
# ASSESSING THE PRACTICE OF LOGISTICS MANAGEMENT ACTIVITIES AND CHALLENGES IN THE BREWERY INDUSTRY: THE CASE OF BGI ETHIOPIA.

**BY: - SURAFEL SOLOMON**

**A THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY, COLLEGE OF BUSINESS AND ECONOMICS, SCHOOL OF COMMERCE FOR THE PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTERS OF ART IN LOGISTICS AND SUPPLY CHAIN MANAGEMENT**

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**Approved by Board of Examiners**

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**DECLARATION**

**I, Surafel Solomon hereby declare that this thesis entitled " The practice of logistics management activities and challenges in the brewery industry: the case of BGI Ethiopia " , has been carried out by me for the partial fulfilment of the requirement for the degree of Masters of Arts in Logistics and Supply Chain Management from the Addis Ababa University. This thesis is original and has not been submitted for any other university for any diploma or fellowship.**

**Surafel Solomon**

**Signature: _____**

**Date: _____**

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**First and foremost, I would like to thank the almighty God for his presence in every step I make, secondly I would like to thank my family my brother and mom, specially my mom who've sacrificed her life in order for me to stand tall. I would also like to thank my Advisor Dr. Kirubel kassa for his valuable comments.**

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**Thank you so much.**

**Surafel Solomon**

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**LIST OF ACCRONYMS**

**FMCG …….Fast moving customer goods**

**HRM…….Human resource management**

**BGI ……...Brasseries Glaciers Internationals**

**LM…….....Logistics management**

**SPSS……Statistic package for social science**

## *Abstract*

*A purpose of this study is to assess Practices and Challenges of Logistics Management in BGI Ethiopia. The study tried to understand present logistics management activities substantial effect on overall company logistics management.*

*To conduct this study descriptive analysis method was deployed and also quantitative and qualitative approaches were used. Additionally Data was gathered through questioners and interview from selected respondents. Where the questionnaires were distributed to all 31 staff working in logistics department. A purposive sampling method were deployed for the interview. Furthermore descriptive statistics such as frequency, mean and standard deviation.*

*It is found that logistics management practices are either moderately effective or effective. In conclusion of 30 respondents, there are 2 activities that are managed moderately effective, these are Inventory management, and transport management. The two activities that are managed poorly are found to be warehouse management and information flow management from the additional 3 variables used supplier deliver and stock out management are managed moderately, and major customer response is found to be managed effectively. Finally the study mainly try to recommend departments within BGI to conjoin there effort, in addition recommend there should be high logistics and technological configuration.*

**Keywords; logistics management activities, inventory management, transportation management, warehouse management, information management.**

# CHAPTER ONE

## 1. INTRODUCTION

### 1.1. BACKGROUND OF THE STUDY

The area of logistics management is today seen as a powerful tool in reducing cost, improving customer satisfaction and thereby increasing sales of a business. Therefore, as a critical business function, logistics has been subjected to extensive research that has led to the development of several theories, processes and strategies for efficient logistics systems.

A sound and comprehensive strategy around logistics management and supply chain is also crucial for pre-determining the demands of the customers (Towers & John, 2003). In the intensely-competitive market, breweries have to keep abreast of the demands of the consumers, term these varying demands as the "fickle requirements" of consumers, through the importance of these requirements is paramount to retain and increase the customer-base. Moreover, as the same authors have further expounded, the inefficient management of customer demand would have effect on the residual stock, cash flow and other business functions.

Logistics are a core process of business operations and plays a crucial role in cost management of the business products, and also for helping the business achieve the demands of a demanding beer-consumption market. Logistics includes storage, warehousing, materials handling, packaging, inventory, transport and information and control.

A sound logistics strategy is long-term and is aligned to the larger strategy of the business unit and further, those formed at the corporate level. Any changes in the logistics systems are substantial and impact the entire business in a big way. In the globalized era, where business operate in several continents, the role of logistics and supply chain assumes a more complex and proportionately important place in determining the success of the business.

Logistics play a crucial role in the beer industry, and can have an impact on beer quality and flavours. Here are some factors that can influence and affect the palatability of a beer:

Storage Conditions: Proper storage conditions are essential to preserve beer quality. Factors such as temperature, humidity, and cleanliness of storage facilities can influence the stability, flavour, and overall quality of beer. Inadequate storage conditions can lead to microbial contamination, off-flavours, and spoilage.

Transportation Delays: Extended transit times or delays in delivery can impact beer quality. If beer is subjected to prolonged exposure to unfavourable conditions, such as temperature extremes or rough handling, it can result in flavour degradation, diminished carbonation, or even the potential for spoilage.

Supply Chain Efficiency: Efficient logistics practices are crucial for ensuring that beer reaches its destination promptly and in optimal condition. Delays, mishandling, or logistical errors can disrupt the cold chain, compromise quality, and lead to customer dissatisfaction.

Quality Assurance and Traceability: Effective logistics systems include proper quality assurance measures and traceability mechanisms. These ensure that potential issues or quality concerns can be identified, addressed, and traced back to specific batches, locations, or transportation stages, allowing for corrective actions and continuous improvement.

It is crucial for breweries and distributors to work together to implement best practices in logistics, including temperature-controlled transportation, adequate packaging, rigorous quality checks, and reliable supply chain management, to ensure that beer reaches consumers in the best possible condition, preserving its quality and flavours.

### 1.1.1 BACKGROUND OF THE ORGANIZATION

BGI Ethiopia has been operating in Ethiopia since 1998 and internationally as subsidiary to the group castle and is a well-known leading brewery company in Ethiopia which have 5 unique brands, also six manufacturing plant which includes Addis Ababa, Hawassa, Kombolcha, Raya.

BGI Ethiopia True and committed to our values of integrity, customer satisfaction and innovation, BGI has been delivering the absolute taste to its customers since its birth. Ranging from light beer to non-alcoholic beverages and wines, BGI Ethiopia is known for its best quality products, currently producing five different beers and eleven different wines. With the core principle that generating profit while cultivating communities.

## 1.2 STATEMENTS OF THE PROBLEMS

The main purpose of this thesis is to assess the practice and challenge of logistics management in BGI Ethiopia. In business, logistics is the practice of obtain the right goods and services on the base of quantity required, at the right time and from the right supplier. ( Koykka, 2010).

The practice and challenges of logistics activity in the brewery industry are significant due to a number of factors, including the following: 1. the large volumes of beer produced by breweries requires careful coordination and management throughout the entire distribution chain. 2. There is an increasing demand for craft beers that have unique flavour profiles, which require specialized storage and handling procedures during transportation and delivery. 3. This can present numerous logistical issues related to ordering supplies, stocking inventory, ensuring timely shipments, tracking shipments, etc., as well as potential delays or damages caused by temperature fluctuations along shipment routes or at retail locations.

Logistics activities in the brewery industry involve a variety of tasks, such as order processing and shipping products to customers. These logistics activities help ensure that breweries meet customer demands while keeping costs low. There are a number of challenges associated with these logistics activities, including the following: 1. Increased competition from breweries around the world has led to increased pressure on brewers to stay competitive by reducing costs and providing quick delivery times for customers. This can be difficult when engaging in complex logistical processes. 2. The complexity of global supply chains requires warehouses, transportation systems, distribution networks, and other components that must all work together smoothly for orders to arrive on time and at their intended destinations accurately. 3. Logistical disruptions due to bad weather or political issues can create delays or losses in inventory shipments if not properly managed ahead of time by experienced professionals within the industry. Because of the above and more reasons that's why it's important to have a genuine logistics practices that will enhance company performance is vital, and the Study will try and provide appropriate recommendations regarding to the implementations.

This study is focusing on only the brewery industry found in Addis Ababa. The account is studied by using BGI Ethiopia as a reference. A sound logistic system will improve service quality and also reduce cost, thus will give a competitive advantage for the company.

Any lag in supply from the producer will influence the final user and retailer, in terms of either higher prices or stock-outs (no products available on the outlets). If a manufacturer can

integrate effectively its logistics system with that of its suppliers, such problems may be minimized. (John Fernie & Leigh sparks, 1998)

Brewery industry is highly competitive, the major customers are stockist (retailers), Outlets (Restaurant, Grocery's, bars) and Supermarkets. From the preliminary interview there are some challenges observed, if the logistic activities are not applied systematically.

 Pricing challenges: this is related to price increase on final users when sometimes there is shortage of product

 Time challenges: this challenge is affiliated with on time delivery, as mentioned earlier this industry is highly competitive hence on time delivery is key as the product can be replaced by another product for instance if a retailers order of beer is not delivered timely, its highly likely he could place his order to another beer producing company, which in the long run can ruin the image of the company or can even take them out of competition.

 Stock outs: occurs when store keepers are not keeping good records and when they accept payment without having information that they in fact do have the product on hand

Overall, the motive behind this study is to inquire more about what brewers are facing as challenges such as stock out management, price and how this can in turn affect the practice of logistics management activities.

## 1.3 RESEARCH OBJECTIVE

### 1.3.1 General Objectives of the Study

Main objective of this study was to assess logistics management activity practices and challenges in the brewery industry; BGI Ethiopia.

### 1.3.2 Specific Objectives of the Study

The specific objective of this study;

i. To explore the inventory management customs of BGI Ethiopia.
ii. To assess the transportation management exercises of BGI Ethiopia.
iii. To examine the warehouse management implementation of BGI Ethiopia..
iv. To identify the practice of information flow management in the company

## 1.4 RESEARCH QUESTIONS

The study answered the following basic research questions:

i. What are the inventory management traditions of BGI Ethiopia?
ii. What extent of transportation management is operationalized in BGI Ethiopia?
iii. What are the warehouse management practice of BGI Ethiopia?
iv. What are the information flow management customs of BGI Ethiopia?

## 1.5 SIGNIFICANCE OF THE STUDY

The study have significant importance if BGI Ethiopia plans to evaluate its logistics management activities and it try to pinpoint how they can utilize those activities to there competitive advantages in the industry. Additionally, it also significant importance for researchers and academicians as it can be used as reference to study further in the FMCG sector or close the gap of this study. Furthermore, this research could also be important for other competitors in the industry, as it can be adopted or further refined.

## 1.6 SCOPE OF THE STUDY

Logistics management has several activities we can mention, and thus mainly includes inventory control and management, order fulfilment, materials handling, supply chain management, transportation, and warehousing. The researcher is going to analyse those activities within the brewery industry, specifically BGI Ethiopia. Thus can be said this study delimited to assess the logistics management activities practice in the brewery industrially specifically BGI Ethiopia.

## 1.7 LIMITATIONS OF THE STUDY

Studies in the brewery industry are hard to find this could be due to the competitive nature of the industry that company's are not willing to cooperate while conducting the research, Also finding sufficient literature material that can be related to the selected industry is difficult, Hence, other empirical studies and literature reviews conducted will be used, additionally collecting face to face interviews from top management could be difficult as they would be busy because of the nature of their work, therefore the researcher planned to use communicating through emails and virtual meetings

## 1.8 ORGANIZATIONS OF THE STUDY

This paper will be organized from five chapters: The first chapter is composed of introduction, background of the study, statement of the problem, objective of the study, specific objectives, research questions, significance and the scope of the study, The second chapter will illustrate related literature review that underbody this research, The third chapter will clarify the appropriate Method of the study that the researcher believes, will vigor the study, 5he fourth chapter will outline Result found while conducting the study, and finally the fifth chapter will drew conclusions and suggest recommendation that the researcher believes to have pleasant and agreeably best logistics activity practice.

# CHAPTER TWO

## 2. RELATED LITERATURE REVIEW

## 2.1 THEORETICAL LITERATURE REVIEW

### INTRODUCTION

Logistics can be seen as emergent factor to have a competitive advantage. Actually, logistics become emerged since the early 1980s. Since logistics management consisted of many activities including customer service, storage, packaging, purchasing and procurement, facility location, and distribution in order of improve its efficiency on its practice.

### 2.1.1 DEFINITION OF LOGISTICS

Logistics activities are premium variables to increase competitive advantage and gain satisfied customers. This objective largely depends on the logistics services. There are many different definitions for logistics can be found. The most well-known are the following: The importance of logistic management, according to (Rafele, 2004) logistics is to make the right product available or obtainable to customers. Logistics supports members of supply chains to participate in a successful way. Logistics management benefits the organization to minimize expense and maximize their customer service. (Rouse, 1997).

In the competitive world of the brewing industry, efficient logistics are a key factor in ensuring smooth operations and maximised profits. However, managing the intricate processes involved in getting beer from the brewery to the customers can be a complex task. Brewery logistics encompasses a range of activities involving transportation, storage, and the distribution of beer products. It involves coordinating the movement of raw materials, such as malt and hops, to the brewery, managing the brewing process, and ultimately delivering the finished product to retailers (or even directly to consumers). The complexity of brewery logistics arise from various factors, including the perishable nature of beer, the need to maintain consistent quality, and the diverse distribution channels. Breweries must also navigate the challenges of managing inventory levels, coordinating with suppliers, and ensuring compliance with regulatory requirements.

Logistics play a pivotal role in brewery operations. It encompasses the planning, implementation, and control of the flow of goods, information, and resources throughout the

supply chain. Effective logistics management ensures that breweries can meet customer demand, minimise costs, and achieve operational excellence. Within the realm of brewery logistics, there are several key areas that require meticulous attention. Let's take a closer look at some of these areas…

### 2.1.3. Types of Logistics

**A. Reverse Logistics: -** Reverse logistics is also known as Product Recall. It may be defined as a process of moving goods from their place of use, back to their place of manufacture for reprocessing, refilling, repair, and recycling or waste disposal. Reasons for Reverse Logistics are Rigid quality standards- it is critical in case of contaminated products, which can cause environmental hazard, rigid laws prohibiting unscientific disposal of items, rigid laws making recycling mandatory, transit damage – e.g. leaking containers containing hazardous material, Product expiration, Erroneous order processing by supplier, exchange of new product for the old ones and return for repair or refill Heizer and Brender, (2006).

The success of reverse logistics depends upon the efficiency of following subsystems: Product Location: For product recall it is necessary to identify the product location in the physical distribution system of the firm. It is difficult in case of consumer goods but easier in case of industrial goods. Product Collection System: After the product location is identified, product collection is to be done through company's field force or third party. Recycling / Disposal Centers: This may be company's plant, warehouse or any other location. Called back products must be inspected before recycling or disposal etc. Documentation System: Proper documents should be maintained at each level, this would help in tracing the product location Heizer and Brender, (2006).

**B. Inbound Logistics:** All the activities related to the material movement till the dispatch of the products out of the factory gate are called as inbound logistics activities. Creation of value in the products depends upon availability of inputs on time. Making available these inputs on time at minimum cost is the essence of Inbound Logistics. Activities of a procurement performance cycle come under the scope of Inbound Logistics. They are transportation during procurement operation, storage, handling and overall management of inventory of inputs Heizer and Brender, (2006).

**C. Outbound Logistics:** All the activities in which the value added goods are to be made available in the market for customers are called as outbound logistics activities. Success of the

firm depends upon the supply of products to the customer on time. Supplying the products of firm at marketplace at minimum cost is the essence of Outbound Logistics. Activities of distribution performance cycle come under the scope of Outbound Logistics. They are order management, transportation, warehousing, packaging, handling etc. Heizer and Brender, (2006).

**D. Third-Party Logistics (3PL)**:- In order to keep the costs of inbound and outbound logistics activities under control, an outside agency appointed to perform these logistics functions is called "Third Party Logistics" Heizer and Brender, (2006).

**E. Forth-Party Logistics (4PL):-** Forth Party Logistics is a complete outsourcing of manufacturing and logistics functions including selection of Third Party service provider Heizer and Brender, (2006). Some of the Logistics Management practice includes Inventory management, Warehouse management, and Information management, Material handling management, Transport management and Logistics procurements practices. Inventory management - Inventory management involves providing the required inventory levels that will sustain the organization's daily operations at minimum costs. This covers issues like determining the level of stock to order, when to order, establishing receipt and inspection procedures and providing proper storage facilities. Without proper stock control procedures in place, firms are likely to face two undesirable inventory levels. That is to say excessive/ high levels of inventory or inadequate/ low levels of inventory (Razzaque and Sheng, 1998).

### 2.1.2 BUSINESS LOGISTICS

Many firms began to view business logistics as a way to strengthen their relations with customers through improved customer service. Logistics Management have the mission of acquiring the right good or service in a good condition with a minimum cost and maximum profit but with real satisfaction of customers. Logistics have developed as one of a company's strategic planning, management and controlling. Every organization should design their strategy and logistics competitiveness core activities from their own point of view Happened 2005 (Koykka, 2010).

In the past objectives of logistics were connected primarily to cost effectiveness. Nowadays, besides cost effectiveness, attention is paid also to fast lead times and developing customer service. As a result of costs, the price is still an important factor in competition, but in addition companies want shorten delivery times, increase the speed of distribution and reaction, be

certain that the delivery arrives on time. Logistics is not just saved money action; it is an important part of customer-oriented service strategy. (Koykka, 2010).

**Warehouse management-**Warehouse management of a firm logistics system stores product (raw material parts, good in progress and finished goods) at end between the points of origin and point of consumption. It plans a weekly activity forecast on such factors as statistics and trends. It is also defined as the systematic location, storage and recording of goods in such a way that desired degree of service can be made to the operating shops at a minimum ultimate cost" (Razzaque and Sheng, 1998).

**Material Handling Management -** Material handling is the science of course, handling and storing of materials while transportation. People can move material through lifting the items directly or using Material Handling equipment such as handcarts, slings, and other handling accessories. Material can also be moved using machines such as cranes and forklifts. These are basically utilized when heavy materials need to change locations. Material handling requires systematic recording, critical review and overseeing of all related activities to reduce many unwanted movements. It is a primary activity in all industries and involves numerous people and specialized material handling equipment (Jiang & Qureshi, 2005).

**Information Management -**Information Management is the handling of information gathered through one or many unique sources in a manner that optimizes access by all who have a share in that information or a right to that information (Razzaque & Sheng, 1998).

**Transportation Management-** Logistics service is frequently habituated used in practice for transportation services as well as the management of the transport companies providing the service. Logistics can have an eminent impact on performance of the firm. If connects material flows from the supplier to the company and also internal operation will not be able capable to keep their production strategies without a high level of safety stock (Jiang & Qureshi 2005).

**Procurement Logistics-** It consists of activities such as market research, requirements planning, make-or-buy decisions, supplier management, ordering, and order controlling.

### 2.1.3 ACTIVITIES OF LOGISTICS MANAGEMENT PRACTICES

Because there are many logistic operations, the researcher could not include all the logistics activities rather focused on selected activities, which include Inventory management, transportation, Warehousing, Customer response and information flow management.

#### 2.1.3.1 Inventory Management

Companies sustain various types of inventories for dissimilar reasons such as to save time, to meet economic objectives, and as a safety stock to reduce uncertainties. Stevenson (2009) referred to inventories as an important variable of business, as they were essential for operations and also contributed to customer satisfaction.

Recently more and more organization are trying have deployed a system to identify and maintain the lowest inventory levels possible (Meng, 2006). However, inventory holding cost can be expensive, so the best inventory management practices as follows.

**Cycle Inventory-** inventory required to satisfy the need for goods by the department or unit. Companies tend to produce and to purchase in large lots with the purpose of getting the advantages that brings from bulk purchase. However, holding lots of inventory leads to increased carrying cost. Managers challenge to balance between minimizing cost of ordering and getting fair prices offered when purchasing product in large lots and the increased carrying cost of the cycle inventory (Frazelle, 2002).

**Safety Inventory** - Inventory that is held in store to overcome uncertainty (Frazelle, 2002). Seasonal Inventory–Seasonal inventory happened when manufacturing facilities that can quickly change their rate of production of different products to respond to increases in demand. Quality Control - has a direct relation with business growth and customer satisfaction.

The below are quality control procedures that all employees necessary should follow are:

- Signs of damage:
- Leaks, tears, or broken seals,
- Product colors,
- styles, and sizes:

If items don’t meet company standards, they know to return them to suppliers. Once products meet quality requirements, consider the warehouse environment in which they will be stored such as Light, Humidity and Temperature.

Optimize - The core point of good inventory management is identification of materials in stock and a system to manage it well. Optimization strategies are crucial to the company's economic health. If best practice of inventory management implemented in the organization, then they can optimize their level of stock.

### 2.1.3.2 Transportation Management

Transportation in logistics system has also a role of service quality. It all brings efficiency for the company to satisfy customers. A good transportation management system has the following benefits: reduce costs through well selected mode of transport, developed accountability with greater flexibility to make changes in delivery plans, and completion of key supply chain execution requirement.

Looking in to the brewery industry, prior to the brewing process begin, it is essential that breweries procure the necessary raw materials. This includes sourcing high-quality malt and hops from suppliers. It would fall to the logistics team to carefully coordinate the transportation of these materials to ensure that they arrive at the brewery on time and in optimal condition.

Transportation methods can vary depending on the distance between the suppliers and the brewery. For local suppliers, trucks may be the primary mode of transportation, while for international suppliers, air or sea freight may be necessary. Again, the logistics team will have to consider the factors such as shipping schedules, customer's procedures, and storage requirements to ensure a smooth and timely delivery of the raw materials.

### 2.1.3.3. Warehouse Management

Warehousing encompass the planning of space, design of stocks medium, and allocation of stocks (Ballou, 2007). Moreover, warehousing activities envelop hefty range of storing products in predesigned and organized manner that will enable the warehouse to be convenient and coherent (Mukolwe & Wanyoike, 2015). Logistics also encompass supplying the suitable products at the appropriate volume based on the right election and dispatch of the warehousing.

Warehousing ensures materials are shipped on schedule, to the appropriate location and for the appropriate consumer. The warehouses is used as a gate for raw materials and parts to support the production operation. One of the blessing of warehouse in business is it enables organizations mix suppliers by providing the space to do so, which could be essential for

producing unique materials and then could be transported to the production ground efficiently when needed. (Tracey et al., 2005).

Warehouse management is key for finding out the logistics performance considering the two components are correlated, the righteous warehouse management will enrich the flow of materials and furnish a fiber for allowing a huge inventory and lowers shipping cost circularly, as a result, logistics performance will improve (Mohamad et al., 2018).

According to Abushaikha et al. (2018), having a great practice of warehousing activity utilization can have a direct relation on operation performance. Similarly, a study by Kushwaha (2012) assured that the warehousing management design has huge impact on operational performance and automating this activity could allow firms improve speed and accuracy of their operation while reducing wastage and activities which couldn't add value. (Mukolwe & Wanyoike, 2015).

#### 2.1.3.4. Information Flow Management

Logistics management information systems are essential for monitoring and controlling information flows, material flows, and financial transaction-related flows inside businesses and supply chains. The goal of logistics information systems is to aid companies give applicable quantity of goods at a suitable location and time by feeding assistance in decision making, automated transactions, and data storage services ( Helo & Rouzafzoon, 2021). Aftermath, information flows in logistics, in addition there purpose and ardency, act as beginning point for thought in the subject of logistics information systems

(Brzozowska et al. 2016). Logistics information system can be useful in introducing systematic information sharing from both internal and external source.

Philip Kotler (2013) stated about integrated logistics systems (ILS) that is backed by information technology (IT) is vital in managing logistical operations such as materials management, flow of material systems, and physical distribution. Because of the nature of ILS in enhancing quick response and shortening delivery time, information systems in logistics are becoming highly vital as a competitive advantage of supply chains (Tenkorang & Helo, 2016).

## 2.2. THEORETICAL FRAMEWORK OF STUDIES

## 2.3. EMPIRICAL REVIEW OF STUDIES

According to Amanuel (2023), nowadays, deciding right decision in a vigorous atmosphere is the major difficulty for any manufacturing company's all over the world. Looking in to the brewery share company's there are multiple challenges and opportunities exist specially in Africa.. The problem was deeper for developing countries like Ethiopia because they are characterized by poor infrastructure, weak logistics management, limited research and development practice, and technological obsolescence

## 2.5. IDENTIFIED LITERATURE GAP

Not much have been studied regarding the brewery industry this could be because of the stiff competition in the industry that company's don't want researchers to find out how the manage there L.M activities, so this paper could be further refined by correlating the L.M activities with organization performance service quality and productivity and the researcher firmly believes this paper could help researchers as a starting point.

# CHAPTER THREE

## 3.1 RESEARCH METHODOLOGY

Research methodology is the specific step or techniques used to identify, select, process, and analyse information about some topic area. This area will allow scholars to critically evaluate a study's overall validity and reliability. So this section will identify how the data was collected or generated and how it is going to be analysed

### 3.1.1 DESCRIPTIONS OF THE STUDY AREA

Main aim of this research area is to assess logistics management practice and challenge in BGI Ethiopia and how logistics management practices in a company affects customer both inside and outside of the organization. BGI Ethiopia is trying to achieve a competitive advantage through the effective utilization of all the logistic activities through the delivery of quality service through out the supply chain, the researcher will try to assess any gaps and continuations needed.

### 3.1.2 RESEARCH APPROACH

The researcher will use both qualitative and qualitative approaches, mixed approach is selected because the researcher believes the quantitative data was endured by data gathered through qualitative approach.

### 3.1.3 RESEARCH DESIGN

The basic aim of the study is to describe the logistics management practice of BGI Ethiopia through its activities, therefore the researcher believes that it's applicable to use descriptive type of research design. This research has a population that consists of permanent employees of BGI Ethiopia has 35 employees, who works in two departments "sales and logistics" 4 managerial, 7 supervisors and 24 clerical workers in Addis Ababa. This study has a target population of those employees who work under the two departments of the company which have a direct relationship with the logistics activities of the company.

## 3.2 POPULATION AND SAMPLE

### 3.2.1 Population

The population is consisted of permanent employees of BGI Ethiopia constructed under the sales and marketing department and logistics Management department, Thus, this study has target population of those employees under the two departments as the aim of the research is to assess the logistics management activities of the organization, and the two departments were found interdependent specially in the brewery industry, the researcher selected the two departments as he believes it could refine the quality of the study.

A census or total population has been taken for analysis. Because the total population is small in number and finite, hence sampling techniques was not used and the study will cover the total population.

Nevertheless, the respondents for the interview were selected using purposive sampling. Those working as a head for the above departments, divisions & section was proposed for the interview since they are believed to be key to assess the practice.

## 3.3 DATA SOURCE AND TYPES

The data that used for this study were consisted of primary data that include questionnaires and interviews, as well as secondary data which consist of annual reports, books, journals, articles and websites.

### 3.3.1 Primary Data Sources

The primary data of this study comprised data of respondents to questionnaires and structured interviews with managers and other employees from the departments of logistics and supply chain of BGI Ethiopia. During qualitative data collection the researcher arranged a face-to-face interview with purposively selected respondents of department heads.

### 3.3.2 Secondary Data Sources

The secondary data sources were gathered from the BGI Ethiopia reports.

## 3.4 DATA COLLECTION PROCEDURES

The data collection started with properly distributing the questioners to the population and conducting interviews, the interviews are both structured and unstructured by doing so the researcher believes to acquire relevant matter for the research.

### 3.4.1 Data Collection Instrument Questionnaire:

Questionnaires that have both open and closed ended questions was used as the data collection method. This was because, questionnaire will be simple and clear to dissect and it allows for tabulation of responses and quantitatively analyzes certain factors.

The respondent's feelings or opinions on the practices and challenge of logistic management Will be measured by a scale of response from 1 to 5, such that strongly Disagreed = 1, Disagreed = 2, Neutral = 3, Agreed = 4 and Strongly Agreed = 5. The questionnaire will be grouped in 6 groups which are, inventory management (5 items), supply management (5 items), warehouse management (5 items), transport management (4 items), customer response (4 items), and information flow management (4 items). Overall 27 which are grouped in six, this questions will be outlined with the literature review.

The articulations was framed as simple as possible, in wording and language that can be understood easily by any individuals let alone by professionals. To get sufficient information, the researcher used personal interview with management and supervisors of the company.

## 3.5 METHOD OF DATA ANALYSIS AND PRESENTATION

The study applied both approach to dissect the data. Therefore, data was be analyzed both qualitatively and quantitatively.

Thus, the statistical tool like regression, frequency distribution and mean was used to see the response distributions on the 5-point Likert items. The data will finally be interpreted based on statistical findings.

### 3.5.1 Data Analysis Procedures:

The data is highly examined to make sure they are accuracy, complete, and relevant for the presence of any outliers. The data also validated and the analyzed began with a review of the descriptive statistics including percentage and frequency distribution.

### 3.6 DATA VALIDITY AND RELIABILITY

Cronbach's alpha was used as a good measure of reliability. The rule of Thumb of 0.7 which was the cutoff value of Cronbach alpha for being accepted

### 3.7 ETHICAL CONSIDERATION

Ethics include the concerns and dilemmas over the proper way to conduct research. This will not be as simple as it may appear because they may will be few ethical absolutes and only agreed up on broad principles. Accordingly, the researcher explained the basic objectives of the study for the respondents and that there feedback from questionnaire and interview was only used for academic purposes and can never serve for a corrective action. Only volunteer respondents was contacted to fill questionnaire, and interview.

## 3.8 Reliability Test

| S/N | Variables | Cronbach Alpha Value | No. of Items Tested |
|---|---|---|---|
| 1 | Inventory management Practice | | |
| 2 | Warehouse management Practice | | |
| 3 | Transport Management Practice | | |
| 4 | Information Flow Management Practice | | |
| 5 | supplier delivery | | |
| 6 | Customer relation | | |
| 7 | Stock out management | | |
| | **Grand Mean** | | |

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. [b] | Tol |
|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | |
| 1 | (Constant) | 11.730 | 8.753 | | 1.340 | .192 | |
| | Supply Delivery | .968 | .509 | .317 | 1.901 | .069 | |
| | Customer Relationship | 1.010 | .474 | .330 | 2.130 | .043 | |
| | Stock out Management | 1.439 | .645 | .372 | 2.229 | .035 | |

a. Dependent Variable: Logistics Management Practice

**ANOVA [a]**

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 828.856 | 3 | 276.285 | 5.681 | .004[b] |
| | Residual | 1215.903 | 25 | 48.636 | | |
| | Total | 2044.759 | 28 | | | |

a. Dependent Variable: Logistics Management Practice

b. Predictors: (Constant), Stock out Management, Customer Relationship, Supply Delivery

**ANOVA [a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 397.024 | 4 | 99.256 | 9.300 | .000[b] |
| | Residual | 256.148 | 24 | 10.673 | | |
| | Total | 653.172 | 28 | | | |

a. Dependent Variable: Logistics Management Challenge

b. Predictors: (Constant), Information flow Management, Warehouse Management, Transport Management, Inventory Management

**Model Summary [b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|---|---|---|---|---|---|
| 1 | .780[a] | .608 | .542 | 3.26693 | 1.381 |

a. Predictors: (Constant), Information flow Management, Warehouse Management, Transport Management, Inventory Management

b. Dependent Variable: Logistics Management Challenge

# CHAPTER FOUR

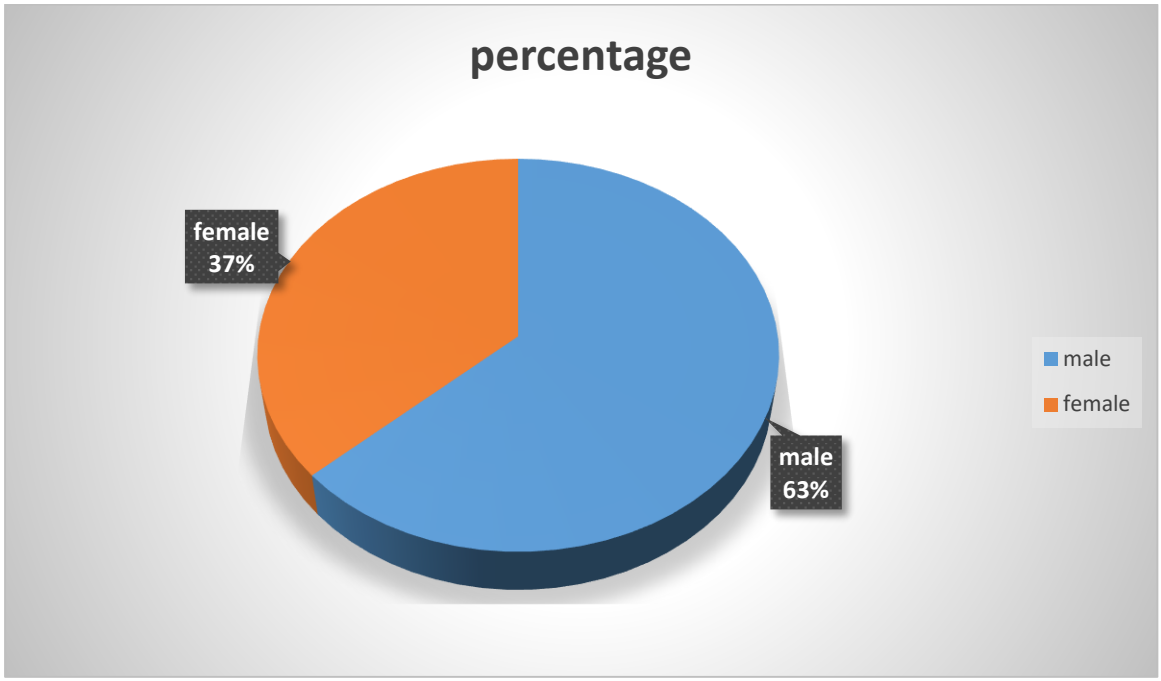
# RESULT AND DISCUSSIONS

This chapter focuses on the presentation and analysis of the data collected through questioners and customer suggestions. The respondents of the questioners are staffs of BGI Ethiopia. The questioners were randomly distributed for BGI Ethiopia employees, 31 questionnaires were distributed and 30 were returned, in addition 4 interviews were conducted and the results are discussed below;

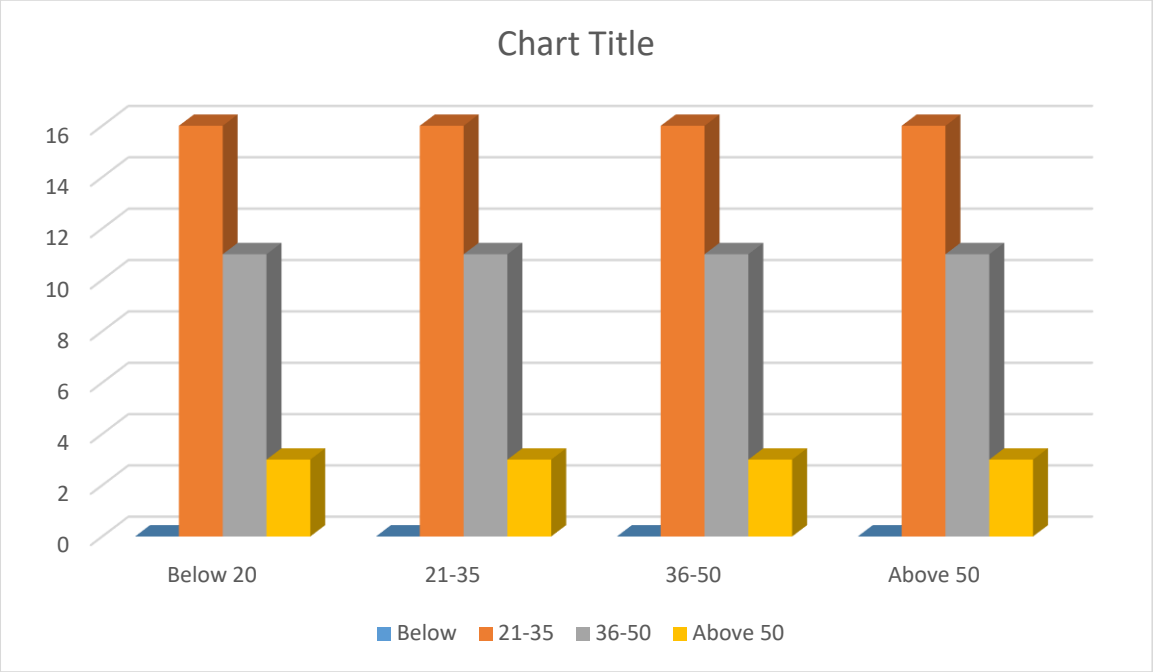
The data obtained from the close ended questionnaires are analysed quantitatively and presented by tabulation, percentage.

## 4.1 characteristics of the respondents

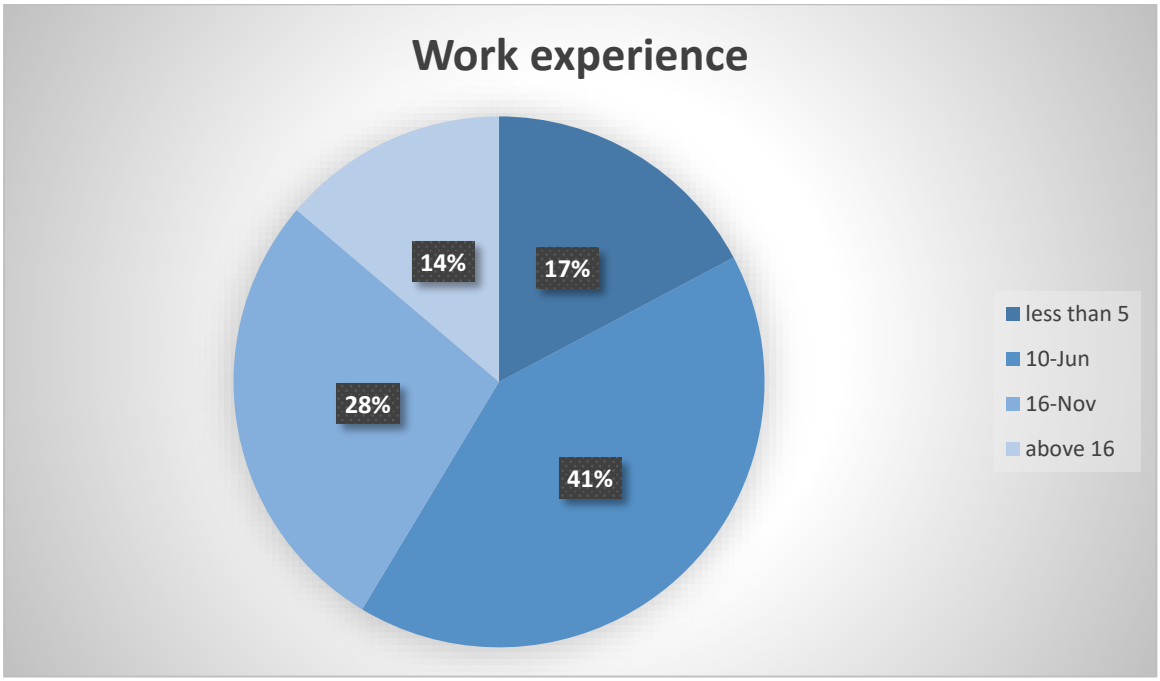
### 4.1.1 Gender percentage of respondents



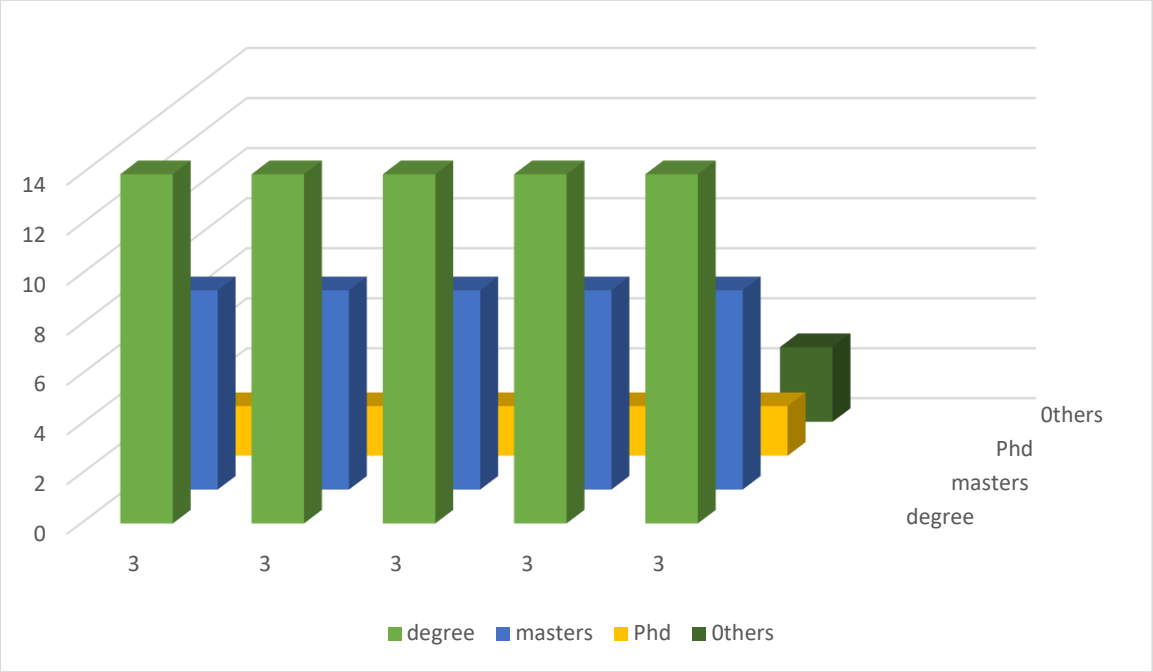
### 4.1.2 Age percentage of respondents



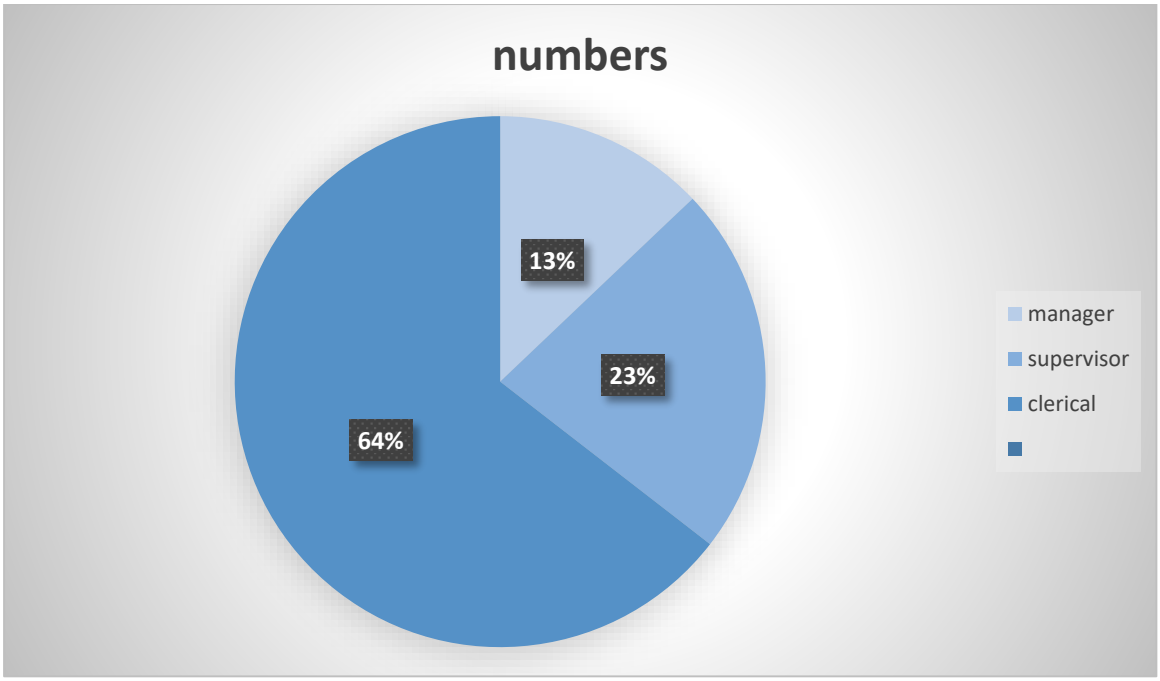

### 4.1.3 Work experience percentage of respondents



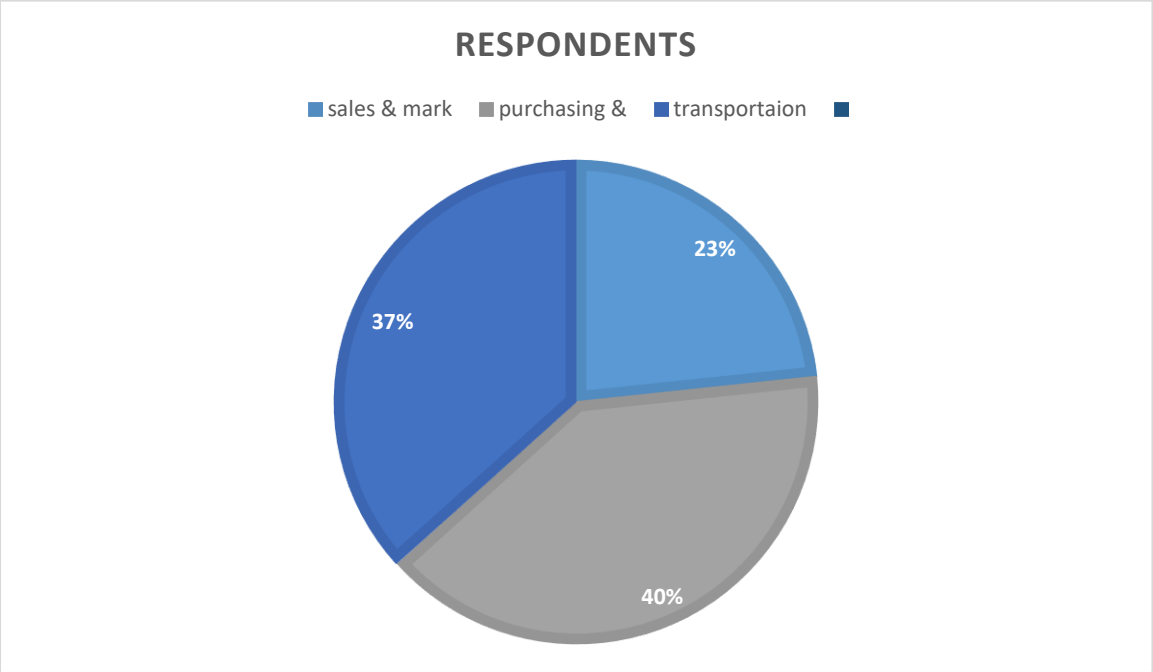
### 4.1.4 Education background of respondents




### 4.1.6 Position of the respondents



### 4.1.7 Departments of the respondents




The above pie charts try to show how the respondents are organized in terms of demography such as age, gender, educational level, job position and different departments

The necessary data were obtained from BGI Ethiopia, number of employees in the two departments are 31 and 31 questioners were distributed in addition 4 interviews were conducted for the research and from the questioner distributed 30 were returned safely

The mean of the opinions score for each variable indicates the level of inventory management practices and its challenge, which the (Standard Deviation) S.D indicates the deviation from the central value (mean score) X and variance gives the actual number.

**Table 4.2. Analysis of inventory management practice**

| Item | | Rating | N | % | S.D | V |
|---|---|---|---|---|---|---|
| A. | The inventory model utilized aim to reduce overall inventory costs like holding, ordering, and stock Out. | Strongly disagree<br>Disagree<br>Neutral<br>Agree<br>Strongly agree | 12<br>4<br>3<br>6<br>5 | 0.4<br>0.13<br>0.1<br>0.2<br>0.16 | 3.16 | 10 |
| B. | Quantity ordered in the company inventory model is based on demand analysis. | Strongly disagree<br>Disagree<br>Neutral<br>Agree<br>Strongly agree | 3<br>4<br>0<br>15<br>8 | 0.1<br>0.13<br>0<br>0.5<br>0.26 | 5.17 | 26.8 |
| C. | Materials in the inventory are used in a wastage free manner. | Strongly disagree<br>Disagree<br>Neutral<br>Agree<br>Strongly agree | 11<br>9<br>4<br>4<br>2 | 0.36<br>0.3<br>0.13<br>0.13<br>0.06 | 3.4 | 11.6 |
| D | Materials in stock are accurately registered. | Strongly disagree<br>Disagree<br>Neutral<br>Agree<br>Strongly agree | 0<br>3<br>0<br>16<br>11 | 0<br>0.1<br>0<br>0.53<br>0.36 | 6.4 | 41.2 |

Under inventory management practice respondents were asked 4 questions starting from the statement inventory model utilized aim to reduce overall inventory costs like holding, ordering, and stock out and 0.4% strongly disagree, 0.13 disagree, 0.1 were neutral, 0.2 agreed and 0.16 strongly agreed.

The second statement was Materials in stock are accurately registered 0.1 % strongly disagree, 0.13% disagree, 0 respondents were neutral, 0.5% agree and 0.26 % strongly agree

From the third statement, Materials in stock are accurately registered 0.36 % strongly disagree, 0.3 % disagree, 0.13 were neutral, 0.13% agree and 0.06 strongly agree Lastly from the

statement, Materials in stock are accurately registered, 0 respondents strongly disagree, 0.1 % disagree, 0 respondents were neutral, 0.53 % agree and 0.36 % strongly agree

**Table 4.3. Analysis of warehouse management practice**

| Item | | Rating | N | % | S.D | V |
|---|---|---|---|---|---|---|
| A | BGI Ethiopia do have skilled warehouse employees. | Strongly disagree | 9 | 0.3 | 3.46 | 12 |
| | | Disagree | 11 | 0.36 | | |
| | | Neutral | 2 | 0.06 | | |
| | | Agree | 5 | 0.16 | | |
| | | Strongly agree | 3 | 0.1 | | |
| B | Warehouse management activities are assisted by technology. | Strongly disagree | 7 | 0.23 | 4.33 | 18.8 |
| | | Disagree | 14 | 0.46 | | |
| | | Neutral | 3 | 0.1 | | |
| | | Agree | 4 | 0.13 | | |
| | | Strongly agree | 2 | 0.06 | | |
| C | The warehouse system is organized in such a way it exclude errors and enhance service in the operation. | Strongly disagree | 7 | 0.23 | 3.84 | 14.8 |
| | | Disagree | 13 | 0.43 | | |
| | | Neutral | 4 | 0.13 | | |
| | | Agree | 4 | 0.13 | | |
| | | Strongly agree | 2 | 0.06 | | |
| D | The company's warehouse is accessible and is simple to load and unload free from damage. | Strongly disagree | 1 | 0.03 | 4.60 | 21.2 |
| | | Disagree | 3 | 0.1 | | |
| | | Neutral | 4 | 0.13 | | |
| | | Agree | 14 | 0.46 | | |
| | | Strongly agree | 8 | 0.26 | | |

Under warehouse management practice respondents were asked 4 questions starting from the statement BGI Ethiopia do have skilled warehouse employees and 0.3% strongly disagree, 0.36 disagree, 0.6 % were neutral, 0.16 % agreed and 0.1 % strongly agreed. The second statement was BGI Ethiopia do have skilled warehouse employees. 0.23 % strongly disagree, 0.46 % disagree, 0.1 % respondents were neutral, 0.13% agree and 0.06 % strongly agree

From the third statement, The warehouse system is organized in such a way it exclude errors and enhance service in the operation , 0.23 % strongly disagree, 0.43 % disagree, 0.13 were neutral, 0.13% agree and 0.06 strongly agree

Lastly from the statement, The Company's warehouse is accessible and is simple to load and unload free from damage, 0.3 % respondents strongly disagree, 0.1 % disagree, 0.13% respondents were neutral, 0.46 % agree and 0.26 % strongly agree

**Table 4.4. Analysis of transportation management**

| Item | | Rating | N | % | S.D | V |
|---|---|---|---|---|---|---|
| A | The present vehicle scheduling practices has enhanced productiveness in the company's logistics system. | Strongly disagree<br>Disagree<br>Neutral<br>Agree<br>Strongly agree | 1<br>3<br>5<br>13<br>8 | 0.03<br>0.1<br>0.16<br>0.43<br>0.26 | 4.19 | 17.6 |
| B | BGI Ethiopia employ economy of scale to reduce transport cost per unit. | Strongly disagree<br>Disagree<br>Neutral<br>Agree<br>Strongly agree | 8<br>14<br>6<br>2<br>0 | 0.26<br>0.46<br>0.2<br>0.06<br>0 | 4.89 | 24 |
| C | Satisfactory transportation trucks are available. | Strongly disagree<br>Disagree<br>Neutral<br>Agree<br>Strongly agree | 1<br>2<br>5<br>14<br>8 | 0.03<br>0.06<br>0.16<br>0.46<br>0.26 | 4.69 | 22 |
| D | The company's transportation system is save and on time. | Strongly disagree<br>Disagree<br>Neutral<br>Agree<br>Strongly agree | 2<br>8<br>10<br>9<br>1 | 0.06<br>0.26<br>0.33<br>0.3<br>0.03 | | |

Under transportation management practice respondents were asked 4 questions starting from the statement the present vehicle scheduling practices has enhanced productiveness in the

company's logistics system and 0.03 % strongly disagree, 0.1 disagree, 0.16 were neutral, 0.43 % agreed and 0.26 strongly agreed.

The second statement was BGI Ethiopia employ economy of scale to reduce transport cost per unit 0.26 % strongly disagree, 0.46 % disagree, 0.2 % were neutral, 0.6 % agree and 0 respondents strongly agree

From the third statement, The company's transportation system is save and on time, 0.06 % strongly disagree, 0.26 % disagree, 0.33 % were neutral, 0.46 % agree and 0.26 % strongly agree

Lastly from the statement, Information gathering and information flow system abide with BGI information flow policy 0.1 % respondents strongly disagree, 0.16 % disagree, 0.13% respondents were neutral, 0.3 % agree and 0.03 % strongly agree

**Table 4.5. Analysis of information flow management practice.**

| Item | | Rating | N | % | S.D | V |
|---|---|---|---|---|---|---|
| A | The company has integrated data bases | Strongly disagree | 12 | 0.4 | 3.84 | 14.8 |
| | | Disagree | 9 | 0.3 | | |
| | | Neutral | 4 | 0.13 | | |
| | | Agree | 3 | 0.1 | | |
| | | Strongly agree | 2 | 0.06 | | |
| B | BGI Ethiopia invest in information technology that support its logistics information flow. | Strongly disagree | 3 | 0.1 | 3.28 | 10.8 |
| | | Disagree | 6 | 0.2 | | |
| | | Neutral | 12 | 0.4 | | |
| | | Agree | 6 | 0.2 | | |
| | | Strongly agree | 3 | 0.1 | | |
| C | BGI Ethiopia utilize online systems regarding monitoring of Orders, schedules and inventories | Strongly disagree | 14 | 0.46 | 4.69 | 22 |
| | | Disagree | 8 | 0.26 | | |
| | | Neutral | 5 | 0.16 | | |
| | | Agree | 2 | 0.06 | | |
| | | Strongly agree | 1 | 0.03 | | |
| D | Information gathering and information flow system abide with BGI information flow policy. | Strongly disagree | 3 | 0.1 | 3.16 | 10 |
| | | Disagree | 5 | 0.16 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Neutral<br>Agree<br>Strongly agree | 4<br>12<br>6 | 0.13<br>0.4<br>0.2 | | |

Under information flow management management's practice respondents were asked 4 questions starting from the statement The Company has integrated data bases and 0.4% strongly disagree, 0.3 disagree, 0.13 were neutral, 0.1 agreed and 0.06 strongly agreed.

The second statement was BGI Ethiopia invest in information technology that support its logistics information flow 0.1 % strongly disagree, 0.2% disagree, 0.4 % respondents were neutral, 0.2% agree and 0.1 % strongly agree

From the third statement, BGI Ethiopia invest in information technology that support its logistics information flow, 0.46 % strongly disagree, 0.26 % disagree, 0.16 % were neutral, 0.06 % agree and 0.03 strongly agree

Lastly from the statement, Information gathering and information flow system abide with BGI information flow policy 0.1 % respondents strongly disagree, 0.16 % disagree, 0.13% respondents were neutral, 0.4% agree and 0.2 % strongly agree

**Table 4.6. Analysis of supplier delivery**

| Item | | Rating | N | % | S.D | V |
|---|---|---|---|---|---|---|
| A | The company's suppliers deliver items on time. | Strongly disagree<br>Disagree<br>Neutral<br>Agree<br>Strongly agree | 2<br>5<br>13<br>6<br>4 | 0.06<br>0.16<br>0.43<br>0.2<br>0.13 | 3.74 | 14 |
| B | The company's suppliers return damaged items. | Strongly disagree<br>Disagree<br>Neutral<br>Agree<br>Strongly agree | 9<br>12<br>5<br>3<br>1 | 0.3<br>0.4<br>0.16<br>0.1<br>0.03 | 4 | 16 |
| C | The company's suppliers give price advance. | Strongly disagree<br>Disagree<br>Neutral | 4<br>6<br>14 | 0.13<br>0.2<br>0.46 | 4.1 | 17.6 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Agree | 4 | 0.13 | | |
| | | Strongly agree | 2 | 0.66 | | |
| D | The supplier issues an invoice for every purchased items. | Strongly disagree | 0 | 0 | 4.77 | 22.8 |
| | | Disagree | 1 | 0.03 | | |
| | | Neutral | 7 | 0.23 | | |
| | | Agree | 12 | 0.4 | | |
| | | Strongly agree | 10 | 0.33 | | |

Under supplier delivery respondents were asked 4 questions starting from the statement The Company's suppliers deliver items on time and 0.06 % strongly disagree, 0.16 disagree, 0.43 were neutral, 0.2 agreed and 0.13 strongly agreed.

The second statement was the company's suppliers deliver items on time, 0.3 % strongly disagree, 0.4% disagree, 0.16 respondents were neutral, 0.1% agree and 0.03 % strongly agree

From the third statement, The Company's suppliers give price advance 0.13 % strongly disagree, 0.2 % disagree, 0.46 were neutral, 0.13% agree and 0.66 strongly agree.

Lastly from the statement, The Company's suppliers give price advance 0 respondents strongly disagree, 0.03 % disagree, 0.23% respondents were neutral, 0.4% agree and 0.33 % strongly agree

**Table 4.7. Analysis of major customer's relation**

| Item | | Rating | N | % | S.D | V |
|---|---|---|---|---|---|---|
| A | The company use information to conduct customer needs such as setting new product and price. | Strongly disagree | 11 | 0.36 | 2.82 | 8 |
| | | Disagree | 7 | 0.23 | | |
| | | Neutral | 5 | 0.16 | | |
| | | Agree | 4 | 0.13 | | |
| | | Strongly agree | 3 | 0.1 | | |
| B | BGI Ethiopia have a good customer's complaint management approach. | Strongly disagree | 1 | 0.03 | 6.22 | 38.8 |
| | | Disagree | 2 | 0.06 | | |
| | | Neutral | 0 | 0 | | |
| | | Agree | 15 | 0.5 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Strongly agree | 12 | 0.4 | | |
| C | BGI Ethiopia values its customer the company evaluate customers satisfaction | Strongly disagree<br>Disagree<br>Neutral<br>Agree<br>Strongly agree | 4<br>5<br>2<br>11<br>8 | 0.13<br>0.16<br>0.06<br>0.36<br>0.26 | 3.16 | 10 |

Under major customer relation respondents were asked 3 questions starting from the statement the company use information to conduct customer needs such as setting new product and price and 0.36 % strongly disagree, 0.23 disagree, 0.16 were neutral, 0.13 agreed and 0.11 strongly agreed.

The second statement was the company use information to conduct customer needs such as setting new product and price.0.03 % strongly disagree, 0.06% disagree, 0 respondents were neutral, 0.5% agree and 0.4 % strongly agree

From the third statement, BGI Ethiopia values its customer the company evaluate customers satisfaction 0.13 % strongly disagree, 0.16 % disagree, 0.06 were neutral, 0.36% agree and 0.26 strongly agree.

**Table 4.8. Analysis of Stock out management**

| Item | | Rating | N | % | S.D | V |
|---|---|---|---|---|---|---|
| A. | BGI Ethiopia have a skilled store keeper | Strongly disagree<br>Disagree<br>Neutral<br>Agree<br>Strongly agree | 6<br>8<br>7<br>4<br>5 | 0.2<br>0.26<br>0.23<br>0.13<br>0.16 | 1.4 | 2 |
| B. | The company has efficient data about its suppliers. | Strongly disagree<br>Disagree<br>Neutral<br>Agree<br>Strongly agree | 2<br>4<br>5<br>12<br>7 | 0.06<br>0.13<br>0.16<br>0.4<br>0.23 | 3.4 | 11.6 |

| | | | | | | |
|---|---|---|---|---|---|---|
| C. | BGI Ethiopia store compared to other competitors has a good experience in managing stock outs. | Strongly disagree<br>Disagree<br>Neutral<br>Agree<br>Strongly agree | 4<br>5<br>11<br>7<br>3 | 0.13<br>0.16<br>0.36<br>0.23<br>0.1 | 2.82 | 8 |

Under stock out management practice respondents were asked 3 questions starting from the statement BGI Ethiopia have a skilled store keeper and 0.2% strongly disagree, 0.26 % disagree, 0.23 were neutral, 0.13 agreed and 0.16 strongly agreed.

The second statement was The Company has efficient data about its suppliers and 0.06 % strongly disagree, 0.13% disagree, 0.16 respondents were neutral, 0.4% agree and 0.23 % strongly agree

From the third statement, BGI Ethiopia store compared to other competitors has a good experience in managing stock outs 0.13 % strongly disagree, 0.16 % disagree, 0.36 were neutral, 0.23% agree and 0.1 strongly agree.

### 4.2 quantitative data analysis

For Quantitative Data Analysis, Close Ended and Five-point Likert scale Questions were designed and distributed to the selected staffs assigned at the department and obtain the required information. For the Qualitative data analysis, along with the questionnaires interview were conducted with the division managers and department heads to strength the result and to describe their insight for the persistence of practices and challenge of logistic management.

### 4.3 Summary of interview response

#### 4.3.1 Major Practices and Challenge of logistic management identified from Open Qualitative data.

- Lack of effective recruitment for logistic department.
- Lack of assessment on the current fashion of L.M
- Lack of integrated information flow across the L.M and other departments

## 4.5 Correlation and regression analysis

## 4.5.1 Correlation analysis

**Correlations**

| N=30 | | Logistics Management Challenge | Inventory Management | Warehouse Management | Transport Management | Information flow Management |
|---|---|---|---|---|---|---|
| Logistics Management Challenge | Pearson Correlation | 1 | | | | |
| | Sig. (2-tailed) | | | | | |
| | N | 30 | | | | |
| Inventory Management | Pearson Correlation | .465** | 1 | | | |
| | Sig. (2-tailed) | .010 | | | | |
| | N | 30 | 30 | | | |
| Warehouse Management | Pearson Correlation | .698** | .362 | 1 | | |
| | Sig. (2-tailed) | .000 | .053 | | | |
| Transport Management | Pearson Correlation | .307 | .464** | -.046 | 1 | |
| | Sig. (2-tailed) | .099 | .010 | .814 | | |
| Information flow Management | Pearson Correlation | .312 | .832** | .206 | .435* | 1 |
| | Sig. (2-tailed) | .093 | .000 | .284 | .016 | |

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

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

A correlation analysis were deployed to determine the relationship among the challenges and practices of logistics management. Result shows a highly strong and significant correlation among logistics Practice and challenges, logistics management Challenge with warehouse management was statistically important with (r = 0.698, n = 30, p = .000). Logistics practice challenge with information flow management was statistically significant with (r = 0.832, n = 30, p = .000). There is also a moderate relationship between logistics management challenge with inventory management and Transport management with significance value p=0.01 each.

### 4.5.2 Regression analysis

| Reliability Statistics | |
|---|---|
| Cronbach's Alpha | N of Items |
| .779 | 26 |

Reliability Test

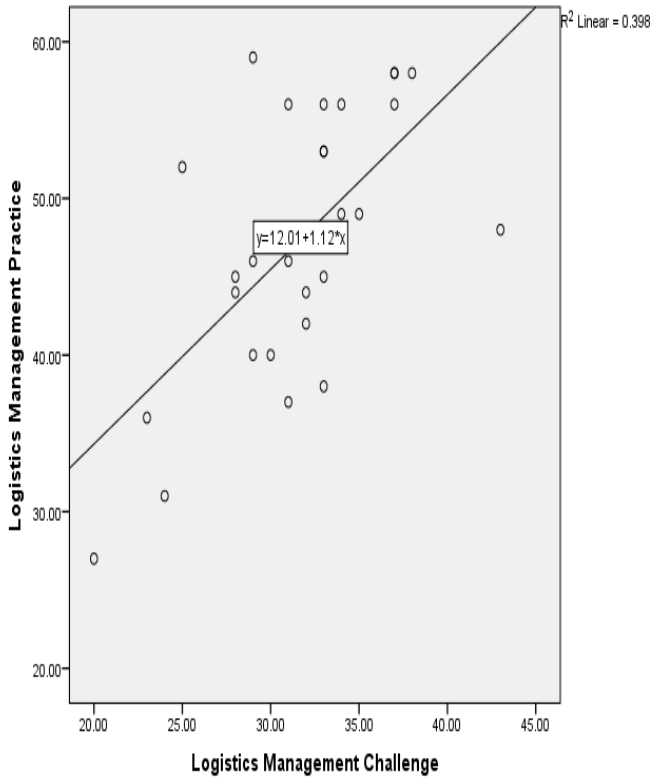
Regression Analysis

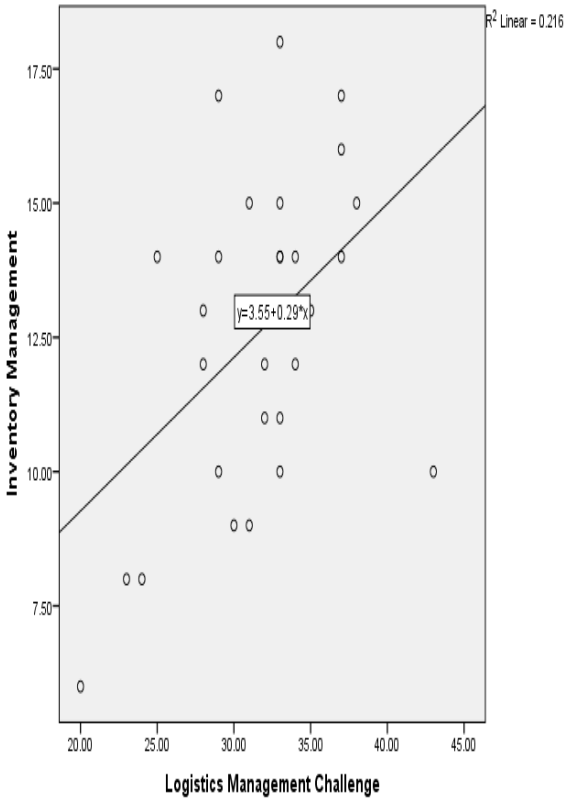
Multiple linear regression (MLR), also known simply as multiple regression, is a statistical technique that uses several explanatory variables to predict the outcome of a response variable. Multiple regressions are an extension of linear (OLS) regression that uses just one explanatory variable. Hence, A multiple regression was used to verify the statistical feasibility of the variables after testing for assumptions.

### Assumptions of Linear Regression Model

**#1: Assumption 1:** Continuous variables: Because all variables are combined to their average, they are presented in a continuous fashion.

**#2: Assumption 2: Linearity** There should be a linear relation among the two variables. The dispersed dot plot showed that there is a linear relationship among variables. The term "linearity" refers to a straight-line representation of the correlation among two variables. It is crucial to understand the degree of correlation between variables while analysing data. To identify any variations that may have an impact on the correlation, examine the relationships between the variables. In statistics, linearity is determined using the P-P plot, scatter plot, and Pearson's correlations (Francis 2019). Figure 2 of the material below shows that the assumption was correct for this investigation, as evidenced by the normal plot.




Linearity among the challenges and Practices

## #3 Assumptions 3: Homoscedasticity Test,

In homoscedasticity, all IV levels have unique amount of error variance. When the error variance changes at various IV levels, heteroscedasticity occurs. Mild heteroscedasticity, according to Francis (2019), has little effect on significance testing. However, when heteroscedasticity is high, it can substantially impair research and skew results, increasing the likelihood of a Type I mistake. The most prevalent assumption is that homoscedasticity errors have a known, limited variance that remains constant across all predictor variable levels.

In the homoscedasticity test points are scattered, it indicates errors are not accumulated at one point

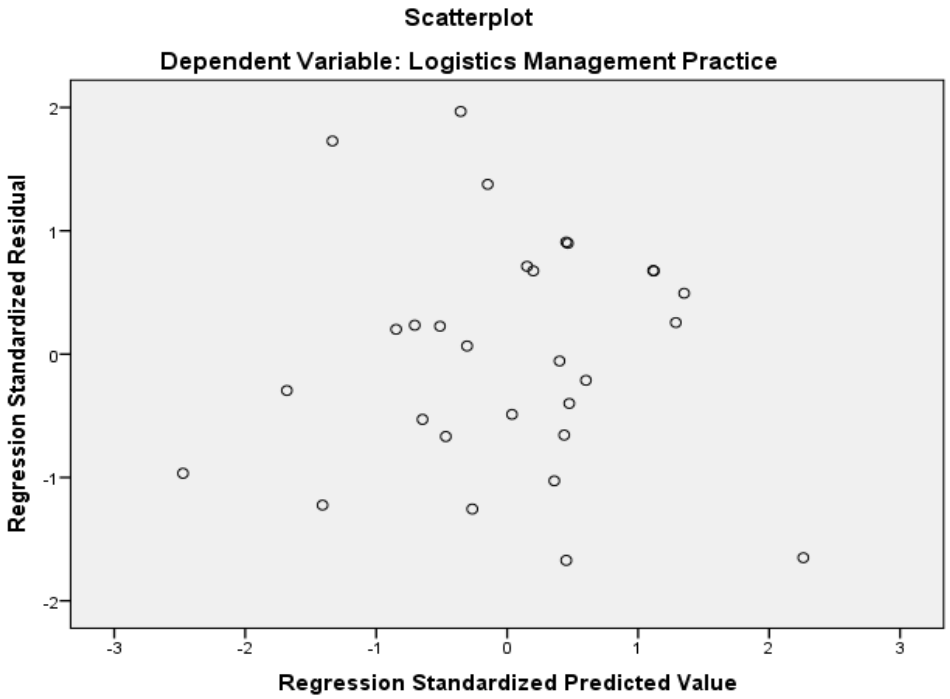



Fig Scatter Plot

## #4 Assumption #4 Multicollinearity Test

Multi Collinearity, Indicates a relation among two predictor variables, which refers to a relationship among more than two predictor variables, it I also the presence of correlation among the predictors. When multicollinarity VIF is more than ten it tells the variables has multicollinarity, in this research the value of VIF is 1 up to 4 with corresponding significance below 1 (Hair et.al, 2010). Multicollinarity values are shown below.

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 12.015 | 3.839 | | 3.129 | .005 | | |
| | Inventory Management | .247 | .422 | .152 | .584 | .565 | .242 | 4.133 |
| | Warehouse Management | .982 | .210 | .675 | 4.677 | .000 | .786 | 1.273 |
| | Transport Management | .567 | .279 | .304 | 2.031 | .053 | .728 | 1.373 |
| | Information flow | -.145 | .398 | -.086 | -.364 | .719 | .290 | 3.449 |

a. Dependent Variable: Logistics Management Challenge

## #5 Assumption #5 Derbin Watson or Auto correlation Test

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|---|---|---|---|---|---|
| 1 | .780[a] | .608 | .542 | 3.26693 | 1.381 |

a. Predictors: (Constant), Information flow Management, Warehouse Management,

b. Dependent Variable: Logistics Management Challenge

The Dublin Watson value should be between1-4, here in this case it is in the middle with a value of 1.381. This shows better result with positive autocorrelation between challenges and practices of logistics practice.

## Assumption #6 normal distribution residuals.

"normality" can be expressed in tabular and bell shape curve as shown in the diagram below symmetrical middle high and low frequencies of the data.( **(Pallant, 2020)**. In the diagram result tells a normal curve placed with affair normality distribution. This also tells us that there is no normality assumption failure.

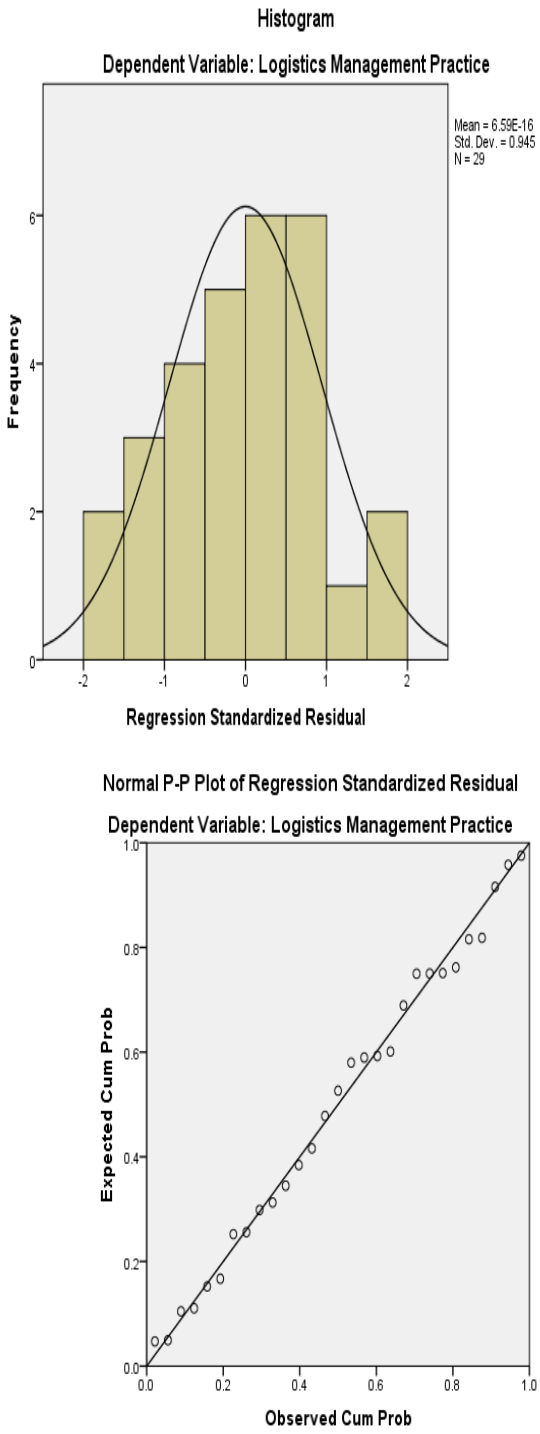



Fig. Normality Distribution Test

## Regression Result

## Anova Test

| ANOVA[a] | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 397.024 | 4 | 99.256 | 9.300 | .000[b] |
| | Residual | 256.148 | 24 | 10.673 | | |
| | Total | 653.172 | 28 | | | |
| a. Dependent Variable: Logistics Management Challenge | | | | | | |
| b. Predictors: (Constant), Information flow Management, Warehouse Management, Transport | | | | | | |

Effects of Logistics Management Challenge on Logistics management practice

| Coefficients[a] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 11.730 | 8.753 | | 1.340 | .192 | | |
| | Supply Delivery | .968 | .509 | .317 | 1.901 | .069 | .856 | 1.168 |
| | Customer Relationship | 1.010 | .474 | .330 | 2.130 | .043 | .992 | 1.008 |
| | Stock out Management | 1.439 | .645 | .372 | 2.229 | .035 | .852 | 1.174 |
| a. Dependent Variable: Logistics Management Practice | | | | | | | | |

Effects of Logistics Management practice on Logistics management Challenge

| Coefficients[a] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 12.015 | 3.839 | | 3.129 | .005 | | |
| | Inventory Management | .247 | .422 | .152 | .584 | .565 | .242 | 4.133 |
| | Warehouse Management | .982 | .210 | .675 | 4.677 | .000 | .786 | 1.273 |
| | Transport Management | .567 | .279 | .304 | 2.031 | .053 | .728 | 1.373 |
| | Information flow | -.145 | .398 | -.086 | -.364 | .719 | .290 | 3.449 |
| a. Dependent Variable: Logistics Management Challenge | | | | | | | | |

# CHAPTER FIVE

# 5. SUMMARY, CONCLUSION AND RECOMMENDATIO

## 5.1 Summary of findings

This study have identified the following gaps while conducting the study;

- BGI Ethiopia is moderate in managing its inventory as the researcher found that, the company is poor in inventory cost utilization and also materials are not used in wastage free manner but quantity orders have found to be based on demand analysis.
- The researcher also found in BGI Ethiopia warehouse management practice there is a lack of skilled warehouse employees and warehouse management operations were not equipped with technologies, on the positive side the company warehouse management system is found to have an accessible and free from damage warehouse operation.
- Additionally looking in to the company's transportation management practice, the researcher found the company was not effective in utilizing economy of scale to reduce transportation cost yet the company's vehicle scheduling is found to enhance productivity and the company is also to have safe, on time transportation.
- Furthermore assessing the company's information flow management practice, its found information gathering and flow concede with BGI policy on the other side the company was found to lack integrated data base for its logistics operation and the company also doesn't use online system regarding monitoring orders.

The researcher designed some of the questioners to investigate how BGI Ethiopia cope up with some of the challenges commonly found in the brewery industry the following illustrate the findings

- Looking in to supplier delivery challenge, the study found the company supplier issues an invoice for every purchase aside from that suppliers were not found to be willing to return damage and give price advice.
- Moreover analysing major customer relation challenges, BGI is found to have great compliant management system and were found to value its customer satisfaction apart from that BGI was found having an issue in analysing data to satisfy its customers.
- Furthermore assessing stock out challenge, the company was found not having skilled store keepers and comparing it to other competitor's experience of the employees was found to be very low.

## 5.3 CONCLUSION

The study tried t assesse the level of logistic management practice and identify major challenges in BGI Ethiopia. The study utilized primary data both qualitative and quantitative, such as questioner and interview to analyse the level of LM practice using its activities as variables and correlate major challenges in the company, data was analysed using SPSS.

The major findings are

In conclusion of the respondents, there are 2 activities that are managed moderately effective, these are Inventory management, and transport management. The two activities that are managed poorly are found to be warehouse management and information flow management from the additional 3 variables used supplier deliver and stock out management are managed moderately, and major customer response is found to be managed effectively.

So it can be concluded that

- There is shortage of logistics expertise in the company, lack of integrated system for information flow, poor usage of technology to assist warehouse management and the company doesn't use economy of scale to better its transportation operation. Additionally, the company has failure in utilizing its inventory cost. Furthermore BGI Ethiopia was inadequate in its warehouse that materials are not used in a wastage free manner.

The finding can also provide the company with up to dated L.M practice which could be useful to have effective and efficient logistics operation and deal with challenges in improved approach, also it will be helpful to know where the company stands compared to its competitors in regards with logistics activities with have a direct effect on organization performance and growth as logistics is becoming a key in customer retention and satisfaction specially in the brewery industry.

Usually, the founding of the study assist the current logistics practices and challenges in BGI related to inventory management, warehouse management, transportation management, and information flow.

## 5.4 RECOMMENDATION

Relaying the on the above findings and conclusion it can be said that LM practice in BGI Ethiopia were not concrete saying this the researcher outlined the below disclosure of recommendation that could enhance the logistics management practice and deal with faced challenges.

- In order to utilize its inventory cost the company should control its inventory properly across its supply chain which could also help to determine how much product the company should procure.
- Adopting just in time inventory system which is useful to reduce excess inventory and storage cost.
- To minimize wastage following inventory frequently, forecasting demand accurately, using FIFO and using inventory management software is advised.
- Frequently training employees working in BGI warehouse focusing on their gaps.
- Using internet of things (IOT), which could be useful in following inventory condition.
- BGI should use transportation vehicles that could load in bulk in a single trip
- To enhance the transport management of the company, BGI should properly practice economies of distance by considering transport cost that has a major cost contribution for the overall business cost
- BGI should blend and enhance information from different source, such as cloud storage and data warehouse, in addition the company should use online system to monitor orders
- The company need to recruit additional manpower in its logistics department.
- BGI should consider reliability, quality, cost, technology and capacity when choosing its suppliers also additional considerations such as damage return, price advance should be taken in to consideration.
- .The Company should gather in-up customer feedback and visualize customer data in order to satisfy their needs.
- Frequently monitoring competitor's logistics management practice will also aid the company to cope up with the current L.M practice especially in highly competitive market such as the brewery where the customer demand is changing every day.

- The Company should also integration of overall logistic activities in the organization and in turn this will transcend the logistic activity practice in the organization.

- HRM practices can positively affect logistics performance. The company should adopt excellent HRM practices. Specially following activities should be managed better employment and training. Absence of training is certainly responsible for some of operational inaccuracy issues. Therefore, logistics management personnel should be trained according to current logistics practice.
- IT can thus achieve breakthroughs in design and operation, configuration and planning, which otherwise can never be thought about. Having explained above the problems facing BGI with respect to technology, this thesis proposes that there should be at least some of advanced IT infrastructure to help the operations effective and efficient.

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Appendix I


**Addis Ababa University, School of commerce**

**Department of Logistic and Supply Chain Management Graduate Program**

**QUESTIONNAIRE**

Dear Sir/ Madam,

Greetings; my name is Surafel Solomon a post graduate candidate at Addis Ababa University, School of commerce under the department of masters of Logistics and Supply Chain Management. Currently, I am conducting a research on practices of logistics management activities in BGI Ethiopia.

The main purpose of this questionnaire is to collect necessary data for the study on practice of logistics management practices in BGI Ethiopia. This study is purely for academic purpose which will be submitted in partial fulfillment of requirements for award of MA degree in Logistics and Supply Chain Management and your response will be kept confidential. The objective of the study is to assess the current logistics management practices Of BGI Ethiopia. As a result the fate of this study will depend upon your response, In order to make the research outcomes absolute, dependable and productive, please complete the questionnaire by considering each question thoughtfully and truthfully.

This is therefore I would like to request you to fill the questionnaire as per the instruction

 If you have any questions or tight spot please contact me, via Tel. / +251911139992 Or through Email: Surafelsolomon17@gmail.com

Thank you in advance for your affiliation, time and honesty in answering the following questions

**PART 1: BACKGROUND DATA**

1. Your Gender? A. Male [ ] B. Female [ ]

2. Age?

A. Below 20 [ ] C. 21 -35 [ ]

B. 36 – 50 [ ] D. above 51 [ ]

3. What is your level of education?

A. Diploma [ ] C. Masters Degree [ ]

B. Bachelors Degree [ ] D. PhD [ ] E. Others [ ]

4. Work Experience?

A. Less than 5 years [ ] C. 11 to 15 years [ ]

B. 6 to 10 Years [ ] D. above 16 years [ ]

5. In which Department or Section are you??

A. Facility Management [ ] C. Warehouse [ ]

B. Purchasing/Procurement [ ] D. Transport [ ]

6. What is your Position in the organization?

A. Manager [ ] B. Supervisor [ ] C. Office Clerk [ ]

**PART 2: LOGISTICS MANAGEMENT PRACTICE QUESTIONS**

Please choose one of the given Answers for each of the questions.

- Please account your level of agreement using the below 5 point like chart

| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

1. Level of agreement on inventory management practice

| Inventory management | | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| A. | The inventory model utilized aim to reduce overall inventory costs like holding, ordering, and stock Out. | | | | | |
| B. | Quantity ordered in the company inventory model is based on demand analysis. | | | | | |
| C. | Materials in the inventory are used in a wastage free manner. | | | | | |
| D | Materials in stock are accurately registered. | | | | | |

2. level of agreement on warehouse management practice

| Warehouse management | | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| A | BGI Ethiopia do have skilled warehouse employees. | | | | | |
| B | Warehouse management activities are assisted by technology. | | | | | |
| C | The warehouse system is organized in such a way it exclude errors and enhance service in the operation.. | | | | | |
| D | The company's warehouse is accessible and is simple to load and unload free from damage. | | | | | |

3. Level of agreement on transportation management

| Transportation management | | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| A | The present vehicle scheduling practices has enhanced productiveness in the company's logistics system. | | | | | |
| B | BGI Ethiopia employ economy of scale to reduce transport cost per unit. | | | | | |
| C | Satisfactory transportation trucks are available. | | | | | |
| D | The company's transportation system is save and on time. | | | | | |

4. Level of agreement on information flow management practice ,

| Information management | | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| A | The company has integrated data bases | | | | | |
| B | BGI Ethiopia invest in information technology that support its logistics information flow. | | | | | |
| C | BGI Ethiopia utilize online systems regarding monitoring of Orders, schedules and inventories | | | | | |
| D | Information gathering and information flow system abide with BGI information flow policy. | | | | | |

5. Level of agreement on supplier delivery

| supplier delivery | | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| A | The company's suppliers deliver items on time. | | | | | |
| B | The company's suppliers return damaged items. | | | | | |
| C | The company's suppliers give price advance. | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| D | The supplier issues an invoice for every purchased items. | | | | | |

6. level of agreement on Major customers relation

| Customer relation | | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| A | The company use information to conduct customer needs such as setting new product and price. | | | | | |
| B | BGI Ethiopia have a good customer's complaint management approach. | | | | | |
| C | BGI Ethiopia values its customer the company evaluate customers satisfaction | | | | | |

7. . Level of agreement on Stock out management

| Stock out management | | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| A. | BGI Ethiopia have a skilled store keeper | | | | | |
| B. | The company has efficient data about its suppliers. | | | | | |
| C. | BGI Ethiopia store compared to other competitors has a good experience in managing stock outs. | | | | | |

**6, please feel free if you have any suggestions regarding logistics management challenges you have faced in BGI Ethiopia.**

_____

_____

_____

**Interview Questions**

1. What additional points could be mentioned about BGI Ethiopia logistics management practice?

_____

_____

_____

2. What are the problems observed regarding logistics management practices in BGI Ethiopia?

_____

_____

_____

3. What are the inventory tools utilized by the company to reduce cost related to inventory such as ordering, holding and stock out?

_____

_____

_____

4. Can you justify BGI Ethiopia Warehouse management practice is updated and to changes?

_____

_____

_____

5. Do you consider all the delivered goods and services are procured at the right time from the right supplier in right quality and quantity with the right price? If not what do you think the reason is and what do you suggest to solve these problems?

_____

_____

_____