SCHOOL OF GRADUATE STUDIES

CHALLENGE AND PROSPECT OF SUPPLY CHAIN MANAGEMENT PRACTICES THE CASE OF BGI ETHIOPIA PLC

MBA THESIS

BY

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Challenge and Prospect of Supply Chain Management Practices the Case of BGI Ethiopia PLC

A Thesis Submitted to School of Graduate Studies, wolkite University in Partial Fulfillment of the Requirements for the Degree of Masters of Business Administration (MBA)

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This is to certify that the thesis entitled **''challenge and prospect of supply chain management practices the case of BGI Ethiopia PLC,"** submitted in partial fulfillment of the requirements for the degree of **the degree of Masters of Business Administration the** Graduate Program of the **Management** and has been carried out by **Kassu Hailemariam** under my supervision. Therefore, recommend that the student has fulfilled the requirements and hence hereby can submit the thesis to the department.

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We, the undersigned, members of the Board of Examiners of the final open defense by **Kassu Hailemariam** have read and evaluate his/her thesis entitled *''**challenge and prospect of supply chain management practices the case of BGI Ethiopia PLC,''*** and examined the candidate. This is, therefore, to certify that the thesis has been accepted in partial fulfillment of the requirements for the degree.

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DECLARATION

I hereby declare that this MBA thesis is my original work and has not been presented for a degree in any other university, and all sources of material used for this thesis have been duly acknowledged.

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ABBREVIATIONS

SCM	Supply chain management
CRM	customer relationship management
SRM	supplier relationship management
SC	supply chain
VRM	vendor relationship management
IMS	inventory management system
WMS	warehouse management system
ERP	Enterprise resource planning
AI	Artificial Intelligence
IOT	Internet of Things
RPA	Robotic Process Automation

ABSTRACT

This research aimed to investigate the prospects and challenges faced by BGI Ethiopia PLC on their supply chain activities in Ethiopia. More particularly the study intended to identify the supply chain activities effectively practiced by BGI Ethiopia, to examine the challenges they face in their supply activities and to propose some prospects. The study contributes significantly to academic as well as industry and policy makers. The study collected relevant data from employees and department managers from Addis Ababa, Meta and Zebider. A sample of 176 respondents was randomly selected to take part to this research. The resultant data were subsequently analyzed using descriptive statistics, as well as the Likert scale analysis. Based on the result, the practice of supply chain management is average. The results of this research found that, the few supply chain management activities practiced by BGI Ethiopia were level of information sharing, customer's relationship, strategic supplier partnership, raw material flow management, and corporate culture were found to be averagely practiced and managed. The results also indicated that, the challenges faced by BGI Ethiopia in their supply chain activities were warehouse (limited space, layout, and unfavorable condition), technological and information sharing (information simplicity, accuracy, adequacy, communication, etc.,), infrastructural (ICT, transportation, management), high inventory cost, operational capacity (delay, under capacity), legal (absence of lease land, high tax), and internal and external (political instability, safety and security, unfavorable working area, workforce diversity, waste management, income generating mechanisms, geographical distribution). The research ended investigating some prospects that could have been adopted to minimize these supply chain activities challenges and thus improve the working conditions and logistics of BGI Ethiopia. Strengthening supply chain management practices, developing strategy to use opportunities, and building strong network with suppliers and customers were recommended in this study.

Key words: *BGI Ethiopia, Challenges, Supply Chain Management Practices, Prospects,*

CHAPTER ONE

1. INTRODUCTION

1.1. Background of the Study

Supply chains are the lifeblood of any business organization. They connect suppliers, producers, and final customers in a network that is essential to the creation and delivery of goods and services. Managing the supply chain is the process of planning, implementing, and controlling supply chain operations. The basic components are strategy, procurement, supply management, demand management, and logistics. The goal of supply chain management is to match supply to demand as effectively and efficiently as possible. Key aspects relate to: Determining the appropriate level of outsourcing, managing procurement, managing suppliers, managing customer relationships, and being able to quickly identify problems and respond to them (William, 2021).

A supply chain is the sequence of organizations their facilities, functions, and activities that are involved in producing and delivering a product or service. The sequence begins with basic suppliers of raw materials and extends all the way to their final customers. Facilities include warehouses, factories, processing centers, distribution centers, retail outlets, and offices. Functions and activities include forecasting, purchasing, inventory management, information management, quality assurance, scheduling, production, distribution, delivery, and customer service. William et al. (2018) Supply chain management is the strategic coordination of business functions within a business organization and throughout its supply chain for the purpose of integrating supply and demand management. Supply chain managers are people at various levels of the organization who are responsible for managing supply and demand both within and across business organizations. They are involved with planning and coordinating activities that include sourcing and procurement of materials and services, transformation activities, and logistics. The main actions are plan, source, make, and deliver. Note that for many services, make and deliver happen at the same time.

Supply chain management is the management of the flow of goods and services and includes all processes that transform raw materials into final products. It involves the active streamlining of a business's supply-side activities to maximize customer value and gain a competitive advantage in the marketplace. Supply chain management has five key

elements planning, sourcing raw materials, manufacturing, delivery, and returns. The planning phase refers to developing an overall strategy for the supply chain, while the other four elements specialize in the key requirements for executing that plan. Companies must develop expertise in all five elements to have an efficient supply chain and avoid expensive bottlenecks (Jason Fernando, 2022).

Supply chain management is an integrated approach beginning with planning and control of materials, logistics, services, and information stream from suppliers to manufacturers or service providers to the end client; it represents a most important change in business management practices. It is one of the most effective ways for firms to improve their performance. SCM includes a set of approaches and practices to effectively integrate suppliers, manufacturers, distributors and customers for improving the long-term performance of the individual firms and the supply chain as a whole in a cohesive and high-performing business model. (Siddig and Abdel, 2014).

Supply chain integration plays an important role in achieving the firm's goals. The relationship and integration of activities with suppliers and understanding of customer's needs result in greater benefits for companies. Supply chain practices are directly related to the firm internal integration, relationship management, which includes suppliers and customers. Currently, the company supply chain integration within the organization and its suppliers and customers are becoming the basis for company success (Fasika et al, 2014).

According to Fernando, (2022) SCM oversees each touch point of a company's product or service, from initial creation to the final sale. With so many places along the supply chain that can add value through efficiency or lose value through increased expenses, proper SCM can increase revenues, decrease costs, and impact a company's. Supply chain is the network of individuals, companies, resources, activities, and technologies used to make and sell a product or service. A supply chain starts with the delivery of raw materials from a supplier to a manufacturer and ends with the delivery of the finished product or service to the end consumer.

An agile supply chain is ready delivering items and services quick, accomplishing cost-saving even as doing so, being flexible to adjustments in marketplace situations and purchaser needs, and hold the general productiveness of the organization. At instances

organization’s capability to innovate current items and services in a manner to higher healthy client needs and the way quickly it may enforce this innovation is likewise an essential element of the agile supply chain (Nilesh, 2022).

Supply chain management (SCM) is a central concept in commerce that refers to the management of everything related to the flow of goods of a company. It revolves around every process that plays a part in raw materials being transformed into finished products and also involves aspects of after-sale activities like handling warranty claims and returns. Manufacturing supply chain management includes all aspects of business that deal with physical goods and their logistics: inventory optimization, vendor management, logistical processes like shipping, distribution, and delivery, but also manufacturing processes such as WIP (work in process) inventory management, production scheduling, capacity planning, demand forecasting, etc. The role of SCM is to make sure that the supply of goods is as streamlined as possible – that raw materials make it to the warehouse or production facility at just the right time and in the right quantity; that production capacities match demand as closely as possible; and that lead times and product costs stay minimal. As such, SCM can be seen as part of the larger inventory management process Matthias, (2023). Supply chain management encompasses everything from negotiating vendor contracts for raw materials to handling returns of a product. While it is a central concept for any company producing or selling physical goods or even services, this post focuses on the importance and best practices of SCM from the perspective of small and medium manufacturers.

Supply Chain Management can be defined as the management of flow of products and services, which begins from the origin of products and ends at the product’s consumption at the end users. It also comprises movement and storage of raw materials that are involved in work in progress, inventory and fully furnished goods. The main objective of supply chain management is to monitor and relate production, distribution, and shipment of products and services. This can be done by companies with a very good and tight hold over internal inventories, production, distribution, internal productions and sales. Supply chain management basically merges the supply and demand management. It uses different strategies and approaches to view the entire chain and work efficiently at each and every step involved in the chain. Every unit that participates in the process must aim to minimize the costs and help the companies to improve their long term performance, while also creating value for its stakeholders and customers. This process can also minimize the

rates by eradicating the unnecessary expenses, movements and handling (tutorials point, 2022).

The objectives of supply chain management can be including enhancing customer service, expanding sales revenue, reducing inventory cost, improving on-time delivery, reducing order to delivery cycle time, reducing lead time, reducing transportation cost, reducing warehouse cost, reducing supplier base, expanding depth of distribution (Jaipur, 2013).

Daniel (2017) Supply chain management creates a number of benefits that translate to higher profits, better brand image and greater competitive advantage. These include the better ability to predict and meet customer demand, better supply chain visibility, risk management and predictive capabilities, fewer process inefficiencies and less product waste, improvements in quality, increased sustainability, both from a societal and an environmental standpoint, lower overhead, improvements in cash flow, and more efficient logistics.(Open Stax, 2023) Supply chain management has five major functions. These include purchasing, operations, logistics, resource management, and information workflow. Good supply chains perform these functions in a way that meets the wants and needs of final consumers efficiently.

The supply chain in the beer industry encompasses the entire process of producing, distributing, and delivering beer to consumers. It involves various stages and stakeholders, including ingredient suppliers, breweries, distributors, retailers, and ultimately, the end consumers. Brewer World, (2023) Throughout the beer supply chain, effective supply chain management practices are crucial for ensuring timely deliveries, maintaining product quality, managing inventory levels, optimizing logistics, and minimizing costs. By efficiently coordinating the various stages and stakeholders involved, breweries can deliver their beers to consumers in a timely and consistent manner, contributing to their overall success in the industry.

Supply Chain Management practice in our country is still in the infancy stages, there are small numbers of manufacturing companies integrating it to their organizational system. Furthermore, the Brewery industry in particular is weak in its SCM practice and most of the employees did not know the factors that help to enhance the supply chain management. In addition, there are more challenges in the industry which resulted in reducing the quality and demand of products manufactured domestically. It is assured in this study that there are more problems as counted as poor SCM practice of organizations

in the industry Daniel, (2016). The brewery industry in Ethiopia has great potential to enhance manufacturing and export production, and thereby to increase employment opportunities and reduce poverty. It has several competitive advantages in different areas like labor, raw material, market and others. Thus, managing the Supply Chain in this business environment has a major impact on performance of all parties involved in the chain. Different SCM perspective including Supply chain performance in selected brewery industries should be investigated timely.

BGI Ethiopia is one of the most competent companies in the brewery industry of the country. Managing supply chain in such a tough business environment is most challenging for any company because of many internal and external factors. So, this is valuable as it depicts ways in reaching competitiveness that leads to high profit, which is the primary objective of any business organization (Abiy, 2015).

This thesis is designed to investigate the challenges and prospect of supply chain management practice in the case brewery company in BGI Ethiopia in terms of their collaboration and integration with their suppliers and customers, supply chain reliability, responsiveness, flexibility and supply chain operational cost as well as ICT utilization in supply chain management in brewery company. Motivated to do this research that BGI Ethiopia is currently facing the risk of losing its customers, and for a manufacturing company the most important are the customers. Supply chain management is the flow of suppliers up to customers intended to find the cause of this problem and the solution. Therefore, more important the supply chain management aims to find out and solve problems from the beginning to the end. So can do as this topic and in this field of study is to find out the challenges and opportunities of BGI Ethiopian supply chain management.

1.2. Statement of the Problem

According to Abiy (2015) indicated that there is an application of supply chain management in BGI Ethiopia. However, his findings show that BGI Ethiopia is not as such effective in implementing quality supply chain management. The effectiveness of the supply chain management maybe mainly because of foreign currency scarcity, suppliers issue, market maturation and bargaining power of suppliers and buyers. The brewery industry in Ethiopia is becoming a very competitive environment where maximum efficiency and sustainable competitive advantage are critical for the success of a company. And, in the current business environment managing the supply chain is becoming an increasingly important practice to enhance competitiveness.

According to Eyob, (2019) the integration and collaboration of the case Heineken brewery companies with strategic suppliers was generally considered good with limitations in terms of local supplier‘s capacity development, joint planning and forecasting as well as sharing of long terms demands due to less trust for fear of their competitors. The integration and collaboration of the Heineken brewery companies with strategic customers was generally considered good with limitation in terms of jointly forecasting of demands, jointly planning of inventories and lack of visible supply chain inventory status along the downstream supply chain network. The Heineken brewery companies were flexible to manage unplanned demand fluctuations to certain extent.

However, their local suppliers were less flexible to handle unplanned changes of demand due to capacity limitation. The distributors were also less flexible to handle small orders at any time of request. Inventory management performance was considered low due to lack of automated inventory management practice, collaborative forecasting and planning of inventory with supply chain partners, vender managed inventory system. As a result, there was less visible supply chain inventory along the chain due to lack of supply chain integration. Kasanesh (2018) the Supply Chain Management Practices of HBSC Kilinto Factory strongly and positively affects its operational performance. By developing strong partnership with strategic supplier, efficient customer relationship, productive internal lean practices, relevant information sharing and quality information, the factory could further improve its operational performance.

Supply Chain Management (SCM) is an important part of every organization, whether small or large. SCM is the active management of supply chain activities to maximize

customer value and achieve a sustainable competitive advantage. SCM deals with the movement and storing of materials needed to create a product, as well as inventory management, and keeping track of finished goods from where they were created to who they go to. SCM is all about design, planning, execution, control, and monitoring of supply chain activities with the objective of creating net value, building a competitive infrastructure, leveraging worldwide logistics, synchronizing supply with demand and measuring performance globally. In Heineken Brewery Company the practices of supply chain management in selected dimensions were good and those variables have significant impact on organizational performance (Haile, 2021).

According to the above researchers mentioned, implementing SCMP has significant advantages for companies. Supply chain management practices mainly customers relationship management, suppliers partnership management, level and quality of information sharing, material flow management, members integration are critical for business performance. The performance of supply chain management can be improved through assessing challenges and prospects and in this regard, to the best of researcher's knowledge prior study has not been conducted in BGI Ethiopia. So, this study is designed mainly to narrow the information gap on supply chain management of BGI Ethiopia. The output of this study would provide information to stakeholders about current supply chain management activities, challenges and prospects for better supply chain improvement.

1.3. Objectivity of the study

1.3.1. General objectives

The general objective of this study is challenge and prospects of supply chain management practices in the BGI Ethiopia PLC

1.3.2. Specific objectives

The study is designed to achieve the following specific objective:-

1. To identify supply chain management practices with in BGI Ethiopia
2. To identify the challenges of supply chain management in BGI Ethiopia PLC
3. To determine the prospect of supply chain management in BGI Ethiopia PLC
4. To measure the reliability, responsiveness, flexibility, cost effectiveness level of supply chain management Performance in BGI Ethiopia PLC

1.4. Research question

1. What are supply chain Management practiced in BGI Ethiopia PLC?
2. What are the challenges of supply chain management practices in BGI Ethiopia PLC?
3. What are the prospects of supply chain management practice with in BGI Ethiopia PLC?
4. How to measure the reliability, responsiveness, flexibility, cost effectiveness of supply chain management practices in BGI Ethiopia PLC?

1.5. Significance of the Study

The study was on the challenge and prospect of supply chain management practices on BGI Ethiopia PLC. The study would help to provide information to BGI Ethiopia department managers, employees, and suppliers for better performance and supply chain management. Besides, the study is planned to contribute to BGI Ethiopia and other manufacturing companies who planned to implement supply chain management for designing strategic planning based on the finding of the study. This thesis, BGI will be the main beneficiary in the first instance. In addition, the country that will benefit from this research will get what it deserves from the tax. The employee gets benefits from BGI to make the company profitable and helps customers get quality products at affordable prices.

1.6. Scope/delimitation of the Study

The scope of the brewery companies in BGI Ethiopia are geographically distributed here and there. The study did not reach out all the BGI Ethiopia as a whole in Ethiopia. Becuase of the farthest and farthest from adiss abeba centers raya brewery S.C, hawassa, kombolcha, ziway wein factory. From the BGI Ethiopia companies the researcher intended to address Addis abeba BGI head office, wolkite gubre zebidar brewery S.C, sebeta Meta abo brewery S.C. Because these brewery industry are enough to fulfil the sample needed for the research. In addition, SCM uses stratified random sampling techniques and the finding approaches quantitative and qualitative because it is related to the theory of behavior, but it was difficult to get the results of the research.

1.7. Limitation of the study

It is difficult to cover the entire domain of supply chain management just in one study. This is due to the fact that the time and cost constraints to cover all the movement of those supply chain attributes. Many participants in the study not are interested or serious in the study response, and because of respondents not providing detailed opinions/views to some questions despite being aware of the research topic, there was a hard time. This study is not representing all constructs that could explain Supply chain management practices.

1.8. Organization of the Paper

The study is organized into 5 chapters. The first chapter includes introduction, background of the study, statement of the problem, objectivity of the study, research question, significance of the study, scope/delimitation of the study, limitation of the study. The second chapter includes literature review, theoretical analysis, empirical analysis and conceptual framework of the study. Chapter three includes research methodologies includes research design, target population, sample size, sampling technique, source and methods of data collection, methods of data analysis. Chapter four includes the results, discussion, and interpretation section. The final chapter includes the summary of major finding, conclusions, recommendation

CHAPTER TWO

2. LITERATURE REVIEW

2.1. Theoretical Analysis of Supply Chain Management

2.1.1. Concept of Supply Chain Management

Jason, (2022) Supply chain management is the management of the flow of goods and services and includes all processes that transform raw materials into final products. It involves the active streamlining of a business's supply-side activities to maximize customer value and gain a competitive advantage in the marketplace.

A supply chain is a system of organizations, people, technology, activities, information and resources involved in moving a product or service from supplier to customer. Supply chain is a network of retailers, distributors, transporters, storage facilities, and suppliers that participate in the production, delivery and sale of a product to the consumer. These activities are associated with the flow and transformation of goods from the raw materials stage to the end user, as well as the associated information and funds flows.

Supply chain activities transform natural resources, raw materials and components into a finished product that is delivered to the end customer. In simple terms, a supply chain is the link between a firm or business and its suppliers and customers. The supply chain, which is also referred to as the logistics network, consists of suppliers, manufacturing centers, warehouses, distribution centers, and retail outlets, as well as raw materials, work-in-process inventory, and finished products that flow between the facilities (Jaipur, 2013).

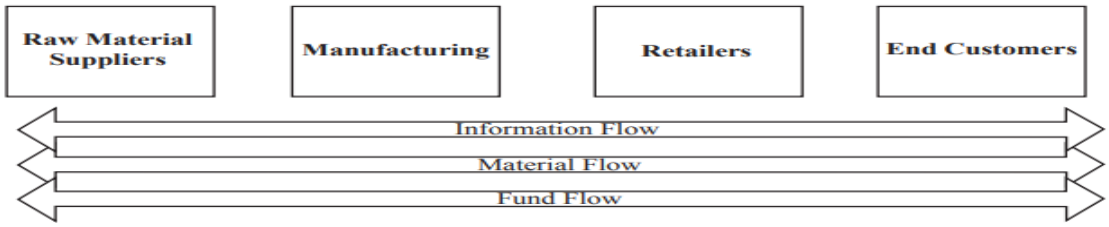
Supply chain management can be divided into three main flows:

Product flow: includes moving goods from supplier to consumer, as well as dealing with customer service needs.

Information flow: includes order information and delivery status.

Financial flow: includes payment schedules, credit terms, and additional arrangement

Figure 2.1: Flow of Supply Chain Management



Source: Jaipur, (2013)

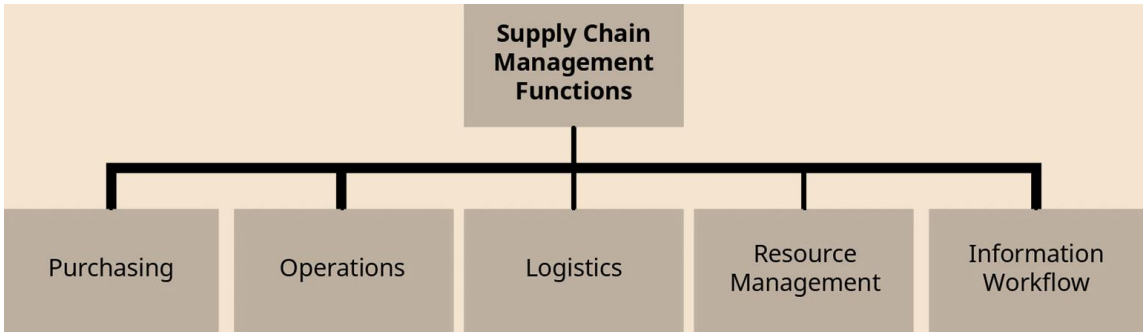
According to Adam (2023) a supply chain is a network of individuals and companies who are involved in creating a product and delivering it to the consumer. Links on the chain begin with the producers of the raw materials and end when the van delivers the finished product to the end user. Supply chain management is a crucial process because an optimized supply chain results in lower costs and a more efficient production cycle. Companies seek to improve their supply chains so they can reduce their costs and remain competitive.

A supply chain includes every step that is involved in getting a finished product or service to the customer. The steps may include sourcing raw materials, moving them to production, and then transporting the finished products to a distribution center or retail store where they may be delivered to the consumer. The entities involved in the supply chain include producers, vendors, warehouses, transportation companies, distribution centers, and retailers. The supply chain begins operating when a business receives an order from a customer. Thus, its essential functions include product development, marketing, operations, distribution networks, finance, and customer service. When supply chain management is effective, it can lower a company's overall costs and boost its profitability. If one link breaks, it can affect the rest of the chain and can be costly.

2.1.2. Benefits of supply Chain Management

Supply chain management has five major functions. These include purchasing, operations, logistics, resource management, and information workflow. Good supply chains perform these functions in a way that meets the wants and needs of final consumers efficiently (Open Stax, 2023).

Figure 2.2: Function of Supply Chain Management



Source: Open Stax, (2023)

Purchasing is the process of buying materials needed to manufacture products. These materials are purchased from suppliers, who must be able to deliver them in accordance with the manufacturer's timeline. Therefore, the manufacturer's companies and suppliers must communicate and coordinate to ensure timely delivery of materials.

Operation is everything a company does on a day-to-day basis to run a company. Before a company purchases the needed materials and begins production, it must forecast demand for its products. Forecasting involves anticipating or projecting how many units of a product will be sold during a given period. Accurate forecasting must align with inventory management and production schedules to ensure that the company is operationally positioned to manufacture the right amount of product to meet the needs of consumers.

Logistics is a function that involves the coordination of all supply chain activities, such as warehousing, inventory management, and transportation. Companies along the supply chain must communicate effectively to ensure that products reach consumers in a timely and efficient way in the precise form that the consumer expects

Resource management is the planning, organizing, and controlling of resources. Resources include the labor, the raw materials, and the technology that are required to move products from their raw material phase to finished goods available for consumption. Effective supply chain management requires the right allocation of these resources to the right supply chain activities to optimize the entire system.

Information workflow is a supply chain management function that relates to what and how information moves between members of the supply chain. If information doesn't

flow effectively or communication is poor, the entire process can suffer as a result of disruptions, delays, and mistakes. Employing a systematic approach to sharing information across the supply chain ensures that the right companies have the right data to make the right decisions at the right time.

Barriers of Supply Chain Management include lack of top management support, non-aligned strategic and operating philosophies, inability or unwillingness to share information, lack of trust among supply chain members, unwillingness to share risks and rewards, inflexible organizational systems and processes, cross-functional conflicts, inconsistent or inadequate performance measures, resistance to change, and lack of training for new mindsets and skills.

Moreover, according to Lutkevich, (2023) supply chain management is the oversight of materials, information and finances as they move in a process from supplier to manufacturer to wholesaler to retailer and then to the consumer. The three main flows of the supply chain are the product flow, the information flow and the finances flow. These occur across three main stages: strategy, planning and operation. SCM involves coordinating and integrating these flows both within and among companies.

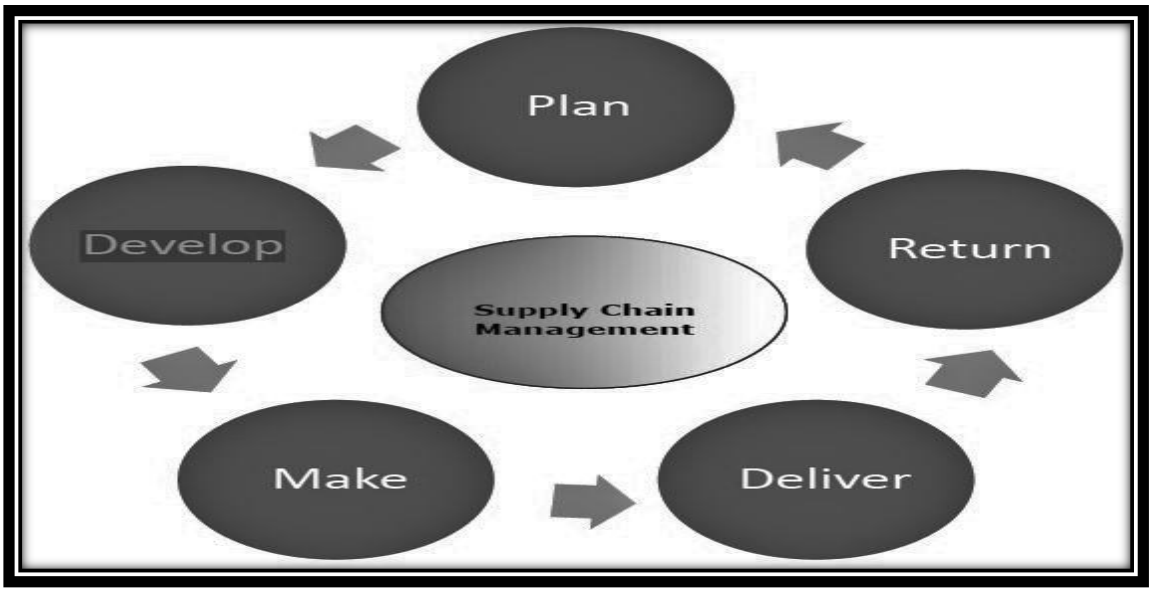
Figure 2.3: Stages of Supply Chain Management

Source: Lutkevich, (2023)

2.1.3. Phases of Supply Chain Management

Supply chain management is a process used by companies to ensure that their supply chain is efficient and cost-effective. A supply chain is the collection of steps that a company takes to transform raw materials into a final product. The five basic components of supply chain management are see the below figures.

Figure 2.4: Phases of Supply Chain Management



Source: Jason F, (2022)

The supply chain manager tries to minimize shortages and keep costs down. Productivity and efficiency improvements can go straight to the bottom line of a company. Good supply chain management keeps companies out of the headlines and away from expensive recalls and lawsuits. In SCM, the supply chain manager coordinates the logistics of all aspects of the supply chain which consists of the following five parts (Jason Fernando, 2022).

Planning: To get the best results from SCM, the process usually begins with planning to match supply with customer and manufacturing demands. Firms must predict what their future needs will be and act accordingly. This relates to raw materials needed during each stage of manufacturing, equipment capacity and limitations, and staffing needs along the SCM process. Large entities often rely on ERP system modules to aggregate information and compile plans.

Sourcing: Efficient SCM processes rely very heavily on strong relationships with suppliers. Sourcing entails working with vendors to supply the raw materials needed throughout the manufacturing process. A company may be able to plan and work with a supplier to source goods in advance. However, different industries will have different sourcing requirements. Supply chain management is especially critical when manufacturers are working with perishable goods. When sourcing goods, firms should be mindful of lead time and how well a supplier can comply with those needs.

Manufacturing: At the heart of the supply chain management process, the company transforms raw materials by using machinery, labor, or other external forces to make something new. This final product is the ultimate goal of the manufacturing process, though it is not the final stage of supply chain management. The manufacturing process may be further divided into sub-tasks such as assembly, testing, inspection, or packaging. During the manufacturing process, a firm must be mindful of waste or other controllable factors that may cause deviations from original plans. For example, if a company is using more raw materials than planned and sourced for due to a lack of employee training, the firm must rectify the issue or revisit the earlier stages in SCM.

Delivery: Once products are made and sales are finalized, a company must get the products into the hands of its customers. The distribution process is often seen as a brand image contributor, as up until this point, the customer has not yet interacted with the product. In strong SCM processes, a company has robust logistic capabilities and delivery channels to ensure timely, safe, and inexpensive delivery of products. This includes having backup or diversified distribution methods should one method of transportation temporarily be unusable. For example, how might a company's delivery process be impacted by record snowfall in distribution center areas?

Returning: The supply chain management process concludes with support for the product and customer returns. It’s bad enough that a customer needs to return a product, and it’s even worse if it’s due to an error on the company's part. This return process is often called reverse logistics, and the company must ensure it has the capabilities to receive returned products and correctly assign refunds for returns received. Whether a company is performing a product recall or a customer is simply not satisfied with the product, the transaction with the customer must be remedied.

2.1.4. Model of Supply Chain Management

GEP, (2022) there are six types of supply chain models that can drive supply chain management for a business:

Continuous Flow Model: This is one of the most traditional models on the list. The continuous flow model is the best choice for industries and businesses that operate with stability. Stability is essential for this model because it is required on both ends, i.e. at the manufacturer and the buyer.

Fast chain Model: The fast chain model is one of the new names in supply chain strategies. It is suitable for businesses that have product lines with short life cycles. For instance, a fashion designer might have a specific line of designs in a season. The business needs to take the fashion line to the market to maximize returns, as it is usually based on current trends. As supply chain efficiency can increase a business's competitive edge, this model is usually considered the best among the several types of supply chain integration.

Efficient Chain Model: The efficient chain model has been crafted for hyper-competitive industries. Under this model, the end goal is to maximize efficiency. Following the efficient chain model, the organization is expected to create proper production forecasts so that it can prepare machinery and raw materials accordingly.

Agile Model: The agile model is well-suited for businesses dealing with specialty items where products may require extra care in the supply chain. This model is usually fine-tuned for the product that it is being used for. The agile model is known for the expertise it requires to transport the goods from point A to point B and not so much for the automation or technology involved. Supply chain companies that follow the agile model can charge a premium price for their services. Compared to the efficient chain model that thrives on high volumes, the agile model is only profitable till a threshold of volume is met. After that, it may prove costly to follow this model.

Custom-configured Model: The custom-configured model needs custom setups in the assembly and production stages. It is a mix of agile and continuous flow methods where the product that is being manufactured may require some extra customization, but it needs to operate on an end-to-end basis. It is usually used for prototype design and

manufacturing of small batches. The custom-configured model requires additional investment from the company as compared to more traditional models.

Flexible Model: The flexible model can handle high demand during peak season and quickly adjust to a lean period with low demand. To run a flexible model efficiently, a business requires the right supply chain management software and the right people with knowledge base to operate a flexible model with high efficiency.

2.1.5. The Integration Of Supply Chain Management Practices

Supply chain management that integrates ERP is a formal approach to effectively plan and manage all the resources of a business enterprise. Implementation of ERP involves establishing operating systems and operating performance measurements to enable them to manage business operations and meet business and financial objectives. ERP encompasses supply chain management activities such as planning for demand and managing supply, inventory replenishment, production, warehousing, and transportation. ERP software also plays a key role in centralizing transaction data. ERP software provides the ability to coordinate, monitor, and manage a supply chain. It is an integrated system that provides for system-wide visibility of key activities and events in areas such as supplier relationships, performance management, sales and order fulfillment, and customer relationships (William, 2015).

Supplier Relationship Management: ERP integrates purchasing, receiving, information about vendor ratings and performance, lead times, quality, electronic funds disbursements, simplifying processes, and enabling analysis of those processes.

Performance Management: This aspect of ERP pulls together information on costs and profits, productivity, quality performance, and customer satisfaction.

Sales and Order Fulfillment ERP includes the ability to provide inventory and quality management, track returns, and schedule and monitor production, packaging, and distribution. Reports can provide information on order and inventory status, delivery dates, and logistics performance.

Customer Relationship Management: An ERP system not only centralizes basic contact information, details on contracts, payment terms, credit history, and shipping preferences, it also provides information on purchasing patterns, service, and returns.

2.1.6. Challenge of Supply Chain Management Practices (SCMP)

Online MNIPAL (2023), many challenges of supply chain management can arise. The following are just a few of the issues in supply chain management you may face:

Supply Chain Fragmentation

Supply chain fragmentation happens when multiple vendors and suppliers produce a product, creating an efficient and reliable chain of command. It can also occur when organizations have too many layers of management or too many people who need to approve things. In this case, a company may have to get approval from different people to make one small purchase. This causes delays in fulfilling orders, leading to missed deadlines and unhappy customers.

Material Scarcity

Material scarcity is one of the challenges in supply chain management in that occurs when there needs to be more raw materials available for a company's manufacturing process. This can mean that the company has to wait until more materials arrive, or they have to find another supplier who can provide them with what they need on short notice.

Changing Consumer Attitudes

Changing consumer attitudes include increased demand for environmentally friendly products or greater awareness of human rights violations in overseas factories where certain products are produced. These changes can force companies to adapt their business practices to remain competitive in the marketplace and meet their customers' needs.

Increasing freight prices

When a company's supply chain is not functioning optimally, it can be challenging to keep up with the demand for its product. The increased freight costs are one of the main contributors to this problem.

- Existing suppliers may raise their prices to keep up with demand if there is insufficient capacity on the market.

- If you’re already paying high shipping prices, it will be harder to maintain profit margins and stay competitive in your industry.

Restructuring

Restructuring is also one of the supply chain management risks and challenges many companies face today. It often involves outsourcing part or all of your production process overseas, which makes it more difficult to control quality standards and ensure compliance with local regulations and laws. These issues can lead to product recalls or other problems that can hurt customer satisfaction.

Difficult demand forecasting

One of the most extensive inventory management issues in healthcare supply chains faced by supply chain managers today is the difficult demand to forecast – especially regarding new products or services. This means they don’t always know how much inventory is needed at any given time because they need to know how many orders they’ll receive during specific periods (such as holidays).

Port congestion

The biggest challenge for any supplier is trying to get their products into port. Ports are notoriously crowded and slow, so it can take weeks or even months before your shipment reaches its destination. This delay can be devastating if you’re looking to ship perishable goods.

Inflation

Inflation is another massive issue with supply chains, especially regarding raw materials like metals and plastics. Prices can fluctuate wildly depending on market forces, so it’s essential for businesses that rely on these materials to be aware of trends to stay competitive in the marketplace.

2.1.7. Dimension of Supply Chain Management Practices

According to Siddi et al. (2014) the practice of SCM is refers to complete set of actions which are done in organizations towards to improve the effectiveness in the internal supply chain. The modern evaluation of the SCM practices that comprises of partnership

with the supplier, process of outsourcing, compression of cycle time, continuousness of process flow and sharing or technology and information by using purchasing the quality and relations with the customer.

SCM practices are defined as a set of activities undertaken in an organization to promote effective management of its supply chain. Supply base management refers to how firms utilize their suppliers processes , technology and capabilities to enhance supply chain performance and competitive advantage and how the manufacturing , logistics , materials , distribution and transportation functions are coordinated within organizations state that SCM in practice means includes the involved companies planning and strategy for coordination of their supply chain , including collaboration between functions internally as well as across company.

SCM practices are defined also as approaches applied in managing integration and coordination of supply, demand, and relationships in order to satisfy consumers in effective and profitable manners. Six aspects of the SCM practices all the way through the factor study, integration of SC, sharing of information, characteristics of supply chain management of client services, physical proximity also the capabilities of just in time (J.I.T) relationship in long-standing communication, cross functional team and participation of vendor for the purpose of measuring the relationship of supplier and buyer strategic supplier partnership with the supplier. It is explained as the long-term based association between company and the supplier.

2.1.7.1. Information sharing

Supply chain management is related to coordination of products and information flows among supplier, manufactures, distributors, retailers, and customers. Information sharing and technology is the one of the key aspects of coordination amongst parties supply chain management. Information sharing in supply chain context refers to the extent to which crucial and proprietary information is available to members of the supply chain. Shared information can be tactical (e.g. purchasing, operation scheduling, logistics) or strategic (e.g. long term corporate objectives, marketing, customer information).prior research on the importance of formal and informal information sharing between trading partners has shown that effective information sharing enhances visibility and reduces uncertainty (sendhil and puganzhendhi, 2012).

2.1.7.2. Supplier relationship management

Dianne (2020) Supplier relationship management (SRM) is the systematic approach to evaluating vendors that supply goods, materials and services to an organization, determining each supplier's contribution to success and developing strategies to improve their performance.

Organizations have reported numerous use cases for implementing SRM, noting that the discipline helps them to. Take better advantage of supplier capabilities, reduce costs, ensure supply chain continuity, limit supply chain risks, increase responsiveness of suppliers, and gain visibility into future prices and hedge against price volatility. Challenges that can stymie supplier relationship management include the following; 1) overemphasis on using it to reduce cost rather than cultivate value and strategic ties; 2) lack of visibility into suppliers, their importance to the organization and the value they can deliver; and 3) insufficient commitment to developing clear objectives for the program, assigning and training staff to run it, and aligning business units to the objectives.

2.1.7.3. Customer relationship management

Customer relationship management is the process of managing customer interactions with a business. In the manufacturing industry, customer relationships are just as important as the products themselves. By implementing a CRM strategy, you can improve customer satisfaction, increase customer retention, and ultimately boost your bottom line. Here are a few ways CRM can benefit your manufacturing business (Local skill, 2023).

Personalized Service: By tracking customer interactions and preferences, you can provide personalized service to each customer. This can include customized product recommendations, tailored promotions, and more.

Improved Communication: With a CRM system in place, you can keep track of all customer interactions in one place, making it easier to respond to inquiries and follow up on leads. This can help you build better relationships with your customers and improve customer satisfaction.

Increased Sales: By understanding your customers' needs and preferences, you can create targeted sales and marketing campaigns that are more likely to convert into sales.

Better Customer Retention: By providing top-notch service and personalized experiences, you can improve customer retention and reduce churn rates.

2.1.7.4. Distribution Management

Distribution management refers to overseeing the movement of finished goods from a manufacture or supplier to the end user. Kristina, (2021) throughout this process, there are several activities and processes that take place, including warehousing, inventory management, warehousing picking, and packing, and last delivery. Well-executed distribution management can help to improve the order fulfillment process, inventory turnover rate, profit margins, supply chain agility, and ultimately higher customer satisfaction. The elements of distribution management systems are the steps involved in getting the product from the manufacturer to the end customer and can include: supply chain, block chain, logistics, a purchase order and invoicing system, vendor relationship management (VRM), customer relationship management (CRM), an inventory management system (IMS), a warehouse management system (WMS) and a transportation management system (TMS).

Supply chains have three *structural dimensions*: horizontal, vertical, and the horizontal position of the focal company within the end points of the supply chain. Many studied supply chain management practice and there are various elements and dimensions have measured or used to measure the supply chain practices.

Table 2.1: Dimensions of supply Chain Management Practices

No	Author	Dimension
1	Chin *et al.* 2011	Information sharing, customer relationship, strategic supplier partnership, material flow management And corporate culture.
2	Inda,etal, (2012)	Strategic supplier partnership , customer relationship , information sharing
3	Chowa , et al , (2008)	There are four elements (suppliers and customer mgt , information sharing , speed of communication , supply chain features)

4	Min & Mentzer , (2004)	There are seven elements of supply chain practice such as a greed vision and goals, information sharing, risk and award sharing, cooperation, process integration, long-term relationship and a greed supply chain leadership.
5	Chen & Paulraj (2004)	Using supplier base reduction , long-term relationship , communication , cross-functional teams and supplier involvement to measure buyer supplier relationships
6	Tan, Lyman and Wisner, (2002)	Six elements of supply chain practice (using factor analysis) supply chain integration , information sharing supply chain characteristics customer service management , geographical proximity and JIT capability
7	Alvarado& Kotzab(2001)	Using inter-organizational system in supply chain practice such as EDI , and elimination of excess stock levels by postponing customization toward the end of the supply chain
8	Tan , Kannan and Handfield (1998)	Supply chain practice includes purchasing quality , and customer relations
9	Donlon , (1996)	Supply chain practice includes supplier partnership , outsourcing cycle time compression , continuous process flow and information sharing

Source: Kristina, (2021

2.2. Empirical Analysis of supply chain management

2.2.1. Challenges of Supply Chain Management Practices in Brewery Company

More the challenge of Supply Chain Management in the Brewery Industry includes Information technology, Communication tools, Planning tools, Supply chain relationships, Relationships with suppliers, Relationships with customers, Value-added process (manufacturing), Flexibility, Quality , Production system, Supplier Markets, Material Sourcing (Daniel, 2016).

The challenge of supply chain management practices are Warehouse, Technology, Internal and external environment , Government policy, Civil war, Foreign currency scarcity, Production capacity, Inflation.

2.2.1.1. Warehouse

Warehouses are an intricate ecosystem with several different processes working in tandem to serve customers effectively. Warehouse management challenges act as a major roadblock in the efficiency and productivity of the warehouses and can cause serious damage to the complete warehouse workflow. Recent events have warranted warehouses to change their business dynamics and stay profitable while fulfilling customer orders as well and the best way of ensuring sustainability and longevity for your warehouse is to overcome some of the common warehouse management challenges. Managing laborers efficiently, making the most use of available warehouse space, and adapting to seasonal demands and other issues require warehouse managers to stay on top of their game at all times and get ahead of warehousing challenges (Hop stack, 2023).

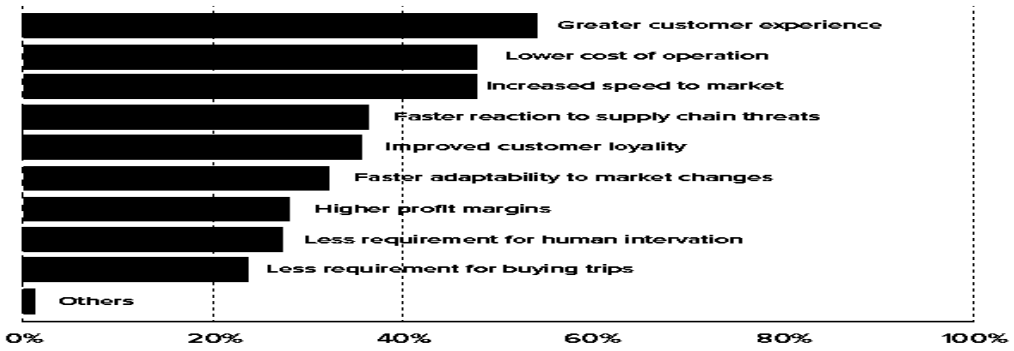
Figure 2.5: Challenge in warehouse Supply Chain Management

Source: Hop stack, (2023)

2.2.1.2. Information Technology

Technology in the supply chain is fast changing. What once used to be restricted to paperwork and excels is today using smart technologies like AI, Enterprise resource planning (ERP), Internet of Things (IOT) , Block chain, RPA, etc., to make the processes efficient and transparent. Let us get down to the list of technologies and helping to solve the challenges in supply chain management (appinventive, 2021).

Figure 2.6: Benefits of Information Technology in Supply Chain Management



Source: appinventive, (2021)

2.2.1.3. Internal and external environment

An external supply chain is a network of suppliers, manufacturers, and other partners that work together to provide goods or services to customers. The term can also refer to the process of managing these relationships. External supply chains are often complex, with many different stakeholders involved. They can be global in scope, spanning multiple countries and continents. Managing an external supply chain requires careful planning and coordination. The goal of an external supply chain is to provide goods and services that meet customer demands in a timely and cost-effective manner. To do this, businesses must carefully manage supplier relationships, inventory levels, transportation logistics, and other factors (Oboloo, 2023).

Internal supply chain refers to the chain of activities within a company that concludes with providing a product to the customer. This process involves multiple functions within companies such as sales, production, and distribution (emerald insight, 2013).

2.2.1.4. Production capacity

Equipment capability, labor and productivity must be balanced against demand, sales forecasts, supply chain issues and many other factors to produce the right volume at the right time. Too much and the inventory excess will impact cash flow. Too little and customers will seek products elsewhere as production stalls.

2.2.1.5. Inflation

Inflation is another massive issue with supply chains, especially regarding raw materials like metals and plastics. Prices can fluctuate wildly depending on market forces, so it’s essential for businesses that rely on these materials to be aware of trends to stay competitive in the marketplace.

2.2.2. Prospect of Supply Chain Management Practices

According to Fitch, (2022) Ethiopia's beer market dominates the formal alcoholic drinks segment in the country, accounting for 98.9% of total consumption in the sector in 2022. With Africa's second largest population, brands such as Diageo, Heineken and the Castel Group have targeted Ethiopia, creating a highly competitive beer market. Brewery production is one of the key business subsectors of Ethiopia. It plays important roles in terms of generating employment opportunities, improving family living, and decreasing unemployment. Ethiopia aims to reach a lower-middle-income status by 2025. The likelihood of success appears to be high given the sustained close to double digit economic growth the country achieved during the past decade. Currently, around 20 percent of the population lives in urban cities, and a rapid rise is expected in urban population and income in the coming years, indicating a rising number of consumers.

The supply chain in the beer industry encompasses the entire process of producing, distributing, and delivering beer to consumers. It involves various stages and stakeholders, including ingredient suppliers, breweries, distributors, retailers, and ultimately, the end consumers. Brewer World, (2023) Throughout the beer supply chain, effective supply chain management practices are crucial for ensuring timely deliveries, maintaining product quality, managing inventory levels, optimizing logistics, and minimizing costs. By efficiently coordinating the various stages and stakeholders involved, breweries can deliver their beers to consumers in a timely and consistent manner, contributing to their overall success in the industry.

During the first five years of GTP I (2010–2015 E.C), productivity of the main crops grown in Ethiopia (particularly cereals) have increased at a rate of over 6 percent annually National Plan Commission, (2015). This growth is expected to continue due to the increasing use of modern agricultural technologies by farmers, application of improved production practices and increased market access. The area coverage and total output of oil and Beer seed crops is also increasing rapidly. At the same time, agro-industrial parks are emerging in all parts of the country. As a result of these developments, a significant rise in the supply of raw Material is expected and the brewery sector would be the major beneficiary.

2.3. Conceptual Framework of the Study

The framework developed in this research challenge and proposes that SCM practices will have an impact on organizational both directly and indirectly through advantage. To ensure the impact of Brewery supply chain management practices challenge and prospects in BGI Ethiopia the following dimension. Conceptual framework of Challenge and prospect supply chain management practices in BGI Ethiopia PLC

For Owen Source (2024):-

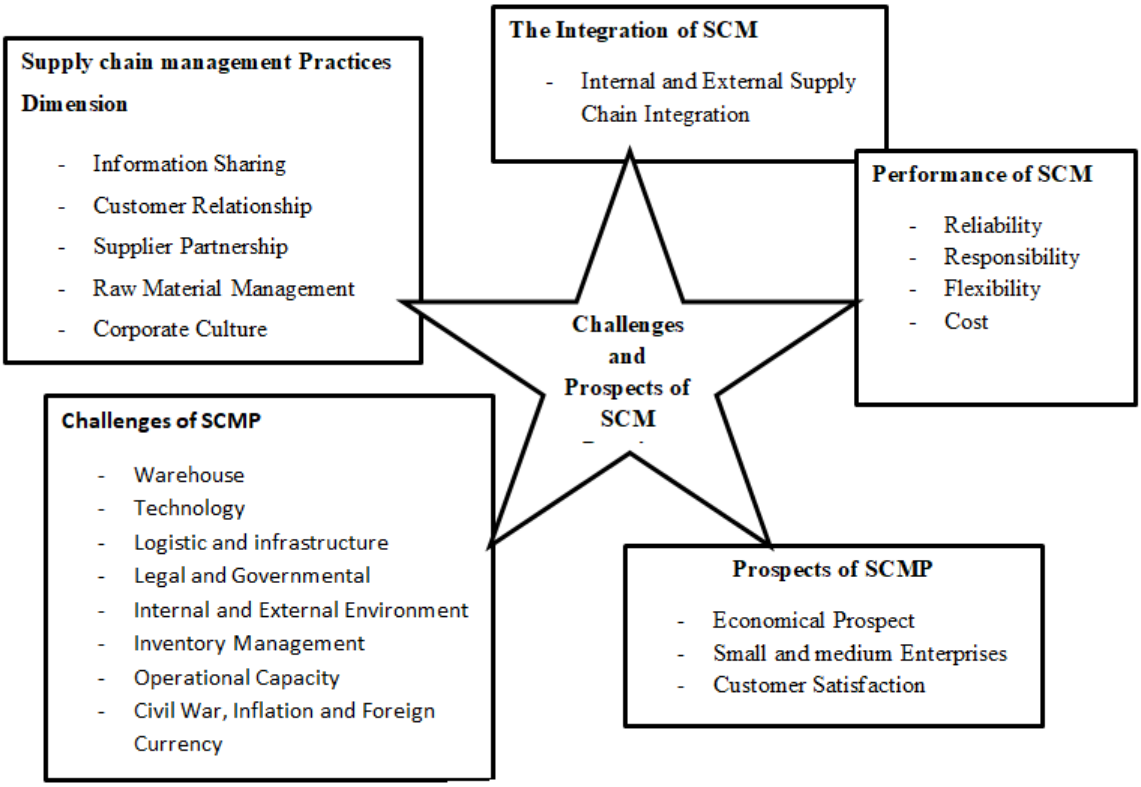


Figure 2.7: Conceptual framework of the Supply Chain Management

CHAPTER THREE

3. RESEARCH METHODOLOGY

This section mapped the research method adopted in this study. The research methodology section includes the research design, target population, sample size, sampling techniques, source and methods of data collection, methods of data analysis and some ethical considerations.

3.1. Research Design

The study employed a mixed research approach (qualitative and quantitative approaches). The aim of this study is to assess challenges and prospects of supply chain management practices in BGI Ethiopia. Investigated basic challenges in BGI supply chain management practices and prospects to improve the supply chain performances of Brewery industry. Descriptive method is appropriate for the study. This study purpose, descriptive method will be adopted. A survey obtained data from a sample of the population and infers that the population have the same characteristics as that of the population. Research design which is appropriate for this study is mixed research design. The researcher proposed to collect quantitative data using self-administered questionnaires with five points scale distributed personally to the subjects by the researcher to measure the challenges and prospects in BGI SCM practices in the selected companies.

3.2. Target Population

The target population consisted of selected BGI Ethiopia St. George Brewery manufacturing firms. The study used the list of BGI Ethiopia employees in Addis Ababa head office, sebeta Meta Brewery S.C and Gubre Zebidar brewery S.C as a sample frame. The target sample respondents were taken from corporates supply chain managers, head of procurements, head of warehouses, production managers, and customer relationship managers, and employee from the mentioned departments.

3.3. Sampling techniques and Sample size

The study employed a stratified random and purposive sampling technique. The random sampling is used to take sample respondents from each stratum other than managers. Purposive sampling is used to include managers from each stratum or departments in each

study case. So, including the managers of the department sample respondents were taken proportionally from each place and each stratum. Accordingly, a total of 176 sample respondents were surveyed and the detail is presented in Table 3.1.

The study employed a sample size formula developed by Yamene (1967). Using a total sample frame of 315, margin of error of 5%, and 95% confidence level, the sample size required in this study is calculated as follows:-

$n = \frac{N}{1+N(e^2)}$; $n = \frac{315}{1+315(0.05^2)}$ =176

Sample frame (N) =315

Margin error = 0.05

Sample size = 176

Table 3.1: Sample size determination required for the study

Departments	**District**			**Total Population**	**Total Sample**
	A.A	**Zebider**	**Meta**		
Head Office SC Staff	29			**29**	**16**
Warehouse Employees	55	27	33	**115**	**64**
Production Manager and Employees	50	10	13	**73**	**41**
Procurement Manager and Employees	37	4	7	**48**	**27**
Customer R/Ship	35	7	8	**50**	**28**
Total				**315**	**176**

Source: Own Survey, (2024)

Sample respondents were also taken from suppliers and distributors for triangulation the data collected. However, such respondents were mainly used for in depth interview. Accordingly, 5 suppliers and 10 distributors were a part of this study and they were selected purposively. The total population respondents are 315 this means the respondents of head office supply chain Staff is 29, BGI warehouse employees 115, production manager and production employees 73, Procurement manager and employees

48, customer relationship staffs 50.and the total sample of respondents is 176 this means the respondents of head office supply chain Staff is 16, BGI warehouse employees 64, production manager and production employees 41, Procurement manager and employees 27, customer relationship staffs 28

3.4. Source and Methods of Data Collection

In this research both primary and secondary sources of data were collected through questionnaires and interview. Primary data was collected from employees of different department of BGI Ethiopia, suppliers and distributors. Published research articles were used to triangulate this research finding. The study employed both questionnaire and interview for data collection simultaneously.

Structural questioner was designed to collect primary data from BGI Ethiopia employee and department managers. Most of the questionnaire in a 5 point liker scales were used to collect the required data from respondents. The questionnaires have a five –point response scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree).

Besides, interview is conducted with the sampled suppliers and distributors. The data from interview is used to strengthen data from sample BGI Ethiopia employees.

3.5. Methods of data analysis

The study applied both descriptive statistics and inferential statistics were used to analyze quantitative and qualitative. The collected data were organized; coded, entered into SPSS. So, descriptive statistics mainly frequency, mean and standard deviation were used to present the findings. Inferential statistics particularly correlation analysis were used to assess the possible relationship among supply chain management practices and organizational performance.

CHAPTER FOUR

4. RESULTS AND DISCUSSIONS

In this section, the data collected through questionnaires and interviews is presented, discussed, and interpreted. The data includes supply chain management practices, challenges, and prospects. The analysis is done through SPSS (statistical program for social science) program. Subsequently, descriptive statistics are employed to analyze the data.

4.1. Demographic Characteristics of sample respondents

From the total sample respondents about 69.9% were males and 30.1 % were females. The descriptive result shows supply chain actors at BGI Ethiopia are predominately males. Indeed, male dominance is common in the majority of the Ethiopian private or public business company. The descriptive result also revealed that the majority of the respondents (57.4%) were had bachelor degree, while about 20.5% were had diploma, 17.5% were had masters and 4.5% were those who can read and write or below diploma. This result shows the presence of well qualified graduates that can support the supply chain management operation of BGI industries in Ethiopia. Regarding the age of the respondents, the majorities (85.2%) of the respondents were aged between 20 and 30years. Only about 14.8% of surveyed respondents were aged above 31years (about 9.7% between 31 and 40, about 3.4% between 41 and 50, and about 1.7% were aged above 50 years). The descriptive result of the age category indicates the presence of young and energetic employees within the BGI Company and its prospect to improve the performance. Besides, the presence of such young energetic human resource calls for the possible improvement of the supply chain management practices through training and development related management techniques (Table 4.1).

The mean experience of sample respondents were about 5.3 years, however sample respondents experience in the position that they were working during interview was 3.61 years. This result indicates that BGI Company has on average senior employees and the possible contribution of experienced human resource for better organizational performance.

Table 4.1: Demographic characteristics of sample respondents

Variable	**Category**	**Frequency**	**Percentage**
Sex	Male	123	69.9
	Female	53	30.1
Educational level	Read and write	8	4.5
	Diploma	36	20.5
	Degree	101	57.4
	Masters	31	17.6
Age group	20-30	150	85.2
	31-40	17	9.7
	41-50	6	3.4
	Above 50	3	1.7
	Mean		**Standard deviation**
Working Experience in BGI	5.3		4.43
Experience in Current position	3.61		3.255

Source: Own Survey, (2024) n=176

4.2. Reliability Analysis

The research employed Cronbach's Alpha coefficient to assess the reliability of the measurement instrument. Reliability stands as a cornerstone in evaluating any measurement tool, whether used for traditional knowledge, skill, attitude assessments, or surveys. Ensuring tests and questionnaires are both reliable and valid is crucial for improving the precision of their evaluations (Saunders, 2013). Notably, an instrument's reliability is intricately linked to its validity; without reliability, validity cannot be established (Pallant, 2011).

The data presented in Table 4.2 indicates that the Cronbach alpha values for the scale fell within the range of 0.5 to 0.948. These values were deemed acceptable as they exceeded the recommended thresholds. All of these Cronbach alpha values surpassed the commonly advised minimum Cronbach alpha coefficient of 0.5. Consequently, in this study, supply chain management challenges and prospects scales with Cronbach alpha

values ranging from 0.5 to 0.6 were considered valid. This suggests that the measurement scales utilized were reliable and internally consistent, meeting the prescribed criteria for assessment.

Table 4.2: Reliability of Measurement Scales

Questionnaire Section	**Scale**	**Number of Items**	**Cronbach's Alpha**
A	Supply chain management practices	5	0.948
B	Supply Chain Integration	2	0.947
C	Challenges of supply chain management	7	0.564
D	Supply Chain Performance management	4	0.911
E	Prospects of supply chain management	10	0.664
Overall Scale		**28**	**0.7548**

Own computation, survey (2024)

4.3. Supply Chain Management Practices in BGI Ethiopia PLC

Information sharing, customer relationship practices, strategic supplier partnership practices, raw material flow management practices and corporate culture practices were used to evaluate the supply chain management practices of BGI in this study. Other sub proxy questionnaires were used to for each of the proxy variables to assess supply chain management practices.

4.3.1. Level and Quality of information sharing in BGI Ethiopia PLC

As shown on the Table 4.3, out of the 176 respondents, the mean score is greater than the midpoint of the scale which is 3. Of the three proposed indicator variables to assess the quality and level of information sharing in BGI Ethiopia PLC, the brewery and trading partners keep fully informed each other about events or changes that may affect their business has the highest mean (3.85 with SD =1.0741) which is followed by accurate information sharing between traders and BGI Ethiopia PLC with mean value of 3.78 (SD = 1.182) and mean score of 3.74 (SD=1.264) for information exchange related with business planning. Quality and level of information sharing between BGI PLC and other trading partners is above the midpoint of scale which is about 3.79 with standard deviation 1.0741. The overall descriptive result in Table 5 indicates that the effort that BGI Ethiopia has made to strengthen information sharing with in the supply chain is

satisfactory. On the other hand, supply chain practices related with information sharing in BGI Ethiopia shows above average performance. However, the standard deviations for the majority of the statements are greater than one indicating difference in employee opinion towards information sharing of BGI Company for better supply chain management.

Table 4.3: The level of information sharing in BGI PLC supply chain

Level of information sharing indicators	**Mean**	**Std. Deviation**
The Brewery and its trading partners exchange information that helps establishment of business planning	3.74	1.264
Information exchange is accurate	3.78	1.182
The brewery and trading partners keep fully informed each other about events or changes that may affect every one of us.	3.85	1.270
Overall	**3.79**	**1.0741**

Source: Own Survey, (2024) n=176

4.3.2. Customer relationship practices in BGI Ethiopia PLC

The respondent was queried with four interconnected inquiries regarding the customer relationship with BGI Ethiopia. These questions aimed to evaluate the company's engagement with customers in terms of reliability, responsiveness, and other benchmarks. Additionally, they sought to gauge the company's approach to measuring and appraising customer satisfaction, predicting future customer expectations, enhancing customer capabilities, and regularly assessing the significance of the company's customer relationships.

In relation to BGI Ethiopia's customer relationship practices, the employees have a shared understanding that the company consistently engages with customers to establish reliability, responsiveness, and other standards. The mean scores for these aspects are 4.35 (SD = 1.095) for the brewery involves key customer in demand forecasting, 3.52 (SD = 1.296) for the brewery built trust on key strategic customer to share supply chain information, 3.61 (SD=1.199) for the brewery shares real time inventory information for just in time delivery, and 3.93 (SD = 1.224) for evaluating the importance of customer relationships.

On average, the BGI company performance on customer relationship management practices was satisfactory with mean value of 3.85 (SD=1.01425). However, there is disagreement among employees regarding the company's approach to determining future customer expectations due to the reason there standard deviation is greater than one. Additionally, most employees are neutral towards the practice of facilitating customer assistance from BGI Ethiopia.

The analysis of customer relationship variables indicates that BGI Ethiopia maintains a positive customer relationship. The study also indicates the possibility of deviation of perceptions among employees by assessing customer expectations, and actively promotes customer engagement through various mechanisms. According to Mbuthia and Rotich (2014), customer relationship plays a crucial role in the successful implementation of supply chain management practices in public and private organizations. Establishing close customer relationships enables organizations to distinguish their products from competitors and foster long-term customer loyalty.

Table 4.4: Description of variables used to evaluate customer relationship in BGI supply chain Management

Customer Relationship Practices	**Mean**	**Std. Deviation**
The brewery involves key customer in demand forecasting	4.35	1.095
The Brewery built trust on key strategic customer to share supply chain information	3.52	1.296
The Brewery shares real time inventory information for just in time delivery	3.61	1.199
The brewery involves key customer in inventory carrying decision make	3.93	1.224
Overall aggregate mean	**3.85**	**1.014**

Source: Own Survey, (2024) n=176

4.3.3. Strategic Supplier Partnership in BGI Ethiopia PLC

The analysis of the descriptive results presented in Table 4.5 indicates a positive perception among respondents regarding the impact of strategic supplier partnership practices on supply chain management within BGI Ethiopia. The overall mean score for

this perception is 3.71 with a standard deviation of ±1.091. Specifically, respondents (mean score = 4.02; SD = ±1.200) acknowledged that BGI Ethiopia effectively shares its long-term production and raw material requirements with its key strategic suppliers.

However, there are areas identified for improvement within the supplier partnership practices. For instance, respondents expressed a lower level of trust in the brewery's suppliers to share supply chain information (mean score = 3.28; SD = ±1.441). Additionally, while there is a long-term framework agreement in place with key strategic suppliers (mean score = 3.82; SD = ±1.273), there is room for enhancing trust and collaboration in this aspect.

Overall, the majority of respondents agreed with the statements related to the strategic supplier partnership scale, indicating a generally satisfactory level of strategic supplier partnership practices within BGI Ethiopia. This feedback highlights both strengths and areas for potential enhancement in fostering stronger partnerships and improving supply chain management effectiveness within the organization.

Table 4.5: Strategic supplier partnership practices in BGI PLC supply chain Management

Strategic supplier partnership	**Mean**	**Std. Deviation**
The brewery shares its long term production and raw material requirement plan with its key strategic supplier	4.02	1.200
The brewery trusts its supplier to share supply chain information	3.28	1.441
The brewery have a long term framework agreement with key strategic suppliers	3.82	1.273
Overall aggregate mean	**3.71**	**1.091**

Source: Own Survey, (2024) n=176

4.3.4. Raw Material Flow Management in BGI Ethiopia PLC

The analysis of the study presented in Table 4.6, focusing on raw material flow management, reveals that a majority of respondents recognize the critical role raw material flow management plays in supply chain practices. The overall mean score ($\bar{x}$=4.12; SD=±1.0078) indicates strong agreement with this notion. Specifically,

respondents ($\bar{x}$=4.16; SD=±1.162) agree that the brewery adheres to standard inventory replenishment practices, including setting reorder levels and employing Min/Max inventory policies. Furthermore, there is consensus ($\bar{x}$=4.20; SD=±1.158) that the brewery engages in collaborative planning, forecasting, and replenishment (CPFR) with its partners.

Moreover, participants ($\bar{x}$=4.02; SD=±1.139) express agreement with the implementation of Just-in-Time (JIT) delivery arrangements within the brewery industry. These findings collectively highlight a positive reception towards statements related to raw material flow management, underscoring the significance of information as a crucial element for success within the BGI Ethiopia context.

Table 4.6: Raw material flow management practices in BGI Ethiopia Supply Chain Management

Raw material flow management practices	**Mean**	**Std. Deviation**
The brewery set Standard Inventory Replenishment, Reorder level as well as Min/Max Inventory Policy	4.16	1.162
The brewery implement Collaborative Planning, Forecasting and Replenishment (CPFR) approach with its partners	4.20	1.158
The brewery industry implements Just-in-time (JIT) delivery arrangements	4.02	1.139
Overall aggregate mean	**4.12**	**1.0078**

Source: Own Survey, (2024) n=176

4.3.5. Corporate Culture Practices in BGI Ethiopia PLC

The study findings reveal that a majority of respondents within the BGI Ethiopia industry are in agreement that corporate culture remains a crucial component in Supply Chain Management (SCM), as evidenced by the overall mean score ($\bar{x}$=3.84; SD=±0.972). Furthermore, respondents also indicated consensus on the brewery having clearly defined vision, mission, and goals ($\bar{x}$=3.79; SD=±1.208), as well as a strong relationship between industry managers and employees ($\bar{x}$=3.98; SD=±1.124). It was also noted that respondents believe the organizational culture throughout the brewery can enhance the

performance of both customers and suppliers, even in the face of challenges posed by meeting SCM regulations set by the government ($\bar{x}$=3.77; SD=±1.168).

These results suggest that the overall organizational culture within the brewery plays a significant role in supporting the performance of customers and suppliers amidst regulatory challenges. Therefore, it is imperative for companies to adhere to the corporate culture practiced within the industry to ensure that their supply chain products are safe for use, do not harm the environment, and meet the needs of end users effectively.

Table 4.7: Corporate cultural practices in BGI Ethiopia Supply chain Management

Corporate cultural practices indicator	**Mean**	**Std. Deviation**
The brewery has clearly stated vision, mission and goals	3.79	1.208
The industry manger has close relationship with employees	3.98	1.124
The brewery all over organizational culture can support for the performances of its customer and supplier	3.77	1.168
Overall aggregate mean	**3.848**	**0.9712**

Source: Own Survey, (2024) n=176

In general, the mean supply chain management practice by BGI Ethiopia was good with mean of 3.86 and standard deviation of 1.0316. The mean scores for these aspects are 4.35 (SD = 1.095) for the brewery involves key customer in demand forecasting, 3.79 (SD = 1.0741) for quality and level of information sharing, 3.85 (SD=1.014) for customer relationship practices, and 3.71 (SD = 1.091) for strategic supplier partnership practices, 4.12 (SD=1.007), for raw material flow management practices, 3.848 (SD=0.971) for corporate culture practices. As indicated in Table 10, on average sample respondents perceived that supply chain management practices in BGI Ethiopia as satisfactory.

Table 1: Summary of supply chain management practices indicator

Summary of supply chain management practices	**Mean**	**Std. Deviation**
Quality and level of Information sharing	3.79	1.0741
Customer relationship practices	3.85	1.014
Strategic supplier partnership practices	3.71	1.091
Raw material flow management practices	4.12	1.0078
Corporate culture practices	3.848	0.9712
Over all mean	**3.86**	**1.03162**

Source, own survey, (2024) n=176

4.4. Supply Chain Management Integration

The coordination of business, technology, people, and processes not only within the enterprise but also across extended enterprises are required for better supply chain management (Awad and Nassar, 2010). In this regard, this study evaluates the supply chain integration of BGI Ethiopia from both internal and external supply chain integration viewpoint.

4.4.1. Internal Supply Chain Management Integration

As presented in Table 4.9, on the internal supply chain integration activities, the mean score respondents revealed that there is better data integration among internal function level was 3.99 with standard deviation of 1.214. Similarly, respondents agreed the presence of strong integration of inventory management with mean score and standard deviation of 3.98 and 1.233, respectively. Respondents were asked to share their opinion with regard to the application of integration among internal function followed by BGI experience of using cross functional teams in process improvement. Accordingly, on average 4.10 and standard deviation of 1.150 were for application integration among internal function while a mean score 3.93 and standard deviation of 1.212 were for the use of cross functional team in process improvement.

Besides, respondents were asked to share their opinion regarding weather BGI Ethiopia utilizes periodic interdepartmental meeting among internal function and the mean score 4.00 with standard deviation of 1.238. On average, respondents agreed that the BGI

Ethiopia supply chain management is high with mean score of 4.11 and standard deviation 1.216. The mean score for respondents experience and observation on team work and inter organizational coordination and also the extent of integration foe production and marketing department were satisfactory. The mean Likert scale for the team work and inter organizational coordination, and integration between production and marketing department was 3.87 and 3.98 with the standard deviation of 1.208 and 1.230, respectively.

These results implicates that, on average, BGI Ethiopia has established effective internal supply chain integration practices, emphasizing collaboration, data sharing, and cross-functional teamwork to enhance operational efficiency and coordination within the organization.

Table 4.9: Internal supply chain Management integration dimensions in BGI Ethiopia

Internal Supply Chain Management Integration	**Mean**	**Std. Deviation**
There is better data integration among internal function	3.99	1.214
There is strong integration of inventory management	3.98	1.233
There is application integration among internal function	4.10	1.150
The brewery industry uses cross functional team in process improvement	3.93	1.212
The brewery utilizes periodic interdepartmental meeting among internal function	4.00	1.238
The brewery management know how in supply chain effectiveness is high	4.11	1.216
There is strong team work and inter- organizational coordination	3.87	1.208
There is great extent of integration between production and sales departments	3.98	1.230
Overall aggregate	**3.99**	**1.06447**

Source: Own Survey, (2024) n=176

4.4.2. External Supply Chain Management Integration

The descriptive result analysis of the Table 4.10 shows that respondents agree that there is a linkage through information network with partners, shown by the overall mean score of ($\bar{x}$=4.241; SD=±1.009). Respondents agreed that their companies have a greater responsiveness in meeting the lead time and point of delivery ($\bar{x}$=3.71; SD=±1.274). They also agreed that there is strong integration of inventory management ($\bar{x}$=3.84; SD=±1.191) but encounter problems with packaging while in transit ($\bar{x}$=3.98; SD=±1.158). It was affirmed that BGI Ethiopia use of effective communication with major supplier/customers ($\bar{x}$=4.02; SD=±1.154). Customer feedback plays a crucial stage in the SCM of all industries. In this regard, BGI Ethiopia follow up with major customer feedback is evaluated and found to be satisfactory ($\bar{x}$=3.91; SD=±1.223).

Quick ordering system with major suppliers and willingness to share costs, risks and benefits among supply chain partners were also used to evaluate external supply chain integration, and they are found to be above the average scale. The quick ordering system with major suppliers/customers was 3.76 with standard deviation of 1.195 while willingness to share risks and benefits among chain partners was 3.72 with standard deviation of 1.185. Likewise, the mean score on the level of faire resource utilization among supply chain partners is about 3.80 with standard deviation. Also, the frequency of contact that BGI Ethiopia had with the major customers is good with mean score 3.93 and standard deviation of 1.151.

The result indicates that it is important to maintain optimum external supply chain integration within the BGI Company. Maintaining optimum external supply chain integration within BGI Company is crucial based on the positive evaluations and feedback received from the analysis. Addressing packaging challenges and ensuring continued effective communication and feedback mechanisms will further enhance the company's supply chain operations.

Table 4.10: External supply chain Management integration dimensions in BGI Ethiopia

External Supply Chain Management Integration	Mean	Std. Deviation
There is linkage through information network with partners	3.71	1.274
High frequency of periodic contact between major partners	3.84	1.191
Use of effective communication with major supplier/customers	4.02	1.154
There is follow up with major customer feedback	3.91	1.223
There is quick ordering system with major suppliers	3.76	1.195
Willingness to share costs, risks and benefits among supply chain partners	3.72	1.185
There is the level of faire resource utilization among supply chain partners	3.80	1.220
There is frequency of contact with major customers	3.93	1.151
Overall aggregate mean	**3.83**	**1.0389**

Source: Own Survey, (2024) n=176

Regarding the BGI Ethiopia supply chain integration, Table 4.11 showed that sample respondents agreed that supply chain integration in BGI Ethiopia is satisfactory with mean of 3.91 and standard deviation of 1.0516. Respondents were agreed that both the internal and external supply chain integration activities are good with mean of 3.99 and 3.83, and standard deviation of 1.064 and 1.0516, respectively.

Table 4.11: Summary of Supply Chain Management Integration Dimensions

Supply Chain Management Integration	Mean	Std.Devation
Internal supply chain integration activities	3.99	1.06447
External supply chain integration activities	3.83	1.0389
Overall mean	3.91	1.051685

Source: Own Survey, (2024) n=176

4.5. Challenges of BGI Supply Chain Management

In this segment, the focus is on the viewpoints of participants regarding the obstacles in supply chain management. The utilization of mean scores facilitated this analysis. A higher mean score indicated alignment with the query, while a lower mean score signified dissent among respondents.

4.5.1. Warehouse Challenges

Warehouse related challenges for the BGI Ethiopia SCM is also rated as very high, high and average level. Accordingly, unfavorable condition in the warehouse and limited space in the warehouse with mean value of 4.14 and 4.10, respectively followed by poor layout with mean value of 3.90 were the major challenges related with warehouse in BGI Ethiopia.

Despite disagreements among the respondents, the study confirmed the existence of unfavorable conditions in the warehouse of BGI Ethiopia, with the highest mean rating of 4.14 and a standard deviation of 1.138. Based on the result, this is a major challenge in BGI supply chain. A favorable warehouse, equipped with proper warehousing safeguards, protects merchandise from theft, loss, and damage caused by adverse weather conditions like wind, dust, humidity, and heat. Through effective planning, warehouses can efficiently accommodate a diverse range of products. By utilizing warehouse spaces that consider and mitigate various hazards, such as waste and expiration risks during storage, better supply chain performance can be achieved.

Poor warehouse layout found to be the one of the most significant challenge of BGI Ethiopia supply chain. However, the standard deviation was about 1.272 indicating among disagreement among the respondents. Efficient space utilization forms the cornerstone of warehouse design. A well-planned layout promotes seamless material flow, reduces travel distances, and maximizes storage capacity. Strategically positioning high-demand items near the shipping area facilitates quick access, while slower-moving products can be placed in more distant locations.

Table 4.12: Warehouse Related Challenges in BGI Ethiopia

Warehouse	Mean	Std. Deviation
There is Limited spaces	4.10	1.189
There is Wrong(Poor) warehouse layout	3.90	1.272
There is unfavorable condition in the warehouse	4.14	1.138
Overall aggregate mean	**4.04**	**1.09333**

Source: Own Survey, (2024) n=176

4.5.2. Technological (Information sharing) challenges

According to the survey conducted in BGI Ethiopia, respondents indicated that the information exchange within the organization is perceived as complex and inaccurate, with a mean rating of 4.23, signifying a very high level of concern, and a standard deviation of 1.179. Additionally, the mean score of 4.14, along with the standard deviation, suggests that respondents agree that the current information sharing culture within BGI Ethiopia is inadequate. This indicates that participants in the BGI supply chain are reluctant to share necessary information, as evidenced by the challenges identified in willingness to share required information across all surveyed firms, notwithstanding to varying degrees.

Respondents admit a communication gap with their trading partners when it comes to sharing business knowledge of core processes, as well as business risks. The mean score and standard deviation of 4.13 and 1.085 respectively indicate that a significant number of respondents view this communication gap as a crucial challenge within BGI Ethiopia. This highlights the importance of addressing communication issues for effective supply chain management, particularly in establishing relationships based on shared risks and rewards.

Table 4.13: Technology and Information sharing related challenges in BGI Ethiopia

Technology (Information sharing)	**Mean**	**Std. Deviation**
Information exchange is complex and not accurate	4.23	1.179
Information exchange is inadequate	4.14	1.130
The industry has communication gap with its trading partners to share business knowledge of core business processes	4.13	1.085
Frequent electric power, water and raw material interruptions/outages make it difficult to use the information technology that would ease supply chain process	4.05	1.046
Slow and sometimes unavailability of internet connectivity is a barrier	4.07	1.164
Overall aggregate mean	**4.124**	**1.0162**

Source: Own Survey, (2024) n=176

From the result Table 4.13 indicates that, the respondents agreed with frequent electric power, water and raw material interruptions/outages make it difficult to use the information technology that would ease supply chain process which mean scale (mean= 4.05, SD=1.046). The other components that respondents agree exist is internet service (mean= 4.07, SD=1.164), internet connection is usually slow and sometimes unavailability of connection is the major challenges.

4.5.3. Logistical and Infrastructures

The data from Table 4.14 revealed that respondents hold a negative attitude towards the impact of efficient utilization of Information and Communication Technology (ICT) in easing supply chain processes, as reflected by an overall mean score of $\bar{x}$=2.07 with a standard deviation of ±1.179. Similarly, respondents express negativity towards lack of transportation access for delivering products to customers, with a mean score of $\bar{x}$=2.47 and a standard deviation of ±1.190, indicating some level of disagreement among respondents.

Interestingly, despite the negative sentiment, there seems to be a lack of transportation issues hindering product delivery to customers. The survey also highlights ineffective logistics management is not a significant challenge, with a mean score of $\bar{x}$=2.52 and a standard deviation of ±1.1039.

These findings suggest that while respondents acknowledge the logistical infrastructure-related challenges faced by organizations like BGI, they still recognize these challenges as crucial elements for the success of business operations. Addressing these issues effectively could lead to improvements in supply chain management and overall business performance.

Table 4.14: Logistical Infrastructures Related Challenges in BGI Ethiopia

Logistical Infrastructures Related Challenges	**Mean**	**Std.Deviation**
Efficient utilization of the information technology (ICT) that would ease supply chain process	2.07	1.179
Lack of transportation access to deliver its product to its customers	2.47	1.190
Ineffective way of logistic management	2.52	1.274
Overall aggregate mean	**2.35**	**1.039**

Source: Own Survey, (2024) n=176

4.5.4. Inventory management Challenges

According to the findings presented in Table 4.15, respondents do not believe that there is a significant gap in the industry's ability to supply and prepare feed for the community. The survey indicates that BGI Ethiopia has not encountered major obstacles in providing its products to the community, as respondents disagreed with the notion that BGI faces challenges in this aspect (mean = 1.95; standard deviation = ±1.095).

A majority of respondents (mean = 3.99; standard deviation = ±1.283) agreed that the industry struggles with ineffective inventory management, resulting in high inventory costs. This suggests that ineffective inventory management is a notable challenge within BGI Ethiopia. Furthermore, the data reveals that issues related to inventory management are somewhat present in BGI Ethiopia (mean = 2.972; standard deviation = ±0.7832).

Table 4.15: Inventory Management Related Challenges in BGI Ethiopia

Inventory management challenges	Mean	Std. Deviation
The industry have great gap to supply and prepare BGI products for its societies	1.95	1.089
The industry implements ineffective inventory management that led to high inventory cost	3.99	1.283
Overall aggregate mean	**2.972**	**0.7832**

Source: Own Survey, (2024) n=176

4.5.5. Operational Capacity Challenges

The findings in Table 4.16 revealed that among the variables assessed, those perceived to pose challenges to BGI's operational capacity received higher mean scores from respondents. Specifically, the challenges included delaying orders to meet customer demand (mean score = 3.86, SD = 1.218), delays related to BGI's operational capacity (mean score = 3.96, SD = 1.28), and trading partners' decisions to utilize the maximum production capacity (mean score = 4.10, SD = 1.198). These results suggest that respondents acknowledged and agreed on the existence of these challenges.

The average mean score for operational challenges across all aspects was 3.97 with a standard deviation of 1.035. This indicates that the identified challenges were consistently perceived as significant issues potentially affecting BGI Ethiopia. Moreover, the overall standard deviation highlights notable variations in respondents' perceptions regarding these challenges. These findings collectively underscore the importance of addressing and mitigating the operational challenges identified to enhance BGI's operational efficiency and effectiveness.

Table 4.16: Operational capacity Related Challenges in BGI Ethiopia

Challenges related with operational capacity	Mean	Std. Deviation
There is delay order to meet customer	3.86	1.218
There is greatest customer delay related to operation capacity	3.96	1.128
Our industry trading partners are challenges to use the maximum capacity of our production	4.10	1.198
Overall aggregate	**3.97**	**1.035**

Source: Own Survey, (2024) n=176

4.5.6. Legal and Governmental Challenges

Based on the data presented in Table 4.17, it is evident that the respondents in BGI Ethiopia acknowledged and agreed with the various challenges associated with legal and governmental aspects. The mean scores fell within the range of 3.81 to 3.86, with standard deviations ranging from 1.132 to 1.262. Specifically, the respondents indicated agreement on several key issues: poor relationship with local government (mean = 3.84, SD = 1.132), lack of available land for the company (mean = 3.3, SD = 0.7), inadequate collaboration in planning among supply chain partners (mean = 3.81, SD = 1.138), and high tax burdens on imports (mean = 3.87, SD = 0.99).

The overall mean score of 3.86 with a standard deviation of 1.047 further reinforces the consensus on the legal and governmental challenges within the supply chain in Ethiopia. The presence of variations in responses, as indicated by the standard deviations, highlights the diversity of perspectives among the respondents regarding these challenges.

Table 4.17: Legal and environment Challenges in BGI Ethiopia

Legal and governmental challenges	**Mean**	**Std. Deviation**
The industry have negative relationship with local government	3.84	1.132
Government doesn't provide free land for our industry to expanding product distribution	3.81	1.138
The industry has push to pay high tax in imported product	3.96	1.262
Overall aggregate mean	**3.86**	**1.047**

Source: Own Survey, (2024) n=176

4.5.7. Internal and External Environment Challenges

In Table 4.18, respondents indicated agreement with various challenges concerning the internal and external environment within BGI Ethiopia's supply chain. The mean scores fell within the range of ($\bar{x}$= 3.73 – 4.12, SD=1.108 – 1.353). Specifically, they acknowledged challenges such as political instability ($\bar{x}$=3.98, SD=1.176), safety and security threats ($\bar{x}$= 3.73, SD=1.353), socio-cultural aspects of brewery supply chain management ($\bar{x}$= 4.13, SD=1.208), uncomfortable working conditions ($\bar{x}$= 4.20, SD=1.161), workforce diversity ($\bar{x}$= 4.07, SD=1.224), waste management systems ($\bar{x}$=

4.15, SD=1.108), income generation mechanisms ($\bar{x}$= 3.86, SD=1.148), and geographical distribution challenges ($\bar{x}$=3.37, SD=0.74).

The overall mean score of ($\bar{x}$= 4.08, SD=0.967) suggests a general consensus on the internal and external environment challenges facing BGI Ethiopia's supply chain. The standard deviation indicates notable variations in responses, highlighting the diverse perspectives on these challenges among the respondents.

Table 4.18: Internal and External Challenges in BGI Ethiopia

Internal and external environmental challenges	**Mean**	**Std. Deviation**
Political instability in the country is a challenge	3.98	1.176
Safety and security threat in the country is a challenge	3.73	1.353
Socio cultural prospect of brewery SCM is a challenge	4.13	1.208
Uncomfortable working area is a challenge	4.20	1.161
Workforces diversity is a challenge	4.07	1.224
Waste management system is a challenge	4.15	1.108
Income generating mechanisms is a challenge	3.86	1.148
Geographical distribution challenge	3.94	1.135
Overall aggregate mean	**4.008**	**0.967**

Source: Own Survey, (2024) n=176

In general, level of information sharing (M= 4.12, std dev. =1.016), warehouse challenge (M= 4.04, std dev. =1.093), internal and external environmental factors (M= 4.00, std dev. =0.967) were emerged as three key challenges impacting the performance of BGI Ethiopia according to the findings. The overall aggregate mean for the presence of challenges was about 3.62 and standard deviation of 0.996. This indicates sample respondents agreed on the presence of significant challenges in The BGI supply chain management process. Therefore, effectively managing internal and external challenges, enhancing operational capacity, and addressing legal and governmental issues can lead to an improvement in BGI Ethiopia's operational performance in proportion to these efforts.

Table 4.19: Summary of Challenges in BGI Supply Chain Management

Summary of Challenges in BGI Supply Chain	Mean	Std. Deviation
Warehouse related challenge	4.04	1.09333
Technological (Information sharing) related	4.124	1.0162
Logistical infrastructures related challenge	2.35	1.039
Inventory management related challenge	2.972	0.7832
Operational capacity related challenge	3.97	1.035
Legal and governmental related challenge	3.86	1.047
Internal and External environment	4.008	0.967
Over all mean	**3.62**	**0.9972**

Source: Own Survey, (2024) n=176

4.6. Supply Chain Performance in BGI Ethiopia

4.6.1. Customer Reliability

The reliability of customers in BGI's supply chain management is assessed through four proxy characteristics: company commitment to delivery date, delivery fulfillment by suppliers, customer order accuracy in terms of quality and type of product. According to the data presented in Table 4.20, respondents have indicated a positive perception of BGI's performance in customer reliability, with mean scores ranging from 4.03 to 4.11 and standard deviations between 1.063 and 1.155.

Specifically, respondents agreed that BGI consistently delivers on committed or promised dates to customers ($\bar{x}$=4.03, SD=1.063), strategic suppliers meet delivery lead times and schedules to the required standard ($\bar{x}$=4.03, SD=1.144), customer orders are consistently accurate ($\bar{x}$=4.13, SD=1.208), and customer orders are fulfilled accurately in terms of quality and product types in a satisfactory working environment ($\bar{x}$=4.11, SD=1.082).

The overall mean score of 4.06 with a standard deviation of 0.975 indicates a general agreement with all customer reliability measurements related to BGI's supply chain in Ethiopia. The low standard deviation suggests that there were no significant variations in

the responses, reinforcing the positive perception of BGI's customer reliability practices among the respondents.

Table 4.20: Customer reliability in BGI Ethiopia

Determinants of customer reliability	**Mean**	**Std. Deviation**
The industry always delivery committed/promised date to the customer	4.03	1.063
Strategic supplier meet delivery lead time/delivery schedule with the required standard	4.03	1.144
The industry always deliver customer order at accurate	4.10	1.155
Customer order are fulfilled accurately in terms of quality and types of product	4.11	1.082
Overall aggregate mean	**4.06**	**0.975**

Source: Own Survey, (2024) n=176

4.6.2. Speed of Responsiveness

In this research, the speed of responsiveness of BGI Ethiopia was evaluated based on three key characteristics: product delivery cycle time, short production cycle time, and raw material sourcing time. The respondents' perceptions were captured in Table 4.21, where it was noted that they found BGI's performance in terms of speed of responsiveness to be satisfactory. The mean scores fell within the range of 4.09 to 4.11, with standard deviations ranging from 1.199 to 1.218.

Specifically, respondents agreed that BGI excelled in having a short product delivery cycle time (mean = 4.09, SD = 1.199), a short production cycle time (mean = 4.11, SD = 1.121), and a short raw material sourcing time (mean = 4.09, SD = 1.218). The overall mean score of 4.09 with a standard deviation of 1.101 indicates a general agreement across all aspects of speed responsiveness related to BGI Ethiopia's supply chain in Ethiopia.

The presence of significant variations in the responses, as indicated by the standard deviations, suggests that while there is overall agreement on BGI's performance in terms of speed of responsiveness, there are areas where perceptions may differ among

respondents. This insight can be valuable for further analysis and improvement efforts within BGI's supply chain operations in Ethiopia.

Table 4.212: Speed of responsiveness in BGI Ethiopia

Indicator of speed responsiveness	**Mean**	**Std. Deviation**
The industry has short product delivery cycle time	4.09	1.199
The industry has short production cycle time	4.11	1.121
The industry has short raw material sourcing time	4.09	1.218
Overall aggregate Mean	**4.09**	**1.101**

Source: Own Survey, (2024) n=176

4.6.3. Flexibility (Agile) Dimension

In this study, the flexibility of BGI Ethiopia was assessed based on three key characteristics: suppliers' flexibility, industry flexibility, and distributor adjustment of transportation capacity to meet small quantity customer demands. The respondents' perceptions were documented in Table 4.22, revealing that BGI's performance in terms of responsiveness flexibility was deemed satisfactory. The mean scores ranged from 3.88 to 4.09, with standard deviations between 1.230 and 1.248.

Specifically, respondents acknowledged BGI's strength in supplier flexibility during demand fluctuations (mean = 3.88, SD = 1.248), industry flexibility in meeting customer needs (mean = 4.07, SD = 1.226), and distributor adaptation of transportation capacity for small quantity customer demands (mean = 4.09, SD = 1.230). The overall mean score of 4.09 with a standard deviation of 1.230 indicates a consensus on the high level of flexibility across all aspects of BGI Ethiopia's supply chain in Ethiopia. The presence of significant variations in the responses, as indicated by the standard deviations, suggests that while there is overall agreement on BGI's performance in terms of speed of responsiveness, there are areas where perceptions may differ among respondents. This insight can be valuable for further analysis and improvement efforts within BGI's supply chain operations in Ethiopia.

Table 4.22: Flexibility in BGI Ethiopia

Flexibility in BGI performance	**Mean**	**Std. Deviation**
Suppliers are flexible during change in fluctuated demand	3.88	1.248
The industry is flexible in delivering product of customers' needs	4.07	1.226
Distributors adjust transportation capacity to respond to small quantity demand of customer	4.09	1.230
Overall aggregate mean	**4.01**	**1.13**

Source: Own Survey, (2024) n=176

4.6.4. Cost dimension

In this research, the evaluation of BGI Ethiopia's cost structure focused on two critical areas: defects and returns management, as well as transportation and distribution expenses. The study participants' viewpoints were captured in Table 4.23, demonstrating that BGI's cost performance was generally perceived as unsatisfactory. The mean rating for defects and returns management was 4.07 with a standard deviation of 1.151, while transportation and distribution costs received a mean score of 4.05 with a standard deviation of 1.193.

Respondents specifically recognized the challenges in defects and returns management (mean = 4.07, SD = 1.151) and transportation and distribution (mean = 4.05, SD = 1.193). The overall mean score of 4.05, coupled with a standard deviation of 1.130, suggests a consensus on the high cost levels across all aspects of BGI Ethiopia's supply chain operations. The presence of notable variations in responses, as indicated by the standard deviations, implies that while there is general agreement on BGI's cost performance, there may be differing perceptions among respondents in specific areas.

This variance in perceptions can offer valuable insights for further analysis and enhancement initiatives within BGI's supply chain operations in Ethiopia, enabling targeted improvements where needed to optimize cost efficiency and overall performance.

Table 4.23: Cost dimensions in BGI Ethiopia

Cost dimensions in BGI performance	Mean	Std. Deviation
High Defects and returns management cost	4.07	1.151
High Transportation and distribution cost	4.05	1.193
Overall aggregate mean	**4.051**	**1.1302**

Source: Own Survey, (2024) n=176

4.6.5. Correlation analysis of supply Chain performance of BGI Ethiopia

The study utilized the Pearson correlation coefficient to explore the association between reliability, responsiveness, flexibility, and cost, and their impact on BGI Ethiopia's performance, as detailed in table 4.24. The analysis revealed a robust connection between these four proxy variables and BGI performance. Notably, all variables exhibited significant correlations at a 1% significance level ($p<0.01$). Among these, reliability demonstrated the strongest correlation ($r=0.915$) with supply chain performance followed closely by responsiveness ($r=0.91$), flexibility ($r=0.885$), and cost ($r=0.842$). The correlation between responsiveness and customer reliability is about 0.883 showing strong correlation followed by the correlation between cost and flexibility ($r=0.91$). Moderate and significant correlation were found between flexibility with reliability ($r=0.659$), and between flexibility and responsiveness ($r=0.683$).

Table 4.243: Correlation analysis of supply Chain performance of BGI Ethiopia

		SCPD	SCPD_A	SCPD_B	_SCPD_C	SCPD_D
SCPD	Pearson Correlation	1				
	Sig. (2-tailed)					
SCPD_A	Pearson Correlation	.915**	1			
	Sig. (2-tailed)	<.001				
SCPD_B	Pearson Correlation	.910**	.883**	1		
	Sig. (2-tailed)	<.001	<.001			
SCPD_C	Pearson Correlation	.885**	.659**	.683**	1	
	Sig. (2-tailed)	<.001	<.001	<.001		
SCPD_D	Pearson Correlation	.842**	.636**	.608**	.867**	1
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	

**. Correlation is significant at the 0.01 level

Source: Own Survey, (2024) n=176

4.7. Prospects of BGI Ethiopia Supply Chain Management

Data collected through the questionnaire and interview with respondents of the BGI Company supports the idea that the SCM is giving adequate attention to its relationship with the supply chain network. Even though, the BGI supply chain network is working hard on the effective link of its operation with the supply chain networks, the interviews point out the following challenges they are facing mainly from the company's supply chain network.

Based on the provided sources, BGI-Ethiopia, the leading beverage company in Ethiopia, has launched its VISION 2028 with a focus on transforming the company and securing market leadership through significant investments in operations, production network, and distribution model. The company aims to double its production capacity, optimize

operations, and relocate its facilities to enhance efficiency and overcome logistical challenges. BGI-Ethiopia's commitment to becoming an "employer of choice" is evident through initiatives like offering attractive packages, implementing an early retirement program, and modernizing its distribution network.

In terms of local and international prospects, a study evaluating BGI Ethiopia's prospect on skilled manpower availability, surrounding community's interest, women empowerment, influence on price, accesses to loan, access to international market, market demand, accesses to transport, training on inventory management and managerial skill. These mentioned prospects of BGI Ethiopia was rated positively, the empowerment of women received a lower score, indicating room for improvement in this area. The overall prospect of BGI Ethiopia's supply chain management was viewed favorably, with a mean score of 3.39, suggesting a consensus on its improving potential. However, the presence of varying perceptions among respondents, as indicated by standard deviations, highlights the need for targeted improvements to optimize the company's economic contribution.

The study considers the higher the mean value the higher the future prospect or opportunities for BGI Ethiopia Plc. supply chain management. BGI Ethiopia PLc has to work on those supply chain prospects with higher mean value to improve its supply chain effectiveness and performance. Accordingly, that having a mean value of very high, high and average has to be exploited for BGI Ethiopia growth and development. Accordingly, the survey result indicates that, skilled manpower availability ($\bar{x}$=4.11, SD=1.014), surrounding society interest in the industry ($\bar{x}$=3.97, SD=1.212), women empowerment ($\bar{x}$=2.27, SD=1.435), non-influence of government in pricing ($\bar{x}$=3.07, SD=1.089), accesses to loan ($\bar{x}$=4.21, SD=0.985), access to international market ($\bar{x}$=2.89, SD=1.085), demand rising ($\bar{x}$=3.74, SD=1.552), transportation system ($\bar{x}$=3.11, SD=0.754), training on inventory management ($\bar{x}$=3.52, SD=1.163), and training on managerial skill ($\bar{x}$=3.01, SD=1.075) were found to be significant prospects for better supply chain development and performance in BGI Ethiopia.

As per the insights gathered from interviews with managers, BGI-Ethiopia's strategic evolution was prompted by ongoing environmental shifts in the Ethiopian market, heightened industry competitiveness, and a strong drive to accelerate the company's growth while enhancing organizational engagement and mindset. This transformation is

anticipated to revolutionize the company's operations and business approach significantly. The company's vision entails doubling its production capacity in the upcoming years, aiming to reach a volume of nearly 10 million hectoliters annually.

Table 4.25: Prospect of Supply Chain Management in BGI Ethiopia

Prospects of BGI Ethiopia PLc	**Mean**	**Std. Deviation**
Skilled man power in the market	4.11	1.014
Surrounding society interest in the industry	3.97	1.212
Current women empowerment effort	2.27	1.435
Non influence of the price by the government	3.07	1.089
Government facilitate access to loan	4.21	0.985
Facilitation of the access to international market	2.89	1.085
The demand of BGI products is continuously rising	3.74	1.552
Provision of a transportation system	3.11	0.754
Training on inventory management	3.52	1.163
Training on managerial skills	3.01	0.075
Overall aggregate	**3.39**	**1.0364**

Source: Own Survey, (2024) n=176

Other than employee survey, the study also included the data obtained from both customers and distributors of BGI Ethiopia. The interview with customers was about their relationship with BGI Ethiopia and distribution culture of BGI Ethiopia. The interviewee customers/distributors revealed that BGI Ethiopia overall physical distribution practices aren't that much satisfying to its customers. They reported that there is failure in the company to deliver products on time to customers due to shortages of trucks to deliver products, which indicates that the transport potential of the company towards distribution is less than customers' expectation, just somewhat different from the surveyed employee's perception to logistical and infrastructural challenges.

The result from customers' interview also disclosed that there are gaps in the company in availing its products with customers' desired level. Some of the interviewee said that the company fails to distribute its products wherever its customers need it, which implies the company's failure in always handling material safely. They also found out that the

company's order processing capabilities as well as order execution aren't that much effectively satisfying to its customers.

The findings revealed that, though in various degrees, the company problems in delivering products at the right time, available products with customers' desired level, distributing products wherever customers need it, handling materials safely, processing orders, executing orders, and handling complaints from customers satisfactorily, which indicate that the company isn't in a good position with regard to its physical distribution practices.

Likewise, the interview results from suppliers were also included. They revealed the presence good relationship with BGI Ethiopia and they agreed the BGI Ethiopia usually shares the raw material requirement plan with its strategic suppliers. They also agreed and satisfied with in the existing share of supply chain information. They also agreed the long term agreement with key strategic suppliers as stated by BGI Ethiopia employee.

CHAPTER FIVE

5. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

4.8. 5.1. Summary

This study was aimed at analyzing the challenge and prospect of supply chain management practices, the case of BGI Ethiopia PLC. The specific objectives of the study include assessing supply chain management practices, identifying the challenges of supply chain management practices with in BGI Ethiopia PLC, to determine the prospect of supply chain management practice with in BGI Ethiopia PLc, and to evaluate the reliability, responsiveness, flexibility, cost effectiveness of supply chain management practices in BGI Ethiopia PLC. The study was conducted by using both primary and secondary data. The primary data for this study were collected through questionnaire and a one to one interview with employee and the Supply Chain Manager. The study used 176 randomly selected employees.

4.9. 5.2. Conclusion

The study used five key dimensions of supply chain management practices and the result showed there is an application of supply chain management in BGI Ethiopia. But when it comes to the implementation of the SCM, the findings show that BGI Ethiopia is effective in information sharing, customer relationship, strategic supplier partnership), raw material flow management, and corporate culture.

BGI Ethiopia is also effective in both internal and external supply chain integration. The surveyed respondents agreed with the presence of positive internal supply chain integration) and external supply chain integration. The study considers the higher the mean value the higher the challenge. BGI Ethiopia PLc has to work on those supply chain management practices with higher mean value to improve its supply chain effectiveness and performance. Accordingly, those having a mean value of very high, high and average need to improve the practice. Accordingly, the survey result indicates that, warehouse related challenges (limited space, layout, and unfavorable condition), technological and information sharing related challenges (information simplicity, accuracy, adequacy, communication, etc.,), logistical infrastructure (ICT, transportation, management), high inventory cost, operational capacity related challenges (delay, under capacity), legal and

governmental challenges (poor relationship with stakeholders, absence of lease land, high tax), and internal and external factors (political instability, safety and security, unfavorable working area, workforce diversity, waste management, income generating mechanisms, geographical distribution) were found to be significant issues limiting the supply chain and performance of BGI in Ethiopia.

Likewise, the higher the mean value the higher the future prospect or opportunities for BGI Ethiopia PLc supply chain management. BGI Ethiopia PLc has to work on those supply chain prospects with higher mean value to improve its supply chain effectiveness and performance. Accordingly, that having a mean value of very high, high and average has to be exploited for BGI Ethiopia growth and development. Accordingly, the survey result indicates that, skilled manpower availability, surrounding society interest in the industry, women empowerment, non-influence of government in pricing, accesses to loan, access to international market, demand rising, transportation system, training on inventory management, and training on managerial skill were found to be significant prospects for better supply chain development and performance in BGI Ethiopia.

4.10. 5.2. Recommendation

The study has forwarded the following recommendation based on the findings obtained from the data collected from BGI employees, suppliers and customers.

There is no doubt that better supply chain practices leads better performance. In this regard majority of the supply chain activities in BGI Ethiopia are average (mean value of between 3 and 4). From business point of view this is not as such a good achievement. Therefore, the study suggests BGI Ethiopia to revise and evaluate the existed supply chain activities for timely intervention and continuous improvement.

It’s obvious that many business companies have been challenged by socio economic and institutional factors. In this regard, BGI Ethiopia has faced challenges in the supply chain. Indeed, majority of the challenges are external to the company, but the effort to handle challenges by the internal capacity and other cope up mechanisms are not well organized or at infant stage. Therefore, the study highly recommends BGI Ethiopia Company and departments within the company to have plan B to do their business for better efficiency.

The identified prospects of BGI Ethiopia can be good opportunities to improve the contribution of BGI Ethiopia to the economy and for the livelihood of direct and indirect

supply chain actors or participants. On the other hand, the intervention of governments to use some opportunities looks necessarily for some prospects. Therefore, it is recommended BGI Ethiopia and the Ethiopian government at different level to work in collaboration to optimize opportunities and reduce challenges of BGI supply Chain Development.

Due to globalization and other dynamic work environment, nowadays the interest of consumers, suppliers, customers and employees are changing. Therefore, it is recommended that BGI Ethiopia to periodically review its strategies on physical distribution, order processing and execution, transportations, product delivery, and its strategies of responding to complaints from customers and employee's.

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APPENDIX

Appendix

Wolkite University

College of Business and Economics

Department of Management

MBA Program

Challenges and Prospects of Supply Chain Management Practices in the case of BGI Ethiopia PLC

Dear respondents:-

Questionnaire will be filled up by Employees, customers and suppliers of BGI Ethiopia PLC. The purpose of this questionnaire is to gather data on the title of challenge and prospect of supply chain management practices the case of BGI Ethiopia PLC. The study is purely for academic purposes and does not affect you in any case. I would greatly appreciate you for completing this questionnaire at your convenience. Your submission of the completed survey indicates your consent to participate in this study. Please, be assured that your responses will be confidential and safeguarded as appropriate. So, you're genuine, frank, and timely response is vital for the success of the study. Therefore, I kindly request you to respond to each number of the question very carefully.

If you have any question and comments, don't hesitate to contact me with the following address.

Email: - Kasish29hm@Gmail.Com

Phone: - +251929450645/1168

Please put √ for your response.

PART I. General Background of Respondents

1. Which BGI industry are you working: ----------
2. Position of the respondent in the organization: _____
3. Age: Below 25 years ☐ 26-30 years ☐ 31-35 years ☐ 36-40 years ☐ above 40 years ☐
4. Sex: Male ☐ Female ☐
5. Qualification: Below Diploma ☐ Diploma ☐ Bachelor Degree ☐ Masters and Above ☐

6. Year of service in brewery industry: Below 1 year ☐ 1 - 5 years ☐ 5 - 10 years ☐ More than 10 Years ☐
7. . Year of service in your current position: Below 1 year ☐ 1 - 5 years ☐ 5 - 10 years ☐ More than 10 Years ☐

PART II. Assessment related to Challenge and Prospect of SCM practice

The following questions are concerned about the fact that the practices, integration, challenges and prospects of supply chain management the employees, customers and suppliers are facing on their day to day operations and the source of those challenges. Please choose the appropriate number and put (√) to indicate the extent to which you agree or disagree with each statement.

Note: - Select only one among the options given 1=(strongly disagree), 2=(disagree), 3=(Neutral), 4=(Agree), 5=(strongly agree)

A) Supply chain Management practice Dimensions		**1**	**2**	**3**	**4**	**5**
A) Information sharing	**1.** The Brewery and its trading partners exchange information about business planning, company operations and events or changes that may affect every one of us.					
	2. the industry accurately information exchange direct product users customers					
B) customer relationship	**1.** The brewery involves distributors in demand forecasting					
	2. The Brewery built trust on key strategic customer to share supply chain information					
	3. The Brewery shares real time inventory information for just in time delivery					
	4. The brewery involves key customer in inventory carrying decision					
C) strate	1. The brewery shares its long term production and raw material requirement plan with its key strategic supplier					

	2. The brewery trusts its supplier to share supply chain information					
	3. The brewery have a long term framework agreement with key strategic suppliers					
D) Raw material flow management	1. The brewery set Standard Inventory Replenishment, Reorder level as well as Min/Max Inventory Policy					
	2. The brewery implement Collaborative Planning, Forecasting and Replenishment (CPFR) approach with its partners					
	3. The brewery industry implements Just-in-time (JIT) delivery arrangements					
E) corporate culture	**1.** The brewery has clearly stated vision, mission and goals					
	2. The industry manger has close relationship with employees					
	3. The brewery all over organizational culture can support for the performances of its customer and supplier.					
B) Supply Chain Integration Dimensions:		**1**	**2**	**3**	**4**	**5**
A. Internal supply chain integration	1. There is better data, inventory management and system application integration among internal function					
	2. The brewery utilizes periodic interdepartmental meeting among internal function					
	3. The brewery management know how in supply chain effectiveness is high					
	4. There is strong team work and inter- organizational coordination					
	5. There is great extent of integration between production and sales departments					

B. External supply chain integration	1. There is linkage through information network with partners					
	2.Using of effective communication with major supplier/customers					
	3. There is follow up with major customer feedback					
	4. There is quick ordering system with major suppliers					
	5. Willingness to share costs, risks and benefits among supply chain partners					
	6. There is the level of faire resource utilization among supply chain partners					
	7. There is frequency of contact with major customers					

C) Challenges of BGI supply chain management Dimension		**1**	**2**	**3**	**4**	**5**
A) WarehousChallenge	1. There is Limitation of spaces.					
	2. There is Wrong(Poor) warehouse layout					
	3. There is unfavorable condition in the warehouse					
B) Technological (Information sharing) related challenge	1. Information exchange is complex, inadquete and not accurate					
	2. The industry has communication gap with its trading partners to share business knowledge of core business processes					
	3. Frequent electric power, water and raw material interruptions/outages make it difficult to use the information technology that would ease supply chain process					
	4. Slow and sometimes unavailability of internet connectivity is a barrier for					
C) Logistical infrastructures related	1. Efficient utilization of the information technology (ICT) that would ease supply chain process					
	2. Lack of transportation access to deliver its product to its customers.					

	3. Ineffective way of logistic management					
D) Inventory management related	1. The industry have great gap to supply and prepare feed for its societies.					
	2. The industry implements ineffective inventory management that led to high inventory cost.					
E) Operational capacity	1 There wills is delay order to meet customer related to operation capacity.					
	2. Our industry trading partners are challenges to use the maximum capacity of our production.					
F) Legal and governmental related challenge	1 The industry have negative relationship with local government					
	2 Government to expansion doesn't provide lease free land for our industry.					
	3 The industry has push to pay high tax in imported product.					
G) Internal and External environment	1. Political instability in the country is a challenge					
	2. Safety and security threat in the country is a challenge					
	3. Socio cultural prospect of brewery SCM is a challenge					
	4. Uncomfortable working area and geographical product distribution is challenge					
	5. Workforces diversity is a challenge					
	6. waste management system is a challenge					
	7. Income generating mechanisms is a challenge					

D) Supply Chain Performance Dimensions:		**1**	**2**	**3**	**4**	**5**
Customer Reliability Dimension	1. The industry always delivery promised date to the customer					
	2. strategic supplier meet delivery lead time/delivery schedule with the required standard					
	3. The industry always deliver customer order at					

	accurate					
	4. Customer order are fulfilled accurately in terms of quality and types of product					
Speed of Responsiveness Dimension	1. The industry has short production and product delivery cycle time					
	2. The industry has short production cycle time					
	3. The industry has short raw material sourcing time					
Flexibility (Agile) Dimension	1. Suppliers are flexible during change in fluctuated demand					
	2. The industry is flexible in delivering product of customers' needs					
	3. Distributors adjust transportation capacity to respond to small quantity demand of customer.					
Cost dimension	1. High Defects and returns management cost					
	2. High Transportation and distribution cost					

E) Prospects of brewery supply chain management Dimension:	**1**	**2**	**3**	**4**	**5**
Skilled man power in the market					
Surrounding society interest in the industry					
Current women empowerment effort					
Non influence of the price by the government					
Government facilitate access to loan					
Facilitation of the access to international market					
The demand of BGI products is continuously rising					
Provision of a transportation system					
Training on inventory management					

Training on managerial skills					

PART III. Interview questions for (managers and employees).

Interviews for industry managers and employees research on challenges and prospects of supply chain management practices in BGI Ethiopia PLC.

1. What are the supply chain practices of your industry?_____
   _____
2. How do you manage your supply chain? _____
   _____
3. Does your brewery industry have a clear supply chain strategic plan? _____
   _____
4. How to measure your supply chain management performances? _____
   _____
5. What types of systems are currently in use in your brewery industry to support Supply Chain Management? _____
   _____
6. How much did you actually benefit from using these systems? And what are the problems associated with the system? _____
   _____
7. Is there any intercommunication and co-ordination between the departments and stakeholders? _____
   _____
8. What are the main internal and external challenges your department are facing in managing the SC? _____
   _____
9. How these challenges affect the day to day activities of the SC? Is there any financial implication of those challenges? _____
   _____
10. What do you think the major factors contributing to the existing challenges?
    _____
    _____

11. In your Opinion, how do you conclude the performance of Supply chain management in the brewery industry? _____

_____

12. What solutions do you suggest to mitigate the problems? _____

_____

PART VI. <u>Interview questions for (customers and suppliers).</u>

1. How would you see your relationship with your supplier? _____

   _____

2. How do you see information sharing practice between you/your supplier and customer with brewery? _____
3. How would you see the brewery industry compliant management and its effectiveness? _____

   _____

4. What about the willingness to share risks and benefits with the industry?

   _____

   _____

5. Does BGI supplier deliver raw materials based on its quality and quantity when you need it? _____

   _____