased observation or measurement of occurrences in the real world without interference from a go-between translator. Consequently, it came from the original information source from the Meta Abo Brewery SC personnel and premium customers, as well as the surveyed company and its employees, as well as premium consumers, served as the study's key data sources.

3.6.1.2 Secondary Data Source

Secondary data can be found in a variety of places, such as government publications on economic indicators, census information, statistical abstracts, databases, the media, company annual reports, etc. (Saunders, 2012). For the review, information was also gathered from Meta Abo Brewery SC's current workers and top clients, as well as from supply contracts, marketing information, documents, manuals, procedures, reports, policies, regulations, and standards.

3.6.2 Data Collection Procedure

The researcher utilized self-administered questionnaires to gather data about the subject and problems. A set of guidelines were devised to gather the data to guarantee that it is done so consistently and systematically. Prior to beginning data collecting, the researcher first chose the time for information gathering. It is obvious that a timetable was given for data collection. This timetable was then created depending on the study population's availability, from which the data was gathered. This was necessary since data had to be gathered either before classes began or at the end of the course. However, the researcher also found Meta Ambo SC to be reliable sources of data. Fourth, two assistant moderators assisted the researcher. Before the survey was conducted, their specific tasks were laid out in detail.

3.7 Model Specification and Data Analysis Plan

The four key processes for this phase, according to Creswell (2014), are data preparation, data analysis, results reporting, and results interpretation. Researchers transform quantitative and qualitative data into a format suitable for analysis as part of the data preparation process Creswell (2014). Data management and organization, reading and noting emergent concepts, characterizing, and categorizing codes into themes, establishing, and evaluating interpretations, and displaying and visualizing the data are all parts of the data analysis spiral (Creswell & Poth, 2018).

3.7.1 Data Processing

The data were computed and analyzed using SPSS version 23.0 (Statistical Package for Social Sciences). In this study, the researcher used SPSS to make it simple to present and analyse data. Data processing happens when information is gathered and put into a useful manner. A data scientist or team of data scientists often handles data processing, which must be done correctly to prevent having a negative effect on the finished result, or data output.

3.7.2 Descriptive Analysis

A descriptive research strategy aims to characterize a phenomenon, event, or occurrence as it is currently taking place. The objective of the descriptive research technique, according to Creswell (2014), is to gather information regarding the current state of the situation. Descriptive analysis was also employed in this survey to examine the demographic factors of gender, age, education, occupation, monthly income, and length of employment in the investigated institution. Overall, the data were analyzed using descriptive statistics (percentages, frequency, mean, and standard deviation).

3.7.3 Qualitative Analysis

Additionally, methods of qualitative analysis were applied to interview data. In this study, respondents talked about their experience in supply chain practices, they inform about the supply chain practices based on their working experiences, and their storied narratives are useful for this research study, according to a frequent presumption of narrative approaches. One type of qualitative data analysis that is frequently employed in narrative inquiry is narrative analysis (Croswell, 2014). Data from interviews may be included in qualitative research.

3.7.4 Inferential Analysis

3.7.4.1 Pearson Correlation and Multiple Regression

In this survey, inferential statistics (Pearson correlation and multiple regression) were used to analyse the data. Multiple regression analysis statistical methods were used to analyse the data. The key characteristics of supply chain practices were employed as independent variables in multiple regression analysis to investigate the relationship between supply chain practices and supply chain performance. Additionally, Pearson correlation was utilized to determine the impact of supply chain management performance on supply chain practices. Moreover, regression analysis was showed in this study to statistically test of the effect of supply chain practices on supply chain performance. The following equation is obtained from the research model: -

$$= + _1 \ _1 + _2 \ _2 + _3 \ _3 + _4 \ _4 + _5 \ _5 +$$

In the above equation,

Y = Supply Chain Performance

b_1 to b_5 – Coefficients of the below variables

X_1 = Contract Farming, X_2 = Replenishment, X_3 = Product Flow, X_4 = Information flow

X_5 = Financial flow and E = error

3.8 Ethical Considerations

The basic principles of this study's conduct included a voluntary foundation, the confidentiality of the data, and honesty and diligence. Additionally, the studied manufacturing industry sent an ethical letter. Following that, a detailed discussion of the research's goals and advantages was held with the surveyed industrial administrators. Then, a similar discussion was held with the actors who work at Meta Abo Brewery SC as well as with premium consumers and management. As a result, permission and approval were obtained from a few Meta Abo Brewery SC premium consumers and staff, and an appropriate discussion about the study's goal, nature, objectives, and advantages were held in the local language (Amharic).

Respondent participation in this study was optional. They were made aware of the objective of the study, and both verbally and on the questionnaire, their agreement was requested. Additionally, the researcher correctly cited any publications that were used as references out of respect for earlier study. The primary points are a general explanation of certain ethical norms that were expected in this study's data, which also covered results, methods, and processes, as well as an honest reporting of publication status.

CHAPTER FOUR
RESULTS AND DISCUSSION

4.1 Introduction

This chapter gives the information that has been created from the data that has been collected through questionnaire survey and analysis. The presentation of descriptive facts about sampled respondents (employees) profiles comes first. After that, the researcher analyses the data and discourse about the three study questions. To provide a clearer picture of the state of supply chain

practices and its performance relationship in brewery industry in Ethiopia, the researcher compares the results with those of global and Ethiopian surveys at the conclusion.

4.2 Response Rate

The perspective of public institutions or sampled respondents in the study region regarding difficulties with malt productivity and risk in Addis Ababa was collected as main data for this study.

Table 3 Response Rate

No	Employees	Distributed Questionnaire	Returned	Response Rate
1	Addis Ababa Main office	41	31	76%
	Employees	31	24	77%
	Managers and Supervisors	10	7	70%
2	Warehouses Staffs	46	38	83%
	Employees	28	21	75%
	Managers and Supervisors	19	17	89%
3	Regional Distribution	23	18	78%
	Managers and Supervisors	6	4	67%
	Employees	17	14	82%
4	Sebata Brewery	100	95	95%
5	Premium customers	62	46	74%
	Total	**272**	**228**	**84%**

Source: Survey result, 2023

The proportion between 0% and 100% that represents a survey's response rate indicates how many of the persons who were approached, or "sampled," completed the survey. It is generally believed that the higher the response rate, the more likely the results are to be representative of the population, provided that the sampling was appropriate in the first place (and those who do not respond share the same sentiments as those who do). Since response rates are typically low in business surveys, the researcher has paid particular attention to them. This study sent tangible questionnaires about respondents' requests in order to do this.

The data reveals that the sampled respondents received 272 surveys. This study found that when 228 questionnaires were returned, their accuracy rate was 84%. However, it is important to keep in mind that there are other types of prejudice that a high response rate cannot eradicate. In general, a high response rate is likely to diminish these biases. Even a 95% response rate would not guarantee that the conclusions were unbiased due to the poor data gathering techniques used in this case. Employees who did not reply to the study's invitation did so for the following reasons: they believed they had the necessary knowledge and skills; they were too busy to complete the questionnaire; and they lacked authority. The subsequent analysis was done based on this response rate.

4.3 Respondents Profile

4.3.1 Respondents' Socio-Economic Characteristics

An overview of the respondents is given in this section, together with details on their participation in the study, level of education, gender, age, and other pertinent criteria. The data are shown in Table 5. Social and economic factors can be found in things like money, education, employment, neighborhood safety, and social support. The possibilities that are available in a society are influenced by social and economic factors. Our ability to pay for housing, healthcare, and stress relief are some of these alternatives. This study argues that best practices in supply chain management should be promoted, including integrating supply management systems, creating tools for clarity and communication, encouraging improvements in supplier performance, gathering, and analyzing useful data, and having scalable solutions (Creswell, 2014; Daniel 2016).

Table 4 Respondents Demographic Characteristics

Category		Count	Column N %
Gender	Female	47	20.6
	Male	181	79.4
Age (in years)	18-29	78	34.2
	30-40	73	32.0
	41-50	40	17.5
	above 51	37	16.2

Education	High school	0	0.0
	Diploma	16	7.0
	Degree	184	80.7
	Masters Above	28	12.3

Survey Result, 2023

The first portion of the study questionnaire collects information about the employees' profile, as suggested in chapter 3. It provides demographic data about the employees' profile and the purview of the responders. The above table displays the background data of the research participants at various levels prior to the analysis of the data. According to the study, most study participants—79.4%, or 181 people—were male, while among the 228 employees of the surveyed firms, 20.6%, or 47 people, were female (Table 4). The findings show that because there were more than two-thirds of male responses, the two genders were not fairly represented in the survey. This demonstrates that there are more male employees working for selected manufacturing firm, especially in specialised industries like brewery industry.

Table 4 also shows that the respondents' ages ranged from 18 to 65, with 18 being the median age. Only 78 respondents—or 34.2 percent—of the 228 employees of the chosen manufacturing firm who participated in the study were under the age of 29. Out of the total sampled respondents, 32.0 percent (73 employees' respondents) were in the study who were between the ages of 30 and 40, 17.5% were in the research who were between the ages of 41 and 50, and 16.2% were in the study who were over the age of 51. In this survey, no respondent who had only completed high school or less was included accordingly, and 7% of respondents had a colleague diploma. 80.7 percent of the research participants in this study held only a first degree, while 12.3 percent held master's degree. This may indicate that many employees had the education necessary to respond to this research question.

In addition, this study discovered that 46.5% of the tested workers had spent between four and seven years outside the studied manufacturing firm and that 7.9% had worked there for less than three years. In general, the respondents' demographic profiles showed that they were all highly educated, had the necessary job experience to manage the study questionnaire, and were knowledgeable about risk and malt production concerns and their causes. It demonstrates that they

had the skills and talent necessary to respond to the questionnaire and offer relevant data for this study. This demonstrates and effectively demonstrates that the respondents can respond to the given questions about risk and productivity to meet the goals of this study.

4.3.2 Level of Understanding Ethiopian Malt Production by Respondents

Table 5 Level of Respondents' Understanding

Category		Count	%
Know in the agriculture monitoring, research, project participation and supervision	1 – 3 years	18	7.9
	4 – 7 years	106	46.5
	8-10 years	44	19.3
	11– 15years	60	26.3
Length of working in Malt Production, monitoring research etc	Below 1 year	39	17.1
	1-5 years	66	28.9
	6-10 years	95	41.7
	11-20 years	28	12.3
Know this malt barley projects and its status in Ethiopia	No	9	3.9
	Yes	219	96.1
Understand malt barley projects in Ethiopia	No	17	7.5
	Yes	211	92.5
Participate on malt barley workshops or meetings in Ethiopia	No	10	4.4
	Yes	218	95.6

Survey Result, 2023

In this study, 28.9% of the sampled personnel had worked in the production of malt, monitoring research, etc. for less than five years, and 46.5% had spent between six and ten years in the field. This suggests that these workers have extensive expertise in the agricultural sector, malt barley initiatives, agricultural production, and related trainings and research activities; it demonstrates that they are well-versed in this industry.

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This suggests that these workers have extensive expertise in the agricultural sector, malt barley initiatives, agricultural production, and related trainings and research activities; it demonstrates that they are well-versed in this industry. The study also discovered that 91.6% of the sampled employees comprehended malt barley initiatives in Ethiopia and that 96.1% of them were familiar with the projects' state in Ethiopia. In this study, 95.5% of the sampled workers attended seminars or workshops in Ethiopia related to malt barley. This demonstrates that the sampled respondents were aware of malt risk management procedures beforehand due to their line of work, degree of education, and participation in various training programs on the topic. In accordance with Mehedi et al., (2020), farmers must decide what crops to sow, as well as the appropriate planting rates and fertilizer levels, during the cropping season. Along with raising stakeholder awareness, government and private institution projects are careful to learn from local and international organizations' experiences in helping smallholder farmers obtain credit services from financial institutions by pledging their agricultural assets as security, particularly in Oromia and the Amhara Region.

In this regard, so far, an international organization, government, and brewery factories like Dashen and Heineken have underwritten to a specific financing solution for the malt barley value chain that their respective projects have investigated in order to provide necessary inputs and map relevant players to the topic. Their projects have joined three microfinances that were actively assisting the project by lending money to smallholder farmers. It creates a possible well informed community dialogue for local level through extensive development regarding payments to farmers by deploying more digital applications like electronic payments and cash transfer technology, there has been considerable progress on the issue of access to finance utilizing rural assets as collateral.

4.4 The Level of Supply Chain Management Practices

Descriptive statistics like mean and standard deviation were used in the response analysis. In this study, descriptive statistics aid in making the data more understandable and facilitates easier data interpretation. An example of a benchmark means scores rating was Eyob (2019). They conducted research in a related area and used mean scores of 4.51–5.00 for excellent or profoundly serious challenges, 3.51-4.50 for very good or challenges, 2.51-3.50 for average or moderate challenges, 1.51-2.50 for fair challenges, and 1.00–1.50 for poor challenges.

4.4.1 Contract Farming

The value chain for malt barley consists of four main functional parts that are distributed across several geographic/territorial areas: input provision, production, marketing, and processing (Ohue and Akhator, 2021). As a result, respondents from the sample were asked to rate how they felt about these risky behaviours. The consequences of the analysis are revealed in Table 8.

Table 6 Responses on Contract Farming

Items	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	N	%	N	%	N	%	N	%	N	%
Benefits from contract farming to enhance its SC performance.	26	11%	15	7%	9	4%	110	48%	68	30%
Meta Abo Brewery enhances its supply chain performance.	20	9%	30	13%	12	5%	89	39%	77	34%
Contract farming helps malt Meta Abo Brewery SC performance.	25	11%	26	11%	15	7%	93	41%	69	30%
Creating a better-quality relationship among malt barley stakeholders.	30	13%	23	10%	9	4%	90	40%	76	33%
Help Meta Abo Brewery SC to enhance its supply chain performance.	27	12%	19	8%	9	4%	100	44%	73	32%
Grand Mean 3.73 SD .9681										

Survey Result, 2023

According to Table 8, the grand mean score value was 3.73. This shows that the respondents concur with the numerous benefits and some claims made about the methods used in contract farming management. Additionally, the standard deviation numbers were less than two, which is a low standard deviation and denotes that respondents' opinions were likely to be similar. Particularly, the grand mean score was considered to be extremely good; the respondents agreed that this industry implemented contract farming correctly. Additionally, a professional demonstrated that (E3, 2023)

> *In Ethiopia nowadays, contract farming and arrangements with outside growers are very common. These techniques are promoted as a means of getting farmers*

involved in commercial agriculture and agribusiness.

In this research survey report 78% of sampled respondents say contract farming helps Meta Abo Brewery SC improve the efficiency of its supply chain. This means that contracts may offer the chance to gain price premiums or larger returns in exchange for growing novel crops or employing specific production techniques. Similarly, 78% of sampled respondents say the farmer's plant crops assist Meta Abo Brewery SC in improving the performance of its supply chain under the guidance of actual activities and with the support of the buyer's input. It also means that contract farming is the practice of farmers producing under a written agreement with buyers of their products.

On other hand, correspondingly 73% of sampled respondents say contracts between the customer and seller are used by Meta Abo Brewery SC to improve supply chain efficiency and stakeholders in the malt barley industry can perform better in its supply chain by developing better relationships. It shows that this contract is an extremely useful technique that encourages greater corporate agreement. Contracts are particularly effective at preventing future conflict and contractual disputes because they are a set of terms that both parties have agreed upon (Kimbi et al., 2022). Like that, 71 % of respondents in the survey stated as the performance of the supply chain of Meta Abo Brewery SC are improved by contract farming and it is necessary for the manufacturing of malt in developing countries. It means that reduces transaction costs and effectively controls production, efficiency, or profitability by using contract farming as a best management technique. One of the respondents to the interview said that (E4, 2023)

The goal of these projects is to improve growers' technical support in order to increase malt barley producers' productivity and output, especially among small-scale farmers. This includes improving crop rotation, soil preparation, seed usage, fertilizer use, planting techniques, seed depth, post-harvest handling, quality, marketing, and other factors.

4.4.2 Replenishment

Respondents were asked to rate how they felt about efficient replacement and the prerequisites for understanding these practices in brewery sector. Table 7 presents the results of the analysis.

Table 7 Responses on Replenishment

Items	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	N	%	N	%	N	%	N	%	N	%
Meta Abo is benefited by replenishment	13	6%	27	12%	9	4%	102	45%	77	34%
Meta Abo Brewery SC has a well-crafted stock replenishment.	12	5%	27	12%	9	4%	90	40%	90	40%
Meta Abo Brewery SC supply chain system boost the quality of its goods and services.	7	3%	23	10%	9	4%	78	34%	111	49%
Meta Abo Brewery SC supply chain system enables internal.	29	13%	22	10%	8	4%	84	37%	85	37%
Meta Abo Brewery SC enables internal process to be effective.	13	6%	9	4%	11	5%	91	40%	104	46%
Grand Mean 3.98 SD .9415										

Survey Result, 2023

Table 7's findings indicate that all the mean score values were located. The respondents agreed that this sector is an efficient replacement and one of the supply chain methods in the brewery industry, and the mean score of 3.98 was evaluated as being exceptionally good. This demonstrates that replacement is one of the primary supply chain practices in the surveyed malt sector, and that respondents generally agree with the numerous comments made about it. Because the standard deviation values in this study were under two, which is a low standard deviation, it is likely that respondents' opinions were comparable. More significantly, 79% of all respondents said fast or efficiently re-fill of products or raw materials helps Meta Abo improve the performance of its supply chain. This demonstrates that to achieve enhanced performance, management must make sure that internal supply chain procedures are conducted as efficiently as possible. The supply chain process can be improved by making improvements to the ordering; ordering procedure, and

payment process, especially when funds are applied throughout the supply chain process (Ronald, 2016). According to one expert (E7, 2023) stated that the breweries must do extra training and coaching as needed and reassess their supply chain procedures considering the results of the reassessment. It also investigates new supply channels to support and strengthen in-person coaching and training.

The vast majority of those surveyed claimed that Ethiopian breweries must be innovative in developing and replacing products. This is linked with all supply chain actors as real participants in the chain and their supply chain strategy should focus on businesses that produce quickly outdated products. Customers are mostly interested in how quickly the manufacturer changes their product lineup to stay current with fashion trends. In general, prompt reaction aids businesses in improving the effectiveness of their supply chain management. Additionally, it lowers operating costs (Kumha, 2018).

4.4.3 Product Flow

Table 8 displayed statistics of saving as product flow activities carried out by the surveyed brewery and the perceived effect of its practices from the viewpoint of employees. The grand mean and each item count or frequency value has been computed as described below. This shows that the respondents concur with the numerous claims made about product flow in supply chain management techniques. In a similar vein, the standard deviation numbers were under two, which is a low standard deviation and denotes that respondents' opinions were comparable. At, the grand mean score of 3.68 was very good; the respondents all agreed that the product flow methods at the brewery were carried out in a good manner. It means that it covers every step of the supply chain from acquiring ingredients and packaging to storing and delivering beer around the world. Suppliers participating early in the product-design process can offer more cost-effective design choices, help select the best components and technologies, and help in design assessment.

Table 8 Responses on Prodcut Flow

Variable (Items)	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	N	%	N	%	N	%	N	%	N	%
Meta delivers products free from defects	7	4%	33	19%	17	10%	68	38%	53	30%

Meta is reliable	14	8%	22	12%	14	8%	84	47%	44	25%
Meta Abo Brewery SC tries to deliver products timely	13	7%	23	13%	12	7%	84	47%	46	26%
Meta tries to deliver products within flexible price	11	6%	29	16%	16	9%	71	40%	51	29%
generate customer satisfaction	4	5%	15	18%	11	13%	34	41%	19	23%
Grand Mean 3.68 Sd .9160										

Survey result, 2023

This study also found that the Meta Abo Brewery SC tries to give consumers with timely deliveries and real-time information as per most of the respondents. The vast majority of those surveyed demanded that the Abo Brewery SC strives to provide goods at a reasonable and competitive price. This means that this company can create good strategic partnerships with suppliers enable organizations to work more effectively with a few important suppliers who are willing to share responsibility for the success of the products. In this survey, the vast majority of those surveyed claimed that products from Meta Abo Brewery SC are delivered without flaws. Since firms must share distinct types of information with one another for the entire supply chain to be able to make better decisions and increase overall performance, information flow occurs both ways in the supply chain (Shashi, 2022).

4.4.4 Information Flow

The information flow in supply chain management procedures used by the examined brewery and the perceived results of these practices from the perspective of employees were the topics of. Table 9's statistics of respondents' responses and the calculated grand mean and individual item counts are shown below.

Table 9 Responses on Infroamtion flow

Items	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	N	%	N	%	N	%	N	%	N	%

Meta Abo Brewery SC gathers feedback from various stakeholders.	18	8%	8	4%	9	4%	64	28%	129	57%
Meta Abo Brewery SC regulates flow of information timely.	16	7%	8	4%	10	4%	75	33%	119	52%
Meta Abo Brewery SC uses up-to-date technology software.	18	8%	8	4%	9	4%	78	34%	115	50%
Meta Abo Brewery SC uses unique information technology equipment.	14	6%	13	6%	3	1%	76	33%	122	54%
Meta Abo Brewery SC has uses technology.	11	5%	14	6%	9	4%	68	30%	126	55%
Grand Mean 4.20 SD .90001										

Survey result, 2023

Results from Table 10 indicate that the respondents agreed that this brewery had valuable information flow and associated supply chain practices, particularly with regard to obtaining pertinent and unique information technology equipment, with a grand mean score value of 4.20 , which was scored as agree or particularly good. This indicates that this brewery properly and regularly gathers feedback from various stakeholders. Most of the respondents stated that this firm also regulates flow of information timely and up-to-date information technology software. In addition, it applies unique information technology equipment and applies technology to effectively manage information. Timothy (2016) also stated that the supply chain in product production enables the movement and transformation of raw materials into finished goods. To provide simple coordination between the central warehouses and regional warehouses, it also automated the functioning of its warehouses. Modern software is mostly used in financial management by BGI Ethiopia (the newly owner of this firm). This shows new developments in supply chain have been existing in this firm. After the ownership transfer, most of the interview repoints indicated that up-to-date Microsoft applications and email communication have been implemented recently; these are main tools used in supply chain management. Additionally, distribution agents exchange information, such as the daily inventory status, over the phone and by text message (Kimbi et al., 2022).

4.4.5 Financial Flow

Table 10 portrayed statistics of saving as financial flow in supply chain practices conducted by the surveyed manufacturing firm and the apparent outcome of these practices from the viewpoint of employees. The grand mean and counts of each item have been calculated as designated below.

Table 10 Responses on Finanacial flow

Items	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	N	%	N	%	N	%	N	%	N	%
Evaluates product affordability.	6	3%	48	21%	28	12%	96	42%	50	22%
Monitors working capital well.	17	8%	34	15%	21	9%	115	50%	41	18%
Regulates financial transactions timely.	15	7%	32	14%	18	8%	115	50%	48	21%
Able to ease its financial flows.	13	6%	43	19%	19	8%	106	47%	47	21%
Has good financial management.	15	7%	47	21%	25	11%	100	44%	41	18%
Manages financial budgets.	25	11%	9	4%	8	4%	74	33%	112	49%
Grand Mean 3.65 SD .9749										

Survey result, 2023

With a grand mean score of 3.65, which was scored as agree or incredibly good, the respondents agreed that this brewery had good financial flow and associated supply chain practices, particularly with regard to obtaining pertinent working capital, cash flow, and capital investment. This shows that companies are now attempting to integrate their decisions throughout the supply chain management performance partners globally as a result of the growing knowledge of the financial and non-financial effects of supply chain management performance processes on business firms in particular.

Apart from a relatively small number of multinational and international enterprises functioning in the brewery, the notion of supply chain management performance for improvement is in its infancy at this Brewery. This shows that this firm has improved cash flow efficiency. Even if there is a systematic labour difficulty in Ethiopia supply chains, the supply chain finance system or supply chain investment are moderately addressed in this firm. This shows that this firm has properly monitored its supply chain investment program. This program awards grants to its projects (For example, contract farming and investment in capital items) for cutting-edge and

significant initiatives that aim to improve scalable, long-term working conditions and the empowerment of employees in important sourcing markets. A distributor who uses effective sales forecasting can maintain optimal inventory levels and increase cash flow (Bahl et al., 2021).

4.5 Magnitude of Supply Chain Management Performance

Table 10 depicted statistics of supply chain management performance conducted by the surveyed brewery from the viewpoint of sampled employees. The grand mean and counts of each item have been computed as specified below.

Table 11 Responses on Supply Chain Managmenet Perfoemnce

Items	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	N	%	N	%	N	%	N	%	N	%
Meta Abo Brewery SC has effectively managed order-to-delivery lead time.	30	13%	23	10%	17	8%	48	21%	110	48%
Supply chain response time of Meta Abo Brewery SC is shorter.	27	12%	33	15%	30	13%	89	39%	49	22%
Customers are satisfied by Meta Abo Brewery SC.	19	8%	24	11%	32	14%	95	42%	58	25%
Meta Abo Brewery SC identified customer requirements.	20	9%	26	11%	26	11%	104	46%	52	23%
Meta Abo Brewery SC maintains upside supply chain flexibility.	21	9%	31	14%	35	15%	84	37%	57	25%
Meta Abo Brewery SC adapts upside and downside supply chain schemes.	34	15%	37	16%	28	12%	73	32%	56	25%
Meta Abo Brewery SC reduces supply chain management costs.	33	15%	39	17%	29	13%	100	44%	26	12%
Meta Abo Brewery SC achieves effective maintenance activities.	30	13%	26	11%	17	8%	99	43%	56	25%

Meta Abo Brewery SC adheres to delivery schedule.	35	15%	36	16%	14	6%	95	42%	48	21%
Maintains Cost of goods sold and Cash-to-cash cycle time schemes.	36	16%	36	16%	21	9%	89	39%	46	20%
Grand Mean 3.48 SD .90001										

Survey result, 2023

Results from Table 11's evaluation of Ethiopia's supply chain management performance reveal that the overall mean score was 3.48 with less than one standard deviation. This shows that the respondents' opinions on the various statements about the Ethiopian beer industry's supply chain management performance are somewhat in accord. Accordingly, the standard deviation numbers were under two, which is a low standard deviation and indicates that respondents had similar ideas. By volume and value, the beer segment is the most important one in Ethiopian market for alcoholic beverages. This will be achieved in the surveyed brewery is due to by efficiently accomplished order-to-delivery lead time, gratified customers, upside supply chain flexibility, actual maintenance activities and follows to delivery schedule. This helps to brewed cereal grains (often utilized cereal grain in the creation of beer is barley) and then marinated in water to make it easily. This brewery is popping up everywhere because of market participants' concentration on mass manufacturing to meet this sharp increase in demand. Innovative taste alternatives are also the ideal thing for businesses in their markets. Additionally, factors that are expected to fuel the growth of the beer market include the country's westernization and rising purchasing power. This survey understood that this firm has been established best practices and the proper processes and staff are forecasted. Out-of-stocks brought on by bad forecasting and ordering can also have a detrimental effect on sales, profitability, brand equity, and customer relations. Out-of-stock situations can be avoided by employing a sales forecasting model consistently (Jean et al., 2021).

4.6 Effect of Risk Management Practices on Productivity

4.6.1 Correlation Analysis

To determine the strength of the correlation between the variables, a Pearson's Product Moment Correlation test was performed.

Table 12 Correlation Analysis (N=228)

		Contract Farming	Replacement	Product Flow	Information Flow	Financia l Flow	SC Performance
Contract Farming	Pearson Correlation	1	.411**	.417**	.383**	.252**	***.515*****
	Sig. (2-tailed)		.000	.000	.000	.000	***.000***
Replenishment	Pearson Correlation	.411**	1	.542**	.383**	.322**	***.548*****
	Sig. (2-tailed)	.000		.000	.000	.000	***.000***
Product Flow	Pearson Correlation	.417**	.542**	1	.318**	.291**	***.539*****
	Sig. (2-tailed)	.000	.000		.000	.000	***.000***
Information Flow	Pearson Correlation	.383**	.383**	.318**	1	.337**	***.502*****
	Sig. (2-tailed)	.000	.000	.000		.000	***.000***
Financial Flow	Pearson Correlation	.252**	.322**	.291**	.337**	1	***.494*****
	Sig. (2-tailed)	.000	.000	.000	.000		***.000***
SCM Performance	Pearson Correlation	.515**	.548**	.539**	.502**	.494**	***1***
	Sig. (2-tailed)	.000	.000	.000	.000	.000	

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

Survey result, 2023

Thus, this study used correlational analysis to discover a favourable association between contract farming and supply chain performance, which is statistically significant or Sig. (2-tailed) at r

(0.515;.000); P < 0.05 (Table 12). The significance level for 000 with correlation is 0.01 (2-tailed). According to this study, contract farming practices have a favourable link with SCM performance, according to Tigist and Rajwinder (2020).

This study discovered a moderate and significant correlation exists between supply chain management performance and Replenishment processes (r=.548; P < .05) (Table 12). Like this study, Kimbi et al., (2022) discovered a favourable link between SCM performance and efficient replacement. According to Ronald (2016)'s research, effective replacement strategies have a positive relationship with supply chain effectiveness.

Because of the quick production, packing, and sorting cycles as well as the delivery cycles, the products were delivered more quickly (Sintayehu, 2016). Additionally, this research discovered a positive and significant correlation between product flow and supply chain management performance exists, r (.539;.000); P 0.05; as a result, the relationship is statistically significant, or Sig. (2-tailed).000 with correlation is significant at the 0.01 level (2-tailed), according to correlational analysis. According to this study, Kimbi et al. (2022) believed that one of the most important risk management techniques used by brewers throughout the world is the effects of product flow on supply chain performance.

The supply chain management performance and information flow practices were shown to be significantly and positively correlated in this study using correlational analysis, with a moderately positive link between the two, r (0.502;.000); P 0.05. This study found a positive correlation between information flow and supply chain performance (Popoola, 2019).

This study used correlational analysis to determine whether there is a significant and positive relationship between financial flow procedures and supply chain efficiency exists in this industry (r=.494;.000). The significance level for 000 with correlation is 0.01 (2-tailed). Like this study, Tigist and Rajwinder (2020) discovered a favourable association between financial flow and supply chain effectiveness.

4.6.2 Multiple Regression Analysis

4.6.2.1 Assumptions and Diagnostic Test

The multiple regression analysis results and theoretical and empirical multiple regression principles served as the foundation for the assumption test. The test results demonstrate that the assumptions of regression analysis were met for normality, multicollinearity, and the test for the average value of the error term. When two or more predictor variables are correlated, problems may occur (Croswell, 2014).

Table 13 Summary of Collinearity Statistics

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Contract Farming	.730	1.370
	Replenishment	.625	1.600
	Product Flow	.650	1.538
	Information Flow	.753	1.328
	Financial Flow	.829	1.206

Source: Survey result, 2023

The variance inflation factor (VIF), which assesses how much the variance has been inflated, can identify multicollinearity. Based on the theory, a VIF values were investigated, and all are found below 5. It indicates not multi-collinearity that is not hazardous. All analyses that examined the VIF suggested that a VIF greater than 5 was cause for concern, but this was not the case when the VIF was checked.

Autocorrelation Test Result

The multiple regression analysis results and theoretical and empirical multiple regression principles served as the foundation for the assumption test.

Table 14 Summary of Collinearity Statistics

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.742[a]	.550	.540	.568	1.504

a. Predictors: (Constant), Financial Flow, Contract Farming, Information Flow, Product Flow, Replacement

b. Dependent Variable: Supply Chain Performance

Source: Survey result, 2023

The degree of correlation between the same variables over two subsequent time intervals is referred to as autocorrelation, also referred to as serial correlation. Autocorrelation value of this study was 1.504 and it was rated as good that shows no problem of autocorrelation.

Normality Test

It should be recalled that the normal distribution of the error terms is one of the assumptions made by linear regression. That is a "Normal"(0, 2) situation.

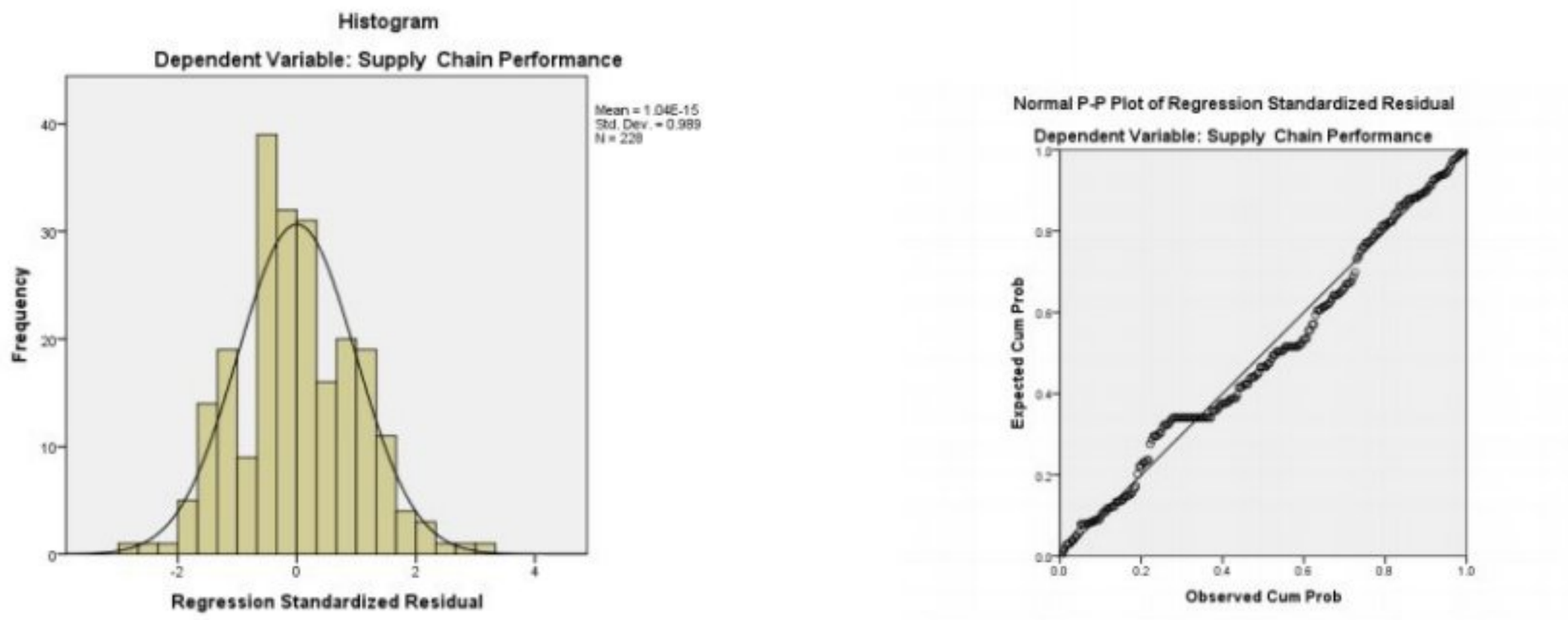

Figure 3 Histogram and Normal PP

Source: Survey result, 2023

The null hypothesis that the data for all variables were not normally distributed was rejected as a consequence of the study's discovery that both tests' significance levels were less than 0.05, which was inferred from the findings of the histogram test for normality (John et al., 2007). This can be achieved by using a normal probability plot of the residuals, commonly known as a normal P-P plot in SPSS (see Figure 5).

A straight-line function of the independent variables, X', yields the mean value of the response variable (Y). A deviation from this presumption can suggest that the connection between the answer and the explanatory variables is not linear (John et al., 2007). Thus, the linear regression model might not be appropriate or able to fit the data under consideration. Therefore, the graph

above displays that the regression can run.

4.6.2.2 Multiple Regression Test Results

Model Summary

The results of the multiple regression test are shown in the above table, and its measurement—the size of the impact of the independent variable on the dependent variable, Ethiopia's malt productivity—is determined by extrapolating the value of R2. The performance of Ethiopia's supply chain and the linear regression of six independent variables are shown below.

Table 15 Regression Test Results

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.742[a]	.550	.540	.568

a. Predictors: (Constant), Financial Flow, Contract Farming, Information Flow, Product Flow, Replacement

Source: Survey result, 2023

According to the aforementioned table, the complete set of determinant factors for the six independent variables explained 55.0 % (R2 =.550) in Ethiopia's brewery supply chain practices malt productivity. This implies that the specified four independent variables account for 55.0 % of supply chain performance, whereas the remaining 45.0 % is determined by other unexplained components in this study (See Table 16).

ANOVA

It is stated that the dependent variable is assumed to have a normal distribution in the population for t-tests and ANOVA. The assumption is that the residual values in the population are normally distributed after this study uses predictors to account for the variance in Y in the regression model.

Table 16 Regression Test Results

ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.

1	Regression	87.637	5	17.527	54.338	.000[b]
	Residual	71.609	222	.323		
	Total	159.246	227			

a. Dependent Variable: Supply Chain Performance
b. Predictors: (Constant), Financial Flow, Contract Farming, Information Flow, Product Flow, Replacement

Source: Survey result, 2023

It can be shown from this table (Table 17) F= 54.338 result that the combination of determinant factors has a positive impact on supply chain management performance and that this impact is statistically significant. As a result, the null hypothesis is rejected by this investigation.

Table 17 Regression Test Results

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.127	.238		.532	.595
	Contract Farming	***.177***	.044	.210	3.978	***.000***
	Replenishment	***.170***	.051	.190	3.335	***.001***
	Product Flow	***.213***	.056	.213	3.812	***.000***
	Information Flow	***.211***	.056	.197	3.795	***.000***
	Financial Flow	***.256***	.050	.252	5.104	***.000***

a. Dependent Variable: Supply Chain Performance

Source: Survey result, 2023

Coefficients

According to the multiple regression table above, this study discovered a substantial and positive relationship between supply chain management performance and contract farming techniques (B=.177, Sig= .0001). According to this study, Kimbi et al. (2022) believed that contract farming techniques had a good impact on supply chain performance, and this investigation discovered a direct effect between the two.

The coefficient of efficient replacement is 0.170, as seen in the table above. This implies that the supply chain performance of Ethiopia's brewery industry will grow by 17.0 % for every unit increase in efficient replacement. It implies a connection between sig value 0.001 and effective replacement. Based on this table, the study draws the conclusion that in Ethiopia, efficient replacement and supply chain performance are significantly positively correlated. Supply chain performance is the most important brewery supply chain component, according to Melanie (2021).

The table above demonstrates that the coefficient of product flow is 0.213. This concludes that a unit increase in product flow will result in 21.3 % upsurge in supply chain management performance in Ethiopia. This shows that beer productivity can be achieved via product flow in Ethiopia. It infers a direct relationship between product flow and supply chain management performance and sig value 0.0001. According to Melanie (2021), the most essential for enhancing supply chain management performance in Ethiopia is product flow.

The coefficient of information flow is 0.211, as understood in the table above (Table 18). This denotes that the supply chain management performance of Ethiopia's brewery industry will grow by 21.1 % for every unit increase in information flow. It implies a connection between sig value 0.028 and information flow. Based on this table, the study draws the conclusion that in Ethiopia, information flow and supply chain management performance are significantly positively correlated. Supply chain management performance is the most important brewery supply chain component, according to Melanie (2021).

The table above (Table 18) shows that the supply chain management techniques' coefficient of financial flow is 0.256. This implies a direct correlation between it and supply chain management performance (.0001) and that a unit improvement in financial flow will result in a 25.6 % rise in supply chain performance. The study therefore draws the conclusion that there is a positive association between financial flow practices and supply chain management performance since these figures. It has a positive association with supply chain performance, according to Mwaura (2021).

4.7 Discussion

4.7.1 Contract Farming

In this study, the researcher used a correlation matrix to demonstrate that contract farming and supply chain performance have a somewhat positive association, which is statistically significant or Sig. (2-tailed) at r (0.515;.000); P 0.05. Additionally, the study tried to determine whether the two variables had a substantial impact on the research question. This study discovered a positive and substantial impact of supply chain management performance on contract farming (B=.177, Sig.=.0001), as indicated by the results of the multiple regression test. The obtained results supported the hypothesized hypothesis regarding the contract farming and SCM construct, with emphasis on the role of contract farming as the primary tool for harmonization (Eyob, 2019). In their report from 2020, Tigist and Rajwinder note the same outcome. Related to contract farming, the empirical findings point to reflections because of sustainable relationship (Addisu, 2018).

4.7.2 Replenishment

The supply chain management performance in Ethiopia was examined in this study using person correlation analysis and multiple regression analysis. According to the results of the correlation analysis, this study discovered a correlation between effective replacement procedures and supply chain management performance in the malt business (r=.548; Sig.=.000). This study discovered that, given that the efficient replacement coefficient is 0.170, it implies a considerable impact on supply chain management performance (Sig value 0.001). The results also allowed us to draw the conclusion that effective supply chain management and efficient replacement are impacted favourably. The findings of Melanie (2021) and Ronald (2016) were comparable. Orders are discharged in accordance with the buffer period before they become unfulfilled.

4.7.3 Product Flow

This study's correlation analysis revealed a positive association, r (.539;.000), between product flow and supply chain effectiveness. Regression analysis was used in this study to show that product flow has a direct and positive impact on supply chain management performance (=.213 and sig value 0.016). Brewery sector in Ethiopia will significantly improve supply chain management performance by increasing product flow. According to Kimbi et al. (2022), it was

assumed that brewers had one of the best supply chain management performances due to continuous product flow. Findings that are like Melanie (2021) are provided. The following product is ideal for usage throughout the brewery's whole lifecycle. The main distinction between value offerings from competitors, as seen by the client, is how well they can adapt their product portfolios to the most recent developments (Popoola, 2019).

4.7.4 Information Flow

This study used correlational analysis to demonstrate a statistically significant relationship between information flow practices and supply chain effectiveness. This study's correlation matrix revealed r (0.502;.000); P 0.05, which indicates a substantial and positive link between supply chain management performance and information flow. Regression analysis reveals the coefficient of efficient replacement, which is 0.211. This implies that for every unit improvement in information flow, the supply chain performance of the Ethiopian brewery industry will increase by 11.8%. By using the flow of information and the sig value of 0.028, it may be inferred that a favourable and significant impact was discovered on supply chain management performance. According to Melanie (2021), the performance of the supply chain management is the element of the brewery supply chain that is most crucial. According to this study, the performance of the supply chain and information flow is positively correlated. (Popoola, 2019).

4.7.5 Financial Flow

Correlational analysis was utilized in this study to determine whether there is a significant relationship between financial flow and supply chain management performance in the studied company. The results showed that there existed a significant relationship between financial flow and supply chain management performance in the studied company (r=.494;.000). The significance level for 000 and correlation is 0.01 (2-tailed). According to this study, financial flow has a positive and significant impact on supply chain management performance (=.256 and Sig=.0001), and even a minor increase in financial flow would result in a 2.1% rise in supply chain performance. The study indicates that there is a positive association between money flow patterns and supply chain management performance based on these data. Mwaura (2021) found a significant association between it and the effectiveness of the supply chain. Like this study, Tigist and Rajwinder (2020) discovered a favourable association between financial flow and supply chain effectiveness. It integrates the monetary flows throughout the supply chain to ensure that

goods are produced, supplied, and distributed, according to Ronald (2016). Jean-Noël Beka et al., (2021) applied the dynamic capabilities approach and empirically explore the relationship between supply chain finance (SCF) and organizational performance (OP)

Table 18 Summary of Hypothesis Testing

Hypothesis	***Degree and Direction of Correlation***	***Sig.***	***Degree and Level of Significant***	***Decision***
H_1: Contract Farming has a positive significant effect on supply chain management performance in Ethiopia	*Moderate and Positive* ***.515****	*.0001*	*Positive and Significant Effect*	*Maintained*
H_2: Replacement has a positive significant effect on supply chain management performance in Ethiopia	*Moderate and Positive****.548****	*.001*	*Positive and Significant Effect*	*Maintained*
H_3: Product Flow has a positive significant effect on supply chain management performance in Ethiopia	*Moderate and Positive****.539****	*.0001*	*Positive and Significant Effect*	*Maintained*
H_4: Information Flow has a positive significant effect on supply chain management performance in Ethiopia	*Moderate and Positive****.502****	*.0001*	*Positive and Significant Effect*	*Maintained*
H_5: Financial Flow has a positive significant effect on supply chain management performance in Ethiopia	*Moderate and Positive****.494****	*.0001*	*Positive and Significant Effect*	*Maintained*

Source: Survey result, 2023

CHAPTER FIVE

CONCLUSIONs AND RECOMMENDATIONS

5.1 Introduction

The findings, conclusions, and policy suggestions drawn from the data analysis in Chapter 4 are summarized in this chapter. This section of the study contains the study's concluding chapter, which includes a summary of its findings, a conclusion, and suitable suggestions in light of its findings.

5.2 Summary of Major Findings

This study discovered using a descriptive and explanatory research approach that

- There is a somewhat favourable association between contract farming and supply chain performance r (0.515;.000) P < 0.05 and a positive and significant effect of supply chain management performance on contract farming was found (B=.177, Sig.= .0001).
- A moderate positive correlation between supply chain management performance in the malt industry and replenishment (r=.548; Sig.= .000) and it discovered a significant and effect of between effective replacement on supply chain management performance (B= .170 and Sig value 0.001).
- A positive correlation between product flow and supply chain performance, r (.539;.000) and it revealed that a positive and direct effect of product flow on supply chain management performance (β= .213 and sig value 0.016).
- A moderate association between supply chain management performance and information flow r (0.502;.000) and a positive and significant effect supply chain management performance occurred o by flow of information (B= .213 and the sig value of 0.0001).
- There existed a meaningful relationship between financial flow and supply chain management performance (r=.494;.000). Further, financial flow has a positive and significant impact on supply chain management performance (=.256 and Sig=.0001).

5.3 Conclusions

Implementing and promoting contract farming is crucial for agricultural policies focusing on rural development since it is a good arrangement that incorporates smallholder farmers in the agricultural value chain in developing nations. The study's findings thus support the prediction that contract farming will have an impact on the supply chain management performance of the brewery sector, particularly at Meta Abo Brewery SC in Ethiopia.

The supply chain process can be improved by making improvements to the ordering, ordering procedure, and payment process, especially when funds are applied throughout the supply chain process. The study's findings thus support the hypothesis that replenishment will have an impact on the functioning of the brewery industry's supply chain, particularly at Meta Abo Brewery SC in Ethiopia.

It is necessary to coordinate the product flows throughout the entire channel. The terms physical distribution and logistics were used interchangeably at the time, and these concepts are similar to what is today known as supply chain management. Thus, the study's findings are consistent with the hypothesis that Product Flow (Effective Delivery) will enhance the effectiveness of the brewing industry's supply chain management, notably in Meta.

Structures, physical flows, and information can all be integrated within the same distribution channel thanks to advances in information technology. By enhancing the transportation infrastructure and logistics management, technological advancements increase the productivity of physical and informational flows. As a result, the study's findings support the hypothesis that Information Flow (Information Sharing) will have an impact on the performance of the brewery industry's supply chain, particularly at the Meta Abo Brewery SC enterprise in Ethiopia.

Sales and marketing contribute their account management skills to the customer relationship management process. Additionally, it guarantees increased production of food grains of greater quality, as well as monetary, in-kind, and/or technical help for farmers. As a result, the study's findings support the hypothesis that Financial Flow will have an impact on the performance of the brewery industry's supply chain, particularly at Meta Abo Brewery SC in Ethiopia.

5.4 Recommendations

In general, this study advocates thinking ahead towards supply networks that are better able to see beyond tactical order fulfilment to anticipate future client needs. Understanding supply chain data and procedures better is a crucial first step in successful optimization. According on the study's findings, the subsequent recommendations were made:

Supply Chain Practices

- According to this study, the brewery industry's supply chain operations should be supported by core competences. Some of the preliminary stages of this include the use of electronic transactions to reduce the number of transactional processes required

during the order cycle and the sharing of sales and inventory information to improve demand management.

Product Flow

- This study suggests that management should prioritize encouraging continual portfolio regeneration, which is backed by three key capabilities: rapid idea-to-market transition, high levels of forecast accuracy to cut down on market intermediary costs, and end-to-end effectiveness to guarantee customer-focus strategies

Financial Flow

- Reliable accounts by enhancing the company's cash flow and freeing up money for operations, marketing, inventory, and capital investments for both suppliers and retailers, receivable management helps the company's bottom line. Accounts receivable, credit terms, prompt payment discounts, product pricing, and invoicing are all aspects of financial flow.

Contract Farming

- It is a workable alternative farming strategy in India that gives farmers guaranteed and dependable input services and the needed farm products to contracting companies. This may be done through employing homogeneous cultivation methods. It also needs to ensure efficient access to a well to addition rainwater and surface water when looked-for.

Replenishment

- According to this study, breweries should operate their own distribution centres, which would smooth out the distributors' inventory planning processes by absorbing variations in run strategies. To better coordinate demand and inventory, they also need to develop a basic stock policy for distributors. Finally, they must implement change management tools and make them available to improve communication with the distributors.

Supply Chain Management Performance

- Effective supply chain management enables organizations to increase product flow by precisely anticipating demand and sales. The study recommends adopting automation for real-time data, improving visibility throughout the supply chain, enhancing forecast accuracy, calculating, and improving inventory levels, making sure to optimize the routes, and improving communication between all parties.

5.5 Implications

The purpose of supply chain management is to make sure that goods are efficiently, inexpensively, and quickly supplied to customers. In order to maximize customer value and cut costs, supply chain management focuses on maximizing the movement of goods and services along the supply chain. A comprehensive study of the effectiveness of logistics operations at every stage is provided by the supply chain's performance. This can be used by businesses to identify areas for improvement. Once you know what has to be addressed, managers can put systems, procedures, and workflows in place to decrease expenses. The goal of supply chain management is to make the various supply chain actors' actions more efficient. By doing this, a company might be able to beat its rivals and raise the caliber of the things it produces, both of which might lead to increased sales and earnings. This study also highlights the need of making the most of labor and material resources in order to give customers high-quality products at a low price.

5.6 Recommendations for Future Researches

So as to ascertain whether the results may be generalized, future researchers are advised to locate a sizable population of individual firms, suppliers, raw material manufactures, farmers, government, and international organization initiatives, private as well as public enterprises. The report suggests that a comparable study be conducted in all Ethiopian manufacturing and service as well as agriculture production initiatives for the objectives of benchmarking and advancing research. This would make it possible to generalize study results. Future studies may shed light on the significance of these decisions for farmers' overall welfare.

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ANNEX

Annex I Questionnaire in English

Addis Ababa University
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SEEK WISDOM, ELEVATE YOUR INTELLECT AND SERVE HUMANITY !

Employee and Premium Customers Survey

Dear Respondents:

My Name is Yonas Sbhat, I and a postgraduate student at Addis Ababa University School of Commerce in Addis Ababa. I would like to express my intense appreciation for your plentiful time, honest and quick response. This thesis entitled "The *Effect of Supply Chain Management Practices on the Supply chain management performance of Ethiopian Breweries: The Case of Meta Abo Brewery SC''*. This questionnaire is intended to gather primary data on this research study and its purpose of the study is to fulfill a thesis requirement for the partial fulfillments of Master of Arts in Logistics and Supply Chain Management at Addis Ababa University in Addis Ababa.

Your forthright responses for the questions are incredibly significant for the achievement of affecting this study. All information collected through the questionnaire will be applied only for the purpose of the study and will be kept private. And thus, I would like to thank you in advance for your kindhearted collaboration. Please, note that participation in this research is entirely voluntary.

For further information, please contact yona.sbhat@gmail.com via 0911907875 or 0902435363

Best Regards,

Yonas Sbhat

Part-I: Questions Related to Demographic Factors (General information)

Direction: This part of the questionnaire asks your personal information. Please, respond to each question by putting a tick (✓) mark that represents your personal profile.

1. Gender: Female □ Male □

2. Age: 18-29 □ 30-40 □ 40-50 □ above 51 □

3. Educational level High school □ Diploma □ Degree □ Masters Above□

4. How long did you know in the agriculture monitoring, research, project participation and supervision?

   1 – 3 years [ ] 4 – 7 years [ ] 8-10 years [ ]

   11 – 15years [ ] above 16 years [ ]

5. Length of working in Malt Production, monitoring research etc.

   ☐ Below 1 year ☐ 1-5 years 6-10 years ☐ 11-20 years Above 20 years ☐

6. Do you know the supply chain practices and its status in Ethiopia?

   a) Yes ( )

   b) No ( )

7. Do you understand supply chain practices in Ethiopia?

   a) Yes ( )

   b) No ( )

8. Do you participate on supply chain related workshops or meetings in Ethiopia?

   a) Yes ( )

   b) No ( )

Part-II: Main Questions Related to the Study

Direction: This part of the questionnaire intends to find your perception towards Supply Chain Practices and Supply chain management performance in Meta Abo Brewery SC. Please circle

the number which reflects your perception. Please put tick mark (✓) & rate the following questions from **"Strongly Disagree"** to **"Strongly Agree;"** please consider 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree. Put a tick mark (√) in their respective box.

Constructs		Corresponding Items	Scale				
			1	2	3	4	5
Contract Farming	COFAR1	Meta Abo Brewery SC benefits from contract farming to enhance its supply chain performance.					
	COFAR2	Meta Abo Brewery SC uses contracts between the buyer and the seller to enhance its supply chain performance.					
	COFAR3	Perquisite for malt production Contract farming helps malt Meta Abo Brewery SC supply chain performance.					
	COFAR4	Creating a better-quality relationship among malt barley stakeholders help to be effective in its supply chain performance.					
	COFAR5	Under the supervision of actual actions and with the support of the buyer's input, the farmer's plant crops help Meta Abo Brewery SC to enhance its supply chain performance.					
Replenishment	AVIVE1	Meta Abo is benefited by replenishment for its supply chain management performance enhancement.					
	AVIVE2	Meta Abo Brewery SC has a well-crafted stock replenishment strategy.					
	AVIVE3	Meta Abo Brewery SC supply chain system boost the quality of its goods and services. Meta Abo Brewery SC supply chain system supports internal process to lower its costs of production.					
	AVIVE4	Meta Abo Brewery SC supply chain system enables internal process to generate well branded new products.					
	AVIVE5	Meta Abo Brewery SC supply chain system enables internal process to be effective.					
	PROF1	Meta Abo Brewery SC delivers products free from defects					
	PROF2	Meta Abo Brewery SC is dependable on its products delivery within customers' expectations					

Product Flow	PROF3	Meta Abo Brewery SC tries to deliver products timely and provides real time information for its customers					
	PROF4	Meta Abo Brewery SC tries to deliver products within competitive and flexible price					
	PROF5	Supply Chain staffs can generate customer satisfaction as well as fundamental organizational goals					
Information Flow	IF1	Meta Abo Brewery SC regularly gathers feedback from various stakeholders.					
	IF2	Meta Abo Brewery SC regulates flow of information timely.					
	IF3	Meta Abo Brewery SC uses up-to-date information technology software.					
	IF4	Meta Abo Brewery SC uses unique information technology equipment.					
	IF5	Meta Abo Brewery SC has uses technology to effectively manage information.					
Financial Flow	FF1	Meta Abo Brewery SC evaluates the affordability of its products.					
	FF2	Meta Abo Brewery SC monitors its working capital properly.					
	FF3	Meta Abo Brewery regulates financial transactions timely.					
	FF4	Meta Abo Brewery can be able to ease its financial flows.					
	FF5	Meta Abo Brewery SC has good financial transaction managements.					
	FF6	Meta Abo Brewery SC effectively manages financial budgets.					
Supply Chain Performance	Reliability, Responsiveness, Flexibility, Cost and Asset management						
	SCP1	Meta Abo Brewery SC has effectively managed order-to-delivery lead time.					
	SCP2	Supply chain response time of Meta Abo Brewery SC is shorter.					
	SCP3	Customers are satisfied by Meta Abo Brewery SC.					
	SCP4	Meta Abo Brewery SC identified customer requirements.					
	SCP5	Meta Abo Brewery SC maintains upside supply chain flexibility.					

	SCP6	Meta Abo Brewery SC adapts upside and downside supply chain schemes.					
	SCP7	Meta Abo Brewery SC reduces supply chain management costs.					
	SCP8	Meta Abo Brewery SC achieves effective maintenance activities.					
	SCP9	Meta Abo Brewery SC adheres to delivery schedule.					
	SCP10	Meta Abo Brewery SC maintains Cost of goods sold and Cash-to-cash cycle time schemes.					

Do you think there is a need for upgrading Meta Abo Brewery SC supply chain practices? How?

_____

_____

_____

Do you think there is a need for upgrading Meta Abo Brewery SC supply chain performance? How?

_____

_____

_____

Thank you again for your cooperation and finalizing the questionnaire!!

Annex II – Interview Checklist

Greetings!

Dear Interviewee, please note that I am conducting a research study *on' The Effect of Supply Chain Management Practices on Supply Chain Management Performance*''. I have few questions regarding this study.

Can I proceed?

Thank you!

1- How would you describe Meta Abo Brewery SC Supply Chain Management Practices in Ethiopia in terms of contract farming, product flow, information flow, financial flow, and support for operation management?

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2- What is the Meta Abo Brewery SC Supply Chain Management Performance in Meta Abo Brewery SC in Ethiopia?

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3- What are the productivity trends of Meta Abo Brewery SC Supply Chain Management System?

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4- Do you think that Meta Abo Brewery SC Supply Chain Management Practices affects its performance? If yes how?

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5- Please suggest on how to improve Meta Abo Brewery SC Supply Chain Management Practices and performance.

.....

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Thank You!

Addis Ababa University

School of Graduate Studies

This is to Certify that the thesis prepared by Yonas Sbhat, entitled: ''The Effect of Supply Chain Management Practices on The Supply Chain Management Performance of Breweries: Evidence from Meta Abo Brewery SC, Ethiopia'' submitted in partial fulfilment of the requirements for the degree of Degree of Master of Arts in Logistics and Supply Chain Management complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

Signed by the Examining Committee:

Examiner: Meskerem M (PhD) Signature: _____ Date: 21/08/23

Examiner: Mafuwas R. Signature: _____ Date: _____

Advisor: Tariku Ichera Signature: _____ Date: 28/04/2023

Advisor _____ Signature: _____ Date: _____

_____

Chair of Department or Graduate Program Coordinator

Date