ASSESSMENT OF ENTERPRISE RESOURCE PLANNING (ERP) SYSTEM IMPLEMENTATION; THE CASE OF HABESHA BREWERIES

ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

GRADUATE STUDIES

DEPARTMENT OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT

A THESIS SUBMITTED TO THE SCHOOL OF COMMERCE ADDIS ABABA UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN LOGISTICS AND SUPPLY CHAIN MANAGEMENT

BY: MESMAK BERHE

ADVISOR: TENKIR SEIFU (DR.)

JUNE, 2022

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This is to certify that the thesis prepared by Mesmak Berhe entitled "assessment of enterprise resource planning (ERP) system implementation; the case of Habesha breweries", which is submitted in partial fulfillment of the requirements for the Degree of Masters in Logistics and Supply Chain Management, complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

Approved by Board of Examiners:

Advisor_____ **Signature**_____ **Date**_____

Internal Examiner_____ **Signature**_____ **Date**_____

External Examiner_____ **Signature**_____ **Date**_____

Chair of Department or Graduate Programs Coordinator

_____ Signature_____ Date_____

DECLARATION

I, the undersigned, hereby declare that the work contained in this thesis on the title of "assessment of enterprise resource planning (ERP) system implementation; the case of Habesha breweries" is my own original work and that I have not previously in its entirety or in part submitted at any university for a degree.

Name: Mesmak Berhe

Signature: _____

Date: _____

LETTER OF CERTEFICATION

This to certify that Mesmak Berhe has carried out her thesis work on the topic entitled "assessment of enterprise resource planning (ERP) system implementation; the case of Habesha breweries" under my guidance and supervision. Accordingly, I here assure that her work is appropriate and standard enough to be submitted for the award of Master in Logistics and Supply Chain Management.

Advisor:

Tenkir Seifu (Dr.) _____

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List of Acronym

ANOVA: Analysis of variance

ERP: Enterprise resource planning

HBSC: Habesha breweries share company

IT: Information technology

SC: Share company

SPSS: Statistical package for social sciences

VIF: Variance inflation factor

Abstract

ERP systems are linked to effectiveness and efficiency of business processes because firms can get more accurate and timely information. The main objective of this research was to assess enterprise resource planning (ERP) system implementation; the case of Habesha breweries with respect to four Implementation factors, Top management commitment, IT infrastructure, System quality, and User Training. As a research design the study employed was descriptive research design. In this study quantitative research approaches were used. Stratified sampling on random sampling base was used to select the appropriate samples of the study. Questionnaires were used as the primary data collection instrument. The data was analyzed using descriptive statistics, and then presented in tables. The finding of study implies that all of the variables of enterprise resource planning (ERP) system implementation (Top management commitment, IT infrastructure, System quality, and User Training) were found important factors of ERP system implementation of Habesha breweries and have respondent's moderate agreement to their implementation . Accordingly, this study recommends, since the results shows that there is a positive correlation between the independent variables and the dependent variable business performance, the manufacturing firm should take in to account the variables considered.

Key words: Top management commitment, IT infrastructure, System quality, User Training, business performance

CHAPTER ONE: INTRODUCTION

This chapter of the study encompasses background of the study, statement of the problem, research question objective of the study, significance of the study, scope of the study, limitation of the study, organization of the study and definition of key terms.

1.1 Background of the study

In a global business environment, firms are seeking to improve or maintain their competitiveness in the increasingly challenging global marketplace. Information systems are often used as tools to improve customer service, reduce cycle times, increase effectiveness, and decrease cost. Enterprise Resource Planning (ERP) systems have drawn increasing attention because they provide a variety of benefits to a business. ERP, which evolved from Manufacturing Requirements Planning (MRP), is an integrated information system that supports business processes and functions by managing the entire organization ‘s resources efficiently and effectively. In other words, ERP involves the planning and managing of the organization ‘s resources in the most efficient, productive, and profitable manner (Barker and Frolick, 2003).

The benefits of ERP systems are linked to effectiveness and efficiency of business processes because firms can get more accurate and timely information (Trott and Hoecht, 2004). Enterprise Resource Planning Systems (ERP) is one of the most essential tools for businesses to integrate information and communication technology (ICT) to compete in the global market. These systems can not only plan resources, but they can also combine all units and corporate operations into a single computer system to satisfy all requirements (Subhodip, 2021).

Thus, ERP systems can be described as a well-integrated software system which are operated to mechanize the essential corporate actions in various departments in a firm. This application has grown extremely high since last few years. Now-a-days, the companies are looking forward to improve their global management process and to implement competitive strategies, new industrial structures and customization strategies. But many of the existing systems happened to be difficult, nonflexible and misaligned in a business strategy and thus the companies have taken an approach towards implementing ERP systems (Hackney and Dunn, 2000).

In today’s age of globalization and competition, it is difficult for companies to continue with the traditional information systems. When the business environment of a company increases and

becomes complex with the need of functional units for more inter-functional data flow for better and timely decision making, it becomes impossible to continue with the traditional and separated information systems. ERP is used to integrate all business functions of a company as one single system. The systems are supported and powered by integrated software packages developed and provided by ERP solution vendors (Rashid, Hossain and Patrick, 2002).

ERP Systems have been successfully implemented in many enterprises in Ethiopia. After implementation, ERP Software provides tremendous benefits like quality improvements, optimum utilization of scarce resources and cost reduction in the organization. An ERP Suite plays a critical role in integrating and automating the business processes in an enterprise. ERP in Ethiopia has helped in exposing the Ethiopian enterprise to the best practices and processes adopted internationally and serves as a catalyst to enhance their productivity and efficiency as well (ebizframe.com, 2020).

1.2 Background of the organization

Habesha Brewery S.C is a share company established as per the commercial code of Ethiopia (1960). Habesha Breweries S.C is established by more than 8,000 local shareholders and to be engaged in the Breweries Industry in September 2013 located at Debre Brehan town,120Km north Addis Ababa on a 7.5 hectares plot of land. The second largest brewery in the Netherlands, Bavaria, holds 70 percent stake on Habesha Breweries.

Habesha brewery S.C has one among the fastest-growing beer companies in Ethiopia, Habesha has become a highly recognized brand within the Ethiopian beer market. The company, which had around 10 Percent market share in 2017, has an annual capacity of 850,000 hectoliters in its Debre Berhan plant. The breweries produce alcoholic and non-alcoholic Beer products

Organizations expect that ERP will create competitive advantages. In assuming that ERP create advantages, it is necessary to know what effects it has on an organizational performance. Now a days the performance of service industries like Habesha brewery S.C is highly dependent on modern technologies; the implementation of ERP System has a big role on their business performances (https://ethiopianbusinessreview.net, 2021).

1.3 Problem statement

World-class organizations now realize that non-integrated manufacturing or distribution processes and/or poor relationships with suppliers and customers are inadequate for their successive supply chain performance (Swink et al., 2007).for that matter, the ERP implementation is defined as a firm's extent to adapt, configure, and integrate the information flow and business processes necessary to support different departments and functions in an organization through the use of ICT architecture that collects and stores data in real-time (Hong and Kim, 2002; Loh and Koh, 2004; Klein, 2007). the task performance will be in a new and different manner from that previously performed. Furthermore, ERP implementation improve the performance level of a business by helping to reduce cycle times, increased flexibility, reduced quality costs, improved resource utility, improved information accuracy, and improved decision-making capability (Gardiner et al., 2002). However, without the successful implementation of the system, the projected benefits of improved productivity and competitive business advantage would not be forthcoming. And because ERP system implementation has never been an easy job, so many aspects must be managed and, controlled at the same time (Yousef, 2010).

In reality, many organizations have experienced enormous challenges after implementation, and some suffered greatly from devastating ERP projects (Ohene-Amoako D 2019). Many ERP implementation projects achieve limited success and the failure rate is high between 60% and 90% as researchers (Xia et al., 2010; Al-Shamlan and Al-Mudimigh, 2011). (Xia et al 2010) referred that usually, the high failure rate of ERP implementation comes from the wrong management of ERP implementation.

Despite the fact, according to (Laudon & Laudon, 1998) Understanding that factors in ERP implementation would give some guidelines on what elements ought to be given more consideration to bringing the implementation process into success and improve the business performance. The factors could be either be a risk or opportunities, depends on how the organizations handle them. for instance, as per Umble & Umble (2001) also considered poor top management involvement, lack of education and training, people not wanting a new system to succeed, unrealistic expectations about the implementation project, inaccurate data, and mismatch between the business and ERP system selected to be reasons of failure.

Habesha Brewery S.C (HBSC) has launched the implementation of an ERP system starting 2015. The implementation of ERP system in HBSC is not directly adopting the standard software tool rather it is about customizing & implementing the system considering the business process, the organizational structure of the company, and roles and responsibility of each functional department as well as sections, policies and procedures and, other related factors. Implementing an ERP system is not an inexpensive or risk-free venture. 65% of executives believe that ERP systems have at least a moderate chance of hurting their businesses because of the potential for implementation problems (Umble et al., 2003). It is therefore important to understand the actual effects of ERP system implementation factors on a company as a whole and particularly on its business performance (Akkermans & Helden, 2002). ERP implementation factor such as Low involvement of employees, lack of top management support, cultural misfit problem, absence of Education and training, user support, ERP system selection and, ineffective usage of ERP system will lead to ERP system failure and then lead the whole company to bankruptcy. These results will prevent HBSC to implement an ERP system and therefore they will not be able to connect their business with many global as well as local companies to respond effectively to the market where ERP system has become a prerequisite in the marketplace and a backbone for e-business and this is eventually could cause a decline in their market share in the local as well as global markets (Loonam and McDonagh, 2005; Chen, 2001; Ravendran, 2002; Sangaran, 2000).

ERP systems are critical to manufacturers for improving process efficiency. The operational mode of ERP systems differs from that of traditional manual operation systems; enterprises must re-evaluate risks associated with ERP implementation and establish response measures. Therefore, enabling enterprises to implement internal controls and strengthen their corporate constitution through an ERP equipped with an internal control mechanism has become a crucial issue (Inacio, 2018).

That is to say, the adoption of ERP implementation in the business setting depends heavily on the firm's ability to overcome a host of inhibitors or make a compelling case for the dramatic improvement in business performance. Therefore, there is a need to identify key drivers of ERP implementations that can maximize the implementation benefits from Business perspectives and then guide those who would like to improve its ERP implementation success to business

performance or those who may consider using ERP implementation factors for business improvement in the future (Yang and Su, 2009, Li et al., 2009). Herein, there is a need for further research to identify the critical success factors which adversely affect the success of ERP system implementation in HBSC to learn the company so far experienced during the implementation and its effects on business performance, aims to improve business performance through the successful usage of ERP system implementation factors

On top of that, the company is selected since the researcher has good connection with top managements and different staff of HBSC. This will be of an added value for the success of the research to identify what factor of HBSC ERP implementation should be selected to assess. The concept of identifying Top management commitment and support, IT infrastructure, System quality and, User Training to determine their impact on the business performance, the reasons behind the failures occurs in previous literature where many authors are concentrating on deciding which conditions that are believed to increase the success of an implementation project (Haines & Goodhue, 2003). Those factors are commonly referred in ERP system implementation, that have been chosen after examining the frequency of which they are used in the literature reviews and continuous discussion with HBSC department managers. This is to ensure that the factors that are chosen indeed can be considered accepted as critical. Again, according to (Al-sabaawi, 2015), Looking at such occurrences assessing factors that are considered an instrument to effectively implement an ERP system is one way of enhancing business efficiency and it will be worthwhile to examine the impact of these factors.

1.4 Research questions

This study was tried to answer the following basic research questions;

1. What looks like is the level of enterprise resource planning (ERP) system implementation of Habesha brewery related with Top management support and commitment?
2. What looks like is the level of enterprise resource planning (ERP) system implementation of Habesha brewery related with IT infrastructure?
3. What looks like is the level of enterprise resource planning (ERP) system implementation of Habesha brewery related with System quality?

4. What looks like is the level of enterprise resource planning (ERP) system implementation of Habesha brewery related with User Training?

1.5 Research objectives

1.5.1 General objective

The overall objective of the study is to assess the enterprise resource planning (ERP) system implementation; the case of Habesha breweries.

1.5.2 Specific Objective

A specific objective of the study was to determine:

- To assess enterprise resource planning (ERP) system implementation of Habesha brewery in terms of Top management support and commitment.
- To examine enterprise resource planning (ERP) system implementation of Habesha brewery in terms of IT infrastructure.
- To assess enterprise resource planning (ERP) system implementation of Habesha brewery in terms of System quality.
- To investigate enterprise resource planning (ERP) system implementation of Habesha brewery in terms of User Training.

1.6 Significance of the Study

The research has both theoretical and empirical contributions to academics and management practices respectively. The findings of this research will add to the knowledge of the subject of ERP by deepening readers' understanding of the subject of ERP implementation from the perspective of manufacturing companies. Besides contributing to the existing pool of knowledge, it will also contribute to the academia by jumpstarting future researches.

The findings of this research will also help Habesha breweries in improving its ERP implementation. It will also provide an evaluation framework for assessing the ERP implementation that can be readily used by manufacturing companies.

The result will motivate the researcher to conduct this particular topic in another sector in the future/particularly on the biggest organization.

1.7 Scope of the Study

The study focuses only on ERP implementation of Habesha breweries. It wouldn't be generalized to other organizations. Subject wise, the research concerned in explaining only four ERP implementation factors extracted from the literature were considered in this study which includes Top management commitment and support, IT infrastructure, System quality and, User Training. The selection of these four factors for this study is based on the literature that has indicated their importance for the success of ERP projects and has shown that their relationship to success has not been empirically well established. The source of information for the research was organizational members who interact with ERP system, managerial staff and also non-managerial employees.

1.8 Definition of Terms

Enterprise Resource Planning System (ERP) – is a software system used by organizations that helps automate and integrate majority of its business processes, production and accessing information in a real time environment, and sharing common data and practices across the organization (Hunton et al, 2013).

Top management support and commitment - is defined as devoting time to the program in proportion to its cost and potential, reviewing plans, following up on results and facilitating the management problems involved with integrating ERP with the management process of the business (Raymond, 2018).

IT infrastructure: infrastructure that are the components required to operate and manage enterprise IT environments (David, 2017)

System quality: the quality of the information system processing itself, which includes software and data components, and it is a measure of the extent to which the system is technically sound.

User Training: is a term business executive hear quite often when they are in the process of implementing a new software system (Van Dersal, 1962).

1.9 Organization of the Study

The first chapter of the paper will discuss the introduction; followed by the literature review section. Then the third chapter is the methodology and the fourth chapter will be the

presentation, analysis and interpretation of data. Finally, the fifth chapter will talk about the conclusions and any suggestions given for further research doings.

CHAPTER TWO: RELATED LITERATURE REVIEW

This chapter of the study deals with different theoretical concepts, theories and empirical evidences related with ERP and business performance. Therefore, the chapter is classified in to three parts. The first part is about theoretical literature relating with ERP and performance. The second is about empirical evidences obtained about ERP implementation on performance of business and the third part deal about conceptual framework of the study.

2.1 Theoretical Review

2.1.1 Concept and History of Enterprise Resource Planning (ERP)

The Enterprise Resource Planning (ERP) system is a software solution that has been conceived to unify all information systems of all departments into a single integrated system that manages all of functional areas in a company such as financial and cost accounting, planning and manufacturing, sales and marketing, materials management, human resource management, distribution and transportation. It is considered as a backbone of the information systems in an enterprise, and it supports all parts of business processes by providing flow of information between all business functions on all levels within an enterprise. ERP system offers a competitive advantage especially in terms on the value of the information; according to Abd Elmonem et al. (2017) Sharing data and information between enterprise departments helps in many aspects and aims to achieve different objectives.

An ERP system enables an organization to integrate all the primary business processes in order to enhance efficiency and maintain a competitive position. However, without successful implementation of the system, the projected benefits of improved productivity and competitive advantage would not be forthcoming. In its basic definition, ERP is an enterprise-wide information system that integrates and controls all the business processes in the entire organization. The Enterprise Resource Planning (ERP) system is an enterprise information system designed to integrate and optimize the business processes and transactions in a corporation (Tenkorang and P. Helo, 2011).

Enterprise Resource Planning applications are packages of Information System (IS), designed to establish the sharing of organizational data resources. (Klaus, Rosemann, & Gable, 2000). According to (Grabski, Leech, & Schmidt, 2011; Kumar, Maheshwari, and Kumar, 2003; Ngai,

Law, & Wat, 2008; Umble, Haft, and Umble, 2003) ERP systems are integrated, complex innovations. Historically, the name of Enterprise Resource Planning (Kumar, Van Hillegersberg, & Experiences) was originated from material requirements planning (MRP) and Manufacturing resource planning (MRPII). In 1970s MRP were developed to plan the product or parts requirements according to the master productions schedule. Following this, in 1980s manufacturing resource planning (MRP II) was introduced. MRP II included areas like project management, shop floor and distribution management, engineering human resource, and finance.

With the enhancement of these systems ERP came to surface in late 1980s and early 1990s. MRP, MRP II and ERP integrated business processes such as manufacturing, project management, financial, distribution, inventor management, human resource, maintenance and service, accounting and transportation providing visibility and consistency to the enterprise. In 1990s more functions and modules were added by vendors leading to the birth of extended ERPs (Rashid, Hossain, & Patrick, 2002) and they have become more among practitioners (Davenport, 1998). According to (Nizamani, Khoumbati, Ismaili, & Nizamani, 2014) now a days the term extended ERP systems are introduced. The nature of these systems is efficient and advance to process sales, human resources, procurement, manufacture, finance, CRM, operating planning, inventory management and material management. The concepts are ERP systems are summaries in table 2.1.

Table 2.1 Summary of ERP concepts

Concept / Definition	**Author (s)**
ERP system is a business management system comprises of set of software that integrate and manage all business functions within organization	(Zornada & Velkavrh, 2005)
Enterprise Resource Planning systems are integrated and complex innovations	(Grabski et al., 2011; Umble et al., 2003)
ERP are comprehensive information system that support the information needs of all the business functions, in real time, including human resources, finance, marketing, operations, customer information, sales	(Seng Woo, 2007)

and supply chain	
ERP is generally termed as a system that automate key business functions through integration and support decision making accordingly	(Razmi, Sangari, & Ghodsi, 2009)
A set of business modules or applications, that links organization's units like humane resource, finance, manufacture, accounting into one single integrated system providing a platform for flow of information across all units of the business with the use of internet as medium.	(Beheshti, 2006)
ERP systems are configurable information system packages, which are design to integrate business functions.	(Wu & Wang, 2006)
ERP system are set of software designed to integrate all business functions within organization.	(Shehab et al., 2004)
ERP is an integrated system where a unique database provide flow for information continuously and consistently for the entire company.	(Wadate, 2014)
ERP system is a customizable enterprise wide packages able to integrate all organization's functions to single system with a common database.	(Cardoso, Bostrom, & Sheth, 2004)
ERP systems are business software packages which integrate all needed information of the organization and efficiently and enables them to use resources effectively and efficiently (human resources, financial, material etc.)	(Fui-Hoon Nah, Lee-Shang Lau, & Kuang, 2001)
A packaged business software that automate and integrate the business processes of an organization, manage a common database across enterprise and access information in real time environment.	(Marnewick & Labuschagne, 2005)

2.1.2 Benefits of ERP system

A number of research studies have recognized various important benefits the ERP systems bring to organizations. Derese (2013) stated that an ERP system integrates the greater part of

the business processes and allows access to the data in real time. Furthermore, ERP system improves the presentation level of a supply chain by helping to decrease cycle times (Chien et al., 2007).

At hand are also some intangible benefits that an organization may enjoy by implementing an ERP system including, better customer satisfaction, improved vendor performance, increased flexibility, reduced quality costs, improved resource utility, enhanced information accuracy and better decision-making ability (Sutton, 2010).

The benefits of ERP are many. ERP system benefits range from optimizing processes to helping different departments better collaborate to improving the relationship between a business and its customers (Caleb F, 2021). According to Caleb F (2021) the following are several of the most valued benefits to utilizing ERP.

i. Increased Efficiency

One of the primary advantages of ERP is that it allows companies to automate manual and routine functions. This frees up employees to focus on more revenue-driving tasks, as well as standardize common business processes. The increased efficiency leads to improved demand forecasting, reduced production bottlenecks, shorter lead times, and a more transparent and responsive supply chain, not to mention business growth and the ability to stay ahead of competitors.

ii. Improved Collaboration

ERP systems also connect teams, improving communication and employee engagement. With an ERP system, every approved employee has on-demand access to operational data, allowing them to understand all of the company's moving parts and the role they play. Reduced silos and real-time project updates further aid the efficiency that leads to smoother workflows and cost savings. Collaboration capabilities also extend outside the four walls of an organization to connect with key trading partners and further progress business benefits.

iii. Real-time Data & Enhanced Reporting

One of the biggest benefits of ERP is that it's a powerful data hub. An ERP system allows you to collect, store, and analyze data across your operations in one centralized location, providing a single source of truth and the visibility to act more strategically. That centralized data enables a

business to access real-time information and generate more useful reports. One can compare functions across departments without multiple spreadsheets or data sources, as well as monitor business aspects like inventory levels on a daily basis to control capital more precisely. Data is the new gold and advances in technology are combining data with smart AI systems for augmented analytics reporting, potentially providing insights on demand with voice commands.

iv. Built-in Compliance

Other benefits don't amount to much if your business doesn't maintain regulatory compliance. A powerful advantage of ERP systems that often gets overlooked is that they're designed to help keep track of industry regulations and compliance changes. This allows businesses to stay on top of and in compliance with relevant laws, guidelines and specifications.

v. Cloud Accessibility

Though ERP systems are available as on-premise solutions, cloud ERP software has become more popular in recent years. The major benefits of cloud ERP include a reduced burden on IT staff, dedicated data security and mobility. Using a cloud-hosted ERP solution means that the system can be accessed anywhere, anytime on mobile devices as long as there's an internet connection. This allows for quicker action without the need for team members to be together.

vi. Better Customer Service

A portion of the data ERP provides a central hub for is customer information. With centralized customer data, multiple departments can easily access and collaborate on customer needs for faster response times and improved delivery and order accuracy. Sales representatives can focus on building customer relationships instead of maintaining spreadsheets and marketers can create customer-focused campaigns.

vii. Flexibility

One thing many users like about today's ERP systems is their modularity. A modular makeup means that applications can be used singularly or together as a full suite. A company can pick and choose which applications best suit their business needs without having to purchase what it doesn't need. This flexibility helps businesses move away from the clunky systems they've been using.

2.1.3 ERP Implementation

In the companies' view implementation means a continuous learning cycle where the organizational process supported by the ERP systems is gradually aligned with the business objectives. The practice of implementation of ERP systems is flooded with stories of devastating implementation. It seems to be an accepted fact that ERP implementations never are on time, within the budget and meet the desired business outcome. It has been identified that some main reasons are resistance towards change, lack of skills, lack of trainings etc. (Kraemergaard & Moller, 2000).

Further complexity in ERP systems also affect in implementation. It has studied using 3 different theoretical approaches. Organizational perspective, business perspective and technological perspective. (Kraemergaard & Moller, 2000). Implementation of ERP system are often said to be more organizational development than technological development, and it is more about people than about processes and technology. (Bingi, Sharma, & Godla, 1999).

Communication in ERP implementation plays an important role but it can however be difficult, since people do not comprehend alike. An effective communication strategy is a two-way process understanding the needs of the receiver and analyzing the extent and nature of the coming changes. The communication should start early and be consistent and continuous in ERP implementation. (Kraemergaard & Moller, 2000).

Also, according to (Rockart, 1979) Implementation factors are defined as areas where things must go right for a business to continue. For the sake of specificity this study considered the following Implementation factors.

2.1.3.1 Top management commitment and support

Top management commitment and support is the number one factor considered the most relevant and critical by many researchers. This concept is referred to the need of having committed leadership at the top management level (Finney & Corbert, 2007). As indicated by many researcher's Successful ERP implementation very much depends upon active and persistent top management involvement, and the importance of top management support in each step in all company levels is crucial (Zabjek et al., 2009; Sarker & Lee, 2003; Nah et al., 2003). Harrison (2004) argues that handing over ERP implementation to technical departments is a fundamental mistake which leads to a failing project.

The use and success of IT in organizations should include participation from the top management, as that reflects that the top management works actively together with the rest of the company towards a successful IT-implementation (Byrd & Davidson, 2003; Nah et al., 2003). Motwani et al., (2002) conclude that not only should the top management be active in the implementation process, but to ensure progress and ultimately success. Top management should also anticipate glitches that might occur; this naturally puts a great demand on their knowledge regarding ERP systems and the implementation process (Motwani et al., 2002).

Numerous studies have argued that the involvement and commitment of top management of all collaborating partners is a very important CSF (Akintoye et al., 2000; Khurana et al., 2011; Li & Lin, 2006; Ngai et al., 2004). A top management team, having several responsibilities, should be composed of management representatives from all participating organizations to increase cross-company interaction (Fawcett et al., 2008; Lu et al., 2006). According to Chae et al. (2005) and Ngai et al. (2004), the primary responsibility of a top-management team is to provide financial support, such as time, money, and facilities, because lack of such support will undoubtedly lead to an implementation failure, also the supply chain performance will be declined proportionally. Besides non-financial support, top managers are responsible for supporting employees psychologically (Ngai et al., 2004), sharing expertise (Fawcett et al., 2008), and solving problems when they occur (Lu et al., 2006). Top-management support is initiated by their trust and shared interest or attitude (Akintoye et al., 2000; Chae et al., 2005; Lu et al., 2006). Lu et al. (2006) demonstrated that top managers of the collaborating partners were interested because the participating supply-chain partners could not achieve their business objectives without each other's support.

However, top management support in the case companies has another starting point for their strategy-making than traditional strategic thinking Instead of making a strategy with the starting point in the organization or the market as such, the physical flow of products becomes an important cornerstone and driver for the strategy making. Based on the supply chain and exploitation of its members, a strategy is created that justifies and secures a desirable position in the supply chain Lu et al. (2006). This position could, for instance, be to fill the gap between large, multinational suppliers and end customers through efficient IT platforms and logistics operations, or through superior product knowledge keep a strong supply chain position as an

independent intermediary. With this supply chain position as a basis, the companies become competitive in the market to improve the supply chain performance. Top management is tasked with the responsibility to create an evaluation system that evaluates the strategy at every stage of the work within the organization. Finally, it helps to change the culture which facilitates strategic management (Venohr, 2007). A leader performs various roles in the process of strategy formulation & implementation. Such as innovator, strategist, caretaker, analyst, guide, organizer, motivator, developer, change enabler or change driver, decision-maker. Collaborator, risk manager, debtor, and evaluator (Mackenzie, 2006, Ashim, 2009 & Loren, 2008).

2.1.3.2 IT infrastructure

Management must make a careful choice of an ERP package that best matches the legacy systems, e.g. the hardware platform, databases and operating systems (Yingjie, 2005) and (Frimpon, 2012). Bhatti (2002) argued that adequate IT infrastructure, hardware and networking are crucial for an ERP system's success. It is clear that ERP implementation involves a complex transition from legacy information systems and business processes to an integrated IT infra-structure and common business process throughout the organization. Hardware selection is driven by the firm's choice of an ERP software package. The ERP software vendor generally certifies which hardware (and hardware configurations) must be used to run the ERP system. This factor has been considered critical by the practitioners and as well as by the researchers.

2.1.3.3 System quality

According to Al-Rawashdeh, 2014, The ERP systems have different type of abstraction. In additional to its complexity and modularity, the basic concept in the ERP system is the standardization and synchronization of information. Thus, most of software quality characteristics and sub-characteristics of ISO/IEC 9126 will be applicable to the ERP system quality model with appropriate modification. Because of the new abstraction type in ERP system, some new software quality characteristics should be involved, which can describe new features of ERP system.

The quality characteristics, functionality, reliability, usability, efficiency, maintainability, and portability have commonly been proposed in most quality models. However, scholars have different opinions while choosing sub characteristics of these characteristics.

According to Al-Rawashdeh, (2014):

The *Functionality* has been defined by ISO as the capability of the software to provide functions which meet the stated and implied needs of users under specified conditions of usage. In order to evaluate such characteristic, it has been divided into four sub-characteristics, namely accuracy, suitability, interoperability, and security. Adapting the functionality of the ERP systems reveals that the systems software should provide its functions, namely financial process, human resource management, supply chain process, manufacturing process and/ or customer service process as per the requirements when it is used under specific conditions.

The *reliability* is the capability of the software to maintain its level of performance under stated conditions for a stated period of time. Reliability has three sub-characteristics consist maturity, fault tolerance, and recoverability. In terms of ERP systems, the reliability refers to the capability 28 of the systems to maintain its service provision under specific conditions for a specific period of time. In other words, the probability of the ERP system fails in a problem within a given period of time.

The *usability* is the capability of the software to be understood learned, used, and attractive by the users, when used under specified conditions. The usability has set of sub-characteristics, including understandability, learn ability, and operability. The ERP systems should be understood, learned, used and executed under specific conditions.

The *efficiency* refers to the capability of a system to provide performance relative to the amount of the used resources, under stated conditions. To be measured, it has also been divided into three sub-characteristics, namely time behavior, resource utilization an efficiency compliance. Adapting this characteristic to the ERP systems suggests that the systems should be concerned with the used software and hardware resources when providing the ERP systems' functions.

The *maintainability* is the capability of the software to be modified. The maintainability consists five sub-characteristics, including analyzability, changeability, stability, and testability. In this research, any feature or part of the ERP system should be modifiable. As well as identifying a feature or part to be modified, modifying, diagnosing causes of failures, and validating the modified ERP system should not require much effort.

Finally, the *portability* of software refers to the capability of the software to be transferred from one environment to one another. Therefore, the ERP system should be applied using different operating systems; be applied at different organizations or departments; and be applied using a variety of hardware. (Al-Rawashdeh, 2014)

2.1.3.4 User Training

Training is the process of developing, changing, and reinforcing job-related behaviors (Woo 2007, Nah et al, 2003). An also (Bancroft et al. 1998, De Bruin 1997, Gibson and Mann 1998, Sumner 1999, Kale 2000) mentioned education and Training are some of the most cited Critical Success Factors (CSFs) in Enterprise Resource Planning (ERP) implementation projects. Educating and training users to use the ERP system during implementation is important because ERP is not easy to use even with good IT skills (Woo 2007). To realize significant benefits from ERP systems a considerable amount of training is required (Wortmann 1998). There must be a training plan and it should take into consideration both technical staff and end-users, with its scope depending on the type of implementation approach selected. Some case studies of ERP implementations have shown the importance of effective training at all levels (e.g. Bancroft et al. 1998, Miller 1999, and Kale 2000). In the ERP implementation process, many projects fail in the end due to a lack of proper training (Jurison 1999) The main reason for education and training programs for ERP implementation is to make the user comfortable with the system and increase the expertise and knowledge level of the people. ERP-related concepts, features of ERP systems, and hands-on training are all important dimensions of the training program for ERP implementation. Training is not only using the new system but also in new processes and in understanding the integration within the system – how the work of one employee influences the work of others.

According to Esteves and Pastor (2002), training activities in an SAP implementation are in the ranking of the most critical activities. Koch (1996) mentioned that "without proper training, about 30 to 40 percent of front-line workers will not be able to handle the demands of the new system". Likewise**,** Nah et al., (2003) argued that sufficient training can assist to increase success for ERP systems implementation. However, a lack of education and, training may lead to failure. as reported by Zhang et al. (2002), the main reason for education and training during ERP

implementation is to increase the supply chain management expertise and knowledge level of the users within the company. For this reason, an ERP system is a commercial and configurable software package that manages and integrates all the information flowing through the functional areas in the organization i.e. financial, accounting, supply chain, and customer information (Xia et al. 2010; Jing and Qiu, 2007). Taking this into account, As Cobert and Finney (2007) argue, to build user acceptance with regards to the project and nurture a positive employee attitude, training and education can be used as a tool to achieve those goals.

Oakland (2007) argues that employees, including supervisors, are to be won over, not by compulsion but by training, leadership, and recognition. Thus, the fundamental to ERP improvement is the availability of an adequate supply of people who are educated in the philosophy and technical aspects of quality. Crosby (2010) recognizes the need for quality awareness to be raised among employees through education. His emphasis was on developing a quality culture within the organization so that the right climate exists. As know that training and development refer to the process to obtain or transfer KSA (Knowledge, skills, and abilities) needed to carry out a specific activity or task; therefore, benefits of training and development both for employer and employees are strategic and hence much broader (Leidner2001).

Plus, the above, Sila (2010) argues that to ensure that our employees are equipped with the right kind of skills, knowledge, and abilities to perform their assigned tasks, training and development play a crucial role in the growth and success of our business including supply chain performance. As well, according to (Abdus, 2011) By choosing the right type of training during ERP implementation, we ensure that our employees possess the right skills for our supply chain business, and the same need to be continuously updated in the follow up of the best and new human resource practices. to meet current and future supply chain business demands, the education, and training process have assumed its strategic role for an ERP system implementation success, according to (Capon 2009).

2.2 Empirical Literature Review

Soja (2006) study examined the ERP implementation based on the project's success factors model. The model was defined on the basis of thorough literature review and feedback from ERP adopters, and the factors were grouped and also identified a collection of potential ERP

implementation success factors. The study found that the most influential factors for the ERP implementation success with the greatest influence, based on the project type, are: Team Involvement, System Reliability, Team Composition, Detailed Schedule, IT Infrastructure and Top Management Support. However, project management has not influence on ERP Implementation success. In addition, the research reveals some differences in perceptions and attitudes between two main parties involved in an implementation project, i.e. people from enterprises introducing ERP into their organizations and experts representing system supplier site.

Bases on the study of Sari and Santoso, (2021), Analysis of Enterprise Resource Planning (ERP) system implementation for manufacturing in Indonesia, indicate the measurement of system quality, service quality, information quality, benefits obtained, user satisfaction and ERP system benefits.

One of the studies related to the ERP system from an Ethiopian perspective is the work of Kanbiro, (2022) Determinants Of Enterprise Resource Planning System Implementation In Ethiopia, the result of regression analysis showed that top management support, conflict resolution, business process reengineering, and knowledge transfer have positive and statistically significant effects but independent variables i.e., lack of end-user involvement and lack of technical support to ERP system has a negative and statistically significant effect on ERP implementation.

Sisay and lemma, (2022) with the study Comparative analysis of critical factors for ERP implementation in private and public organizations in Ethiopian. A Pareto approach founds end user involvement, business process reengineering and software configuration, training and support for users, and existence of communication plan, consultant selection and relationship are identified as the crucial factors that were found in private organization.

Sintayehu (2014) studied the success factors for the implementation of the Enterprise Resource Planning system at Ethiopian Airlines. The objective of the study was to investigate CSFs and sharing experiences with other Ethiopian organizations with similar contexts and environments. The researcher has used a qualitative case study strategy like interviews, observations, and an online survey questionnaire (supplementary) as the main data collection techniques. Finally, the

researcher identified twenty factors that can be critical for the success of ERP system implementation in the context of Ethiopia. These factors are project planning, top management support, project management, and leadership, the capability of consultants, change management and communication, organizational readiness, and overall knowledge transfer. The researcher also recommended using his study for post-project lesson assessment.

Wondwosen, (2018) with study title Assessment of Enterprise Resource Planning (ERP) Project Implementation: The Case of Commercial Bank of Ethiopia obtained indicated that top management commitment and support have a strong and positive impact on project success unlike of the other variable's stakeholders' communication and engagement and training and knowledge transfer and quality of project teams.

According to Tsedale, (2018) with study of Implementation Challenges of ERP Project a Case of Commercial Bank of Ethiopia, revealed that major challenges facing the implementation of ERP were lack of formal communication with end users, problems of quality training facility and coordination, the researcher has recommended that the company should strengthen providing training to the project team and users in order to increase their knowledge and expertise.

2.3 Research gap

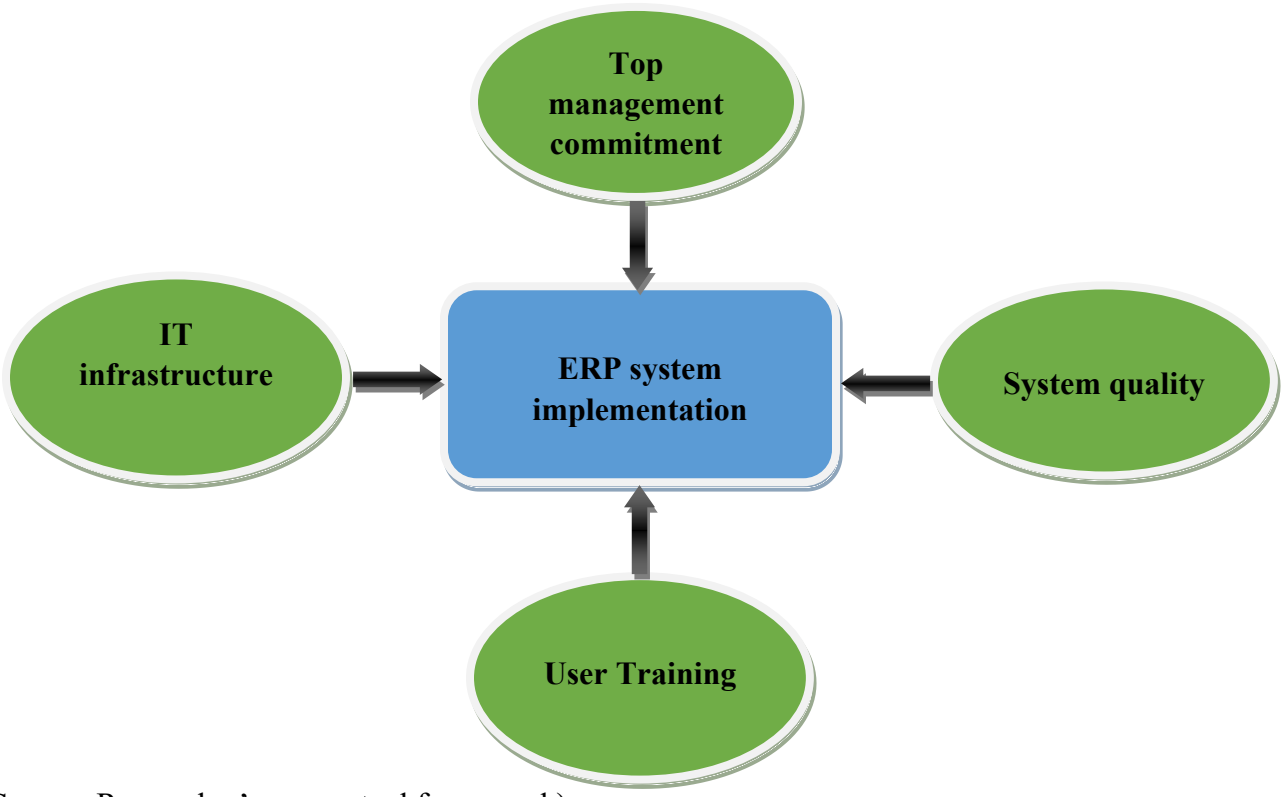
The research gap is a problem that has not been addressed so far in a particular field. Globally different study is conducted on the assessment of enterprise resource planning (ERP) system implementation on different sectors. However, there is little literature and research related to ERP systems implementation in the Ethiopian context. Also, the reviewed studies did not tell us about the ERP systems implementation on business performance of manufacturing industries in developing countries like Ethiopia which are mainly focused in doing business locally.

As there are a lot of knowledge gaps in the study area of assessing ERP systems implementation particularly regarding manufacturing sector, much has not been done in this field of study especially in our country. Therefore, this study tries to fill out these gaps to some extent that has focused on studying the assessment of ERP implementation, specially manufacturing industry.

2.4 Conceptual framework

A conceptual framework is a tool researcher use to guide their inquiry; it is a set of ideas used to structure the research, a sort of a map (Kothari, 2004). From available kinds of literature, the researcher has built the below conceptual framework to suited for the nature of the research, which is, the study of the assess the enterprise resource planning (ERP) system implementation;

Figure 2.1. Conceptual Framework of the Study



(Source: Researcher's conceptual framework)

CHAPTER THREE: RESEARCH METHODOLOGY

This section will describe clearly, the research approach and design, the sampling design, data sources and instruments that has been utilized in collecting data, the procedure of data collection and the method of data analysis, Research Design Quality and the ethical consideration.

3.1. Research Design

The research design of a study is basically the master plan for the research that follows (Hyman & Sierra, 2010). The research design is the conceptual structure within which research is conducted; it constitutes the blueprint for the collection, measurement and analysis of data (Kothari, 2004).

The study utilized a descriptive design with the aim of achieving the objectives of the study. Descriptive research studies are those studies which concerned with describing the characteristics of particular firms.

3.2. Research Approach

Since the researcher is expected to assess the ERP system implementation the study used a quantitative research approach. Quantitative research is a method for testing objective theories by inspecting the relationship among variables and these variables can be measured typically on the instrument, so that data can be measured utilizing statistical procedure (Creswell, 2015). Moreover, the outcome of quantitative research is easy to measure and the results can be clearly shown through objective data. Therefore, in this study quantitative method used in order to analyze statistics-based data collected through questionnaire.

3.3. Sample design

3.3.1 Population of the study

According to Zikumund (2003), Population refers to the entire group of people, events, or things of interest that the researcher wishes to investigate.

The target population is defined as the entire group a researcher is interested in. The sample frame will be from the employees of Habesha brewery having an interaction with ERP system. Currently, as of human resource data of Habesha brewery SC based in Addis Ababa, have a total number of 210 employees take as a population of the study.

3.3.2 Sampling technique

Sampling is the way of drawing inference about a population without studying the entire population under study. To do the research in effective and efficient manner, sampling is needed to save time and cost (Creswell, 2009). According to Asika (2006), it is practically impossible to take a complete and comprehensive study of the entire population going by nature and pattern of distribution. Hence, a representative sample is used from the population of the study.

To conduct this study, stratified random sampling technique were used based on employee's department. A stratified random sample is a random sample in which members of the population were first divided in to strata, and then were randomly selected to be a part of the sample. Stratified sampling used with size of the organization as the basis of the stratification.

3.3.3 Sample size determination

Thus, the sample size determined by formula bases of Yumane‟s formula (Yumane, 1964) guided in selecting the appropriate sample size for the Habesha breweries SC, Addis Ababa employees recruited in the study. The working sample guided by Yumane‟s form.

$$n = \frac{N}{1 + N(e^2)}$$

Where;

n = is the sample size

N= is the total population (210)

1= is a constant

e= is the estimated standard error which is 5% for 95% confidence level

$n = \frac{210}{1+210\,(0.05^2)}$=138

Hence, 138 is accepted as a representative sample size of the target population Questionnaires were distributed to 138 Habesha breweries SC employees proportionately with respect to their department category based on the below table 3.1.

Table 3:1 Summary of Sample Size determined

Population	Departments	Population size	Sample Size
210 Employees	Logistics and Warehouse	22	$\frac{22x138}{210}$=14
	Supply Chain and Purchasing	19	$\frac{19x138}{210}$=12
	Finance and HR	42	$\frac{42x138}{210}$=28
	Sales and distribution	57	$\frac{57x138}{210}$=37
	Production	60	$\frac{60x138}{210}$=39
	IT	10	$\frac{10x138}{210}$=7
	Total	**210**	**138**

3.4. Sources and type of Data

According to William et al. (2010), there are two types of data; primary and secondary. The primary data are those which are gathered for the first time and afresh and thus collected for the case at hand (Kothari, 2004). Secondary data is defined as Data that have been previously collected for some purpose other than the one at hand. For the purpose of this study in order to obtain relevant information both primary and secondary data had used. According to Kothari (2004), a researcher has to use both types of data, primary and secondary. The necessary data for this study will be collected by using primary sources. The primary data collected from employees directly from sampled branches through questionnaires.

And the secondary data for the study will be gathered from relevant publications, text books, journals, and other published sources, which are related to the organization and study area.

3.5. Data collection methods

The primary data obtained from the questionnaires, which is answered by the respondents. A questionnaire is a form which is prepared and distributed for the purpose of securing responses (Singh, 2006). The questionnaire has a Likert scale of five measurements. Structured questionnaires developed containing close ended questions to ensure consistency, to coding the

data, and to analysis the data properly. Secondary data documentary data; which was related to Habesha breweries SC. Under this method, the researcher examined whether the data collected were reliable, suitable and adequate.

3.6. Method of Data Analysis

The information gathered, will be coded, cleaned and verified, and full questionnaires will be identified. The information is then exported to SPSS (Statistical Package for the Social Sciences) version 26 software for analysis.

To analyze and present the demographic data and to describe the data the researcher used descriptive analysis for this research. In other word, Participants' socio-demographic characteristics described using descriptive statistics. Results from descriptive statistics such as mean, standard deviation, frequency, and percentage were presented using charts/tables, graphs and textual presentation.

3.7. Data validity and reliability

3.7.1 Validity

Validity is the most critical criterion and indicates the degree to which an instrument measures what it is supposed to measure (Kothari, 2004). In this research content, the researcher used questionnaires that their validity and reliability are checked and are modified according to literatures within the specific topic. Also, an approval from advisor and other consultants were applied in order to increase the face/content validity. Prior to the actual data collection, pilot test conducted by distributing sample questionnaires to sample respondents.

3.7.2 Reliability

Reliability refers to the absence of random error, enabling subsequent researchers to arrive at the same insights if they conducted the study along the same steps again (Yin, 2003). To increase the reliability of the survey, five-scale system (Likert scale) questionnaires had been used. Reliability is essentially the dependability of an instrument to test what it is designed to test. Appropriate test done for reliability which is inter-item consistency reliability also popularly known as the Cronbach's coefficient alpha.

According to Sekaran, (2003), if the reliability coefficient

- $\alpha > 0$ .9 it will be excellent

- $\alpha > 0.8$ it will be good
- $\alpha > 0.7$ it will be acceptable
- $\alpha > 0.6$ it will be questionable
- $\alpha > 0.5$ it will be poor and
- Finally, $\alpha < 0.5$ it will be unacceptable‖.

According to the analysis result and Malhotra, Daniel, & Birks (2017) acceptable Cronbach's alpha coefficient value, the scales used within the study is found reliable and the summery of the analysis is tabulated on Table 3.2 below.

Table 3.2 Reliability analysis

SQ.	Variables	Cronbach's Alpha	N of Items
1	Top management commitment and support	0.741	5
2	IT infrastructure	0.776	5
3	System quality	0.762	5
4	User Training	0.729	5
6	Business Performance	0.729	5
7	**Overall**	**0.883**	**25**

Source: SPSS Output of the survey data, 2022

3.8 Ethical Considerations

The data will be collected from those of willingness sample respondents without any unethical behavior or forcefully action. The results or a report of the study used for academic purpose only and response of the participants is confidential and analyzed in aggregate without any change by the researcher. In addition, the researcher respects the work of past investigations or study and referred to properly those works that has been taken as a basis.

CHAPTER FOUR: DATA ANALYSIS, INTERPRETATION AND DISCUSSION

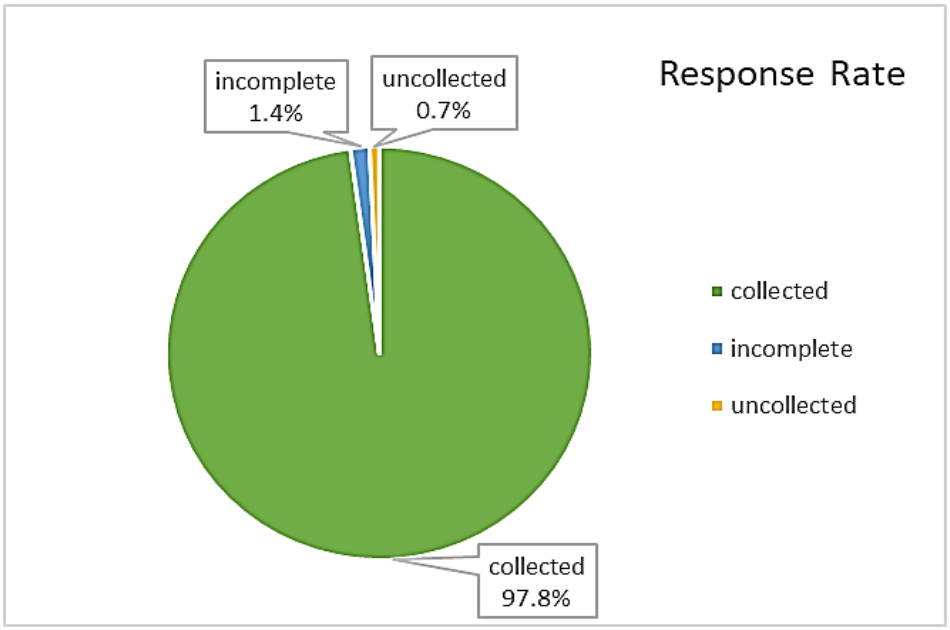
In this part, the gathered data was analyzed, interpreted and discussed. It includes the response rate of the questioner, the respondents background through frequency distribution and percentage, descriptive statistical analysis to assess the enterprise resource planning (ERP) system implementation; the case of Habesha breweries, using SPSS statistic version 26.

4.1 Response Rate and Demographic Profile of the Respondents

4.1.1 Response Rate

As mentioned at chapter three the determined sample size in the methodology, 138 questionnaires were distributed to the sampled respondents. Out of 138 distributed questionnaires 135 (97.8%) questionnaires has been filled and collected effectively. Whereas, 3 (2.2%) questionnaires of which 2 (1.4%) could not filled completely and 1 (0.7%) were not collected. Consequently, response rate was 97.8%.

Figure 4.1 Response Rate



Source: Researcher's survey data output (2022)

4.1.2 Demographic Profile of the Respondents

To obtain the general profile data of the participant employee of the Habesha breweries SC, the respondent was asked about their gender, age, educational level, and their experience in HBSC.

Table 4.1 Gender Profile of the Respondents

	Description	Frequency	Percent	Cumulative Percent
Gender	Male	101	74.8	74.8
	Female	34	25.2	100
	Total	**135**	**100**	

Source: Researcher's survey data output (2022)

From the data presented in the table 4.1 the majorities 74.8% of the respondents were male and the remaining 25.2% of the respondents were female. This specified that out of 135 respondents around 101 were male and the remaining 34 where female. This indicates that male employees have majority of share.

Table 4.2 Age Profile of the Respondents

	Description	Frequency	Percent	Cumulative Percent
Age	18 – 30	38	28.1	28.1
	31-40	66	48.9	77.0
	41-50	25	18.5	95.6
	Above 50	6	4.4	100.0
	Total	**135**	**100**	

Source: Researcher's survey data output (2022)

Likewise, as explained in the above table 4.2 the majorities 48.9% of respondents were at the age group of 31-40 years of age followed by age group of 18-30 years accounted for 28.1%. The remaining 18.5% accounted from age group of 41-50, and the low rate which is 4.4% is in the age group Above 50. Therefore, from this result the researcher understood the Employees of HBSC were young working force.

Table 4.3 Educational level Profile of the Respondents

	Description	Frequency	Percent	Cumulative Percent
Educational level	Certificate/Diploma	9	6.7	6.7

	First degree	98	72.6	79.3
	Second degree and above	28	20.7	100.0
	Total	**135**	**100**	

Source: Researcher's survey data output (2022)

Moreover, regarding educational level status of respondents the highest share 72.6% where occupied by first degree respondents. The remaining second degree and above and certificate/Diploma holder has a share of 20.7% and 6.7%, respectively. This indicates that respondents are educated to understand the aim of the research and believed to give reliable and valid response to the questionnaire.

Table 4.4 Experience of the Respondents

	Description	**Frequency**	**Percent**	**Cumulative Percent**
Experience in HBSC	1≤ years	12	8.9	8.9
	1–3 years	45	33.3	42.2
	3-5 years	55	40.7	83.0
	Above 5 years	23	17.0	100.0
	Total	**135**	**100**	

Source: Researcher's survey data output (2022)

Considering the number of services is or experience, the respondents were asked to state the length of their years of service. Accordingly, the highest share 40.7% of respondents indicate that they had a working experience of 3-5 years in the organization. While, 33.3%, 17%, and 8.9% of them had 1- 3 years' experience, >5 Years' experience and ≤1 year, respectively. Therefore, this result indicates that most of the respondents had a knowledge basis of the study area. Likewise, they were well experienced and have knowledge to evaluate the study.

4.2 Descriptive analysis

Descriptive analysis is the analysis of data that helps to describe, show or summarize data in a meaningful way. It is very important because raw data would be hard to visualize what the data was showing, especially if there was a lot of it (Kline, 2010). Descriptive statistics therefore

enable the researcher to present the data in a more meaningful way, which allows simpler interpretation of the data.

The mean statistical value approaching were based on the following assumptions: if the mean value is between (1-1.8) this implies the respondents strongly disagreed, if the mean value is between (1.81-2.6) it indicates the respondents disagreed, the mean value between (2.61-3.4) indicates the respondents were neutral, the mean value between (3.41-4.20) implies the respondents agreed and a mean value 4.21 and above shows the respondents strongly agreed (Burns, 2008). The standard deviation is a statistic that measures the dispersion of a dataset relative to its mean and is calculated as the square root of the variance. As a rule of thumb, a SD ≥ 1 indicates the distributions with a coefficient of variation relatively high, while a SD < 1 can be considered low-variance.

4.2.1 Respondents perception regarding Top management commitment and support

Table 4.5 Top management commitment and support

SQ	Top management commitment and support	N	Mean	Std. Deviation
1	The top management has provided committed leadership for ERP implementation	135	3.17	.942
2	The top management has allocated all the required resources for ERP implementation	135	2.77	.729
3	Top management was regularly updated with the implementation process progress	135	3.01	.518
4	The top management has supported the ERP implementation project positively and enthusiastically	135	2.96	.909
5	Top management of the company recognizes the need for long-term support for the implementation of ERP	135	2.80	.751
	Cumulative mean of Top management commitment and support	**135**	**2.94**	**.549**

Source: Researcher's survey data output (2022)

As table 4.5 indicates respondents were asked to rate agreement level on whether there is Top management commitment and support or not. Accordingly, the result showed that the first sub dimension "The top management has provided committed leadership for ERP implementation"

has the highest mean score of 3.17 followed by the third sub-dimension “Top management was regularly updated with the implementation process progress”, the fourth sub dimension “The top management has supported the ERP implementation project positively and enthusiastically”, and the fifth sub-dimension “Top management of the company recognizes the need for long-term support for the implementation of ERP” with mean value. of 3.01, 2.96, and 2.8, respectively.

The least means score value 2.77 is scored by the second sub-dimension “The top management has allocated all the required resources for ERP implementation”. All five mean score indicate that respondents were moderate or satisfied to some extent to all sub-dimensions. Also, their std deviation for all sub-dimension is less than 1, that indicate respondent's perception for all Top management commitment and support is close to each other.

The cumulative mean result of top management commitment and support 2.94 indicate that Respondents preferred to stay neutral or agreed only to some extent to the dimension of Top management commitment and support of HBSC. Also, standard deviation score for cumulative mean of Top management commitment and support is 0.549, which is less than 1.00, indicating that respondent's perception of the compensation and benefits is close to each other.

4.2.2 Respondents perception regarding IT infrastructure

Table 4.6 IT infrastructure

SQ	IT infrastructure	N	Mean	Std. Deviation
1	The company has availed computer for all users of ERP System	135	3.05	.766
2	There is reliable intranet connection to use ERP system for logistics activities	135	2.85	.744
3	System interruptions are fixed instantly without affecting business activities	135	3.00	.691
4	There is instant support and maintenance from system administrators when problem occurs in using ERP system	135	3.01	.863
5	IT infrastructure device are adequately protected against virus attacks	135	3.24	.717

	Cumulative mean of IT infrastructure	**135**	**3.03**	**.551**

Source: Researcher's survey data output (2022)

Regarding IT infrastructure respondents were asked five Dimension to show their agreements level. The result implies that, the fifth sub-dimension "IT infrastructure device are adequately protected against virus attacks" has relatively highest mean value of 3.24 with standard deviation of 0.817. This indicates that respondents were neutral/moderate to this sub-dimension of IT infrastructure.

The first sub-dimension "The company has availed computer for all users of ERP System" with mean value 3.05, the fourth sub dimension "There is instant support and maintenance from system administrators when problem occurs in using ERP system" with mean value 3.01, the third sub dimension "System interruptions are fixed instantly without affecting business activities" with mean value 3.0 and the second sub-dimension "There is reliable intranet connection to use ERP system for logistics activities" with mean value of 2.85, ranked from second to fifth, respectively. Therefore, this implies that that respondents were neutral/moderate to these four sub-dimensions of IT infrastructure. Also, all five sub-dimensions standard deviation is less than 1 indicating that respondents' perception is close to each other.

Accordingly, the cumulative mean result of IT infrastructure is 3.03 with standard deviation score of 0.551 indicates that the respondents were moderates or agreed only to some extent to the IT infrastructure of HBSC. The standard deviation of cumulative mean of IT infrastructure 0.551, which is less than 1.00, indicating that respondent's perception of the IT infrastructure dimension is close to each other.

4.2.3 Respondents perception regarding System quality

Table 4.7 System quality

SQ	**System quality**	**N**	**Mean**	**Std. Deviation**
1	ERP system of the company is always ready and running as necessary (always working).	135	2.83	.735
2	ERP system of the company requires only the minimum number of fields and screen to do a task.	135	2.51	.780

3	All data with in ERP system of the company are fully integrated and consistent.	135	2.70	.713
4	The capacity of the ERP system is enough for all employees to do tasks at the same time.	135	2.73	.735
5	The company ERP software has consistent user interface and appears more professional in favor of speed to the business.	135	2.41	.849
	Cumulative mean of System quality	**135**	**2.64**	**.492**

Source: Researcher's survey data output (2022)

Regarding System quality of ERP implementation of HBSC, respondents were asked five different dimensions to show their level of agreement. The results indicate that the first sub-dimension "ERP system of the company is always ready and running as necessary (always working)" has highest mean value with 2.83 and 0.735 standard deviation. The second highest mean value 2.73 and the third highest mean value 2.70 is scored by the fourth sub dimension "The capacity of the ERP system is enough for all employees to do tasks at the same time" and the third dimension "All data with in ERP system of the company are fully integrated and consistent" respectively. The above three dimensions show that respondents were neutral/moderate to the presented dimensions.

The remaining two sub-dimensions results showed that respondents' disagreement which is second sub-dimension "ERP system of the company requires only the minimum number of fields and screen to do a task" with the value 2.51 and the fifth sub-dimension "The company ERP software has consistent user interface and appears more professional in favor of speed to the business" with the mean value of 2.41. All sub-dimensions standard deviation is less than 1 indicating that respondents' perception of the sub-dimensions is close to each other.

Generally, the cumulative mean result of System quality of ERP implementation 2.64 indicates that the respondent is were moderately agree with the System quality of HBSC. Also, the standard deviation 0.492 which is less than one indicating that respondent's perception of System quality is close to each other.

4.2.4 Respondents perception regarding User Training

Table 4.8 User Training

SQ	User Training	N	Mean	Std. Deviation
1	HBSC has provided all resources required for Education and Training	135	2.73	.682
2	The training materials and method are capable enough to accomplish training objectives.	135	2.63	.759
3	The training program was handled by highly qualified consultants and trainers.	135	3.66	.880
4	The ERP System implementation training programs were properly and adequately designed for internal and external Stakeholders	135	3.45	.998
5	Training objectives are aligned to organizational objectives	135	2.65	.907
	Cumulative mean of User Training	**135**	**3.03**	**.608**

Source: Researcher's survey data output (2022)

To see the perception of respondents regarding User Training five different questions were presented to respondent. Based on the result the third sub-dimension "The training program was handled by highly qualified consultants and trainers" has relatively the highest mean value of 3.66 with a standard deviation of 0.88 followed by the forth sub-mission "The ERP System implementation training programs were properly and adequately designed for internal and external Stakeholders" with mean value of 3.45 and the standard deviation of 0.998. Mean value of 2.73, 2.65 and 2.63 is scored by the first sub-dimension "HBSC has provided all resources required for Education and Training", the fifth sub-dimension "Training objectives are aligned to organizational objectives" and the second sub-dimension "The training materials and method are capable enough to accomplish training objectives", respectively. All the above sub-dimensions mean implies that respondents were moderate/neutral. Also, standard deviation result is less than 1 indicating that respondents' perception of this dimensions is close to each other.

Generally, the cumulative mean result of User Training 3.03 indicates that respondents stayed moderate/neutral to User Training of ERP implementation of HBSC. Also, the standard deviation 0.608 is less than one, indicating that respondent's perception of User Training is close to each other.

CHAPTER FIVE: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Summary of the Findings

This study conducted to assess the enterprise resource planning (ERP) system implementation; the case of Habesha breweries. The study committed to assess four Implementation factors (Top management commitment and support, IT infrastructure, System quality, and User Training) of enterprise resource planning (ERP). To accomplish the objectives of the study, a quantitative approach. descriptive analysis was used based on the data collected from the employees of the company through a questionnaire. The total population was 210 and for sample size 138 questionnaires were distributed to the respondents out of which, 135 questionnaires were returned with a response rate of 97.8%.

Out of 135 respondents, the major share of the respondents was male 74.8% and the remaining 25.2% were Female. The largest share, 72.6% of the respondents have an educational level of first degree. Also, 48.9% of respondents age was 31-40 which holds the largest share. 40.7% of the respondents have Years of experience in Habesha between 3-5 years.

The descriptive analysis result shows that the mean score values of dimensions of the enterprise resource planning (ERP) system implementation factors (Top management commitment and support, IT infrastructure, System quality, and User Training) were moderate mean value.

5.2 Conclusion

As presented on the objective of this research at the beginning, the primary aim of this research is to identify the effect of enterprise resource planning (ERP) system implementation on business performance of Habesha breweries SC. This study intended to investigate and address four research specific objectives that are developed in this research.

The first research objective of the study was to assess enterprise resource planning (ERP) system implementation of Habesha brewery in terms of Top management support and commitment and from the finding, the researcher concludes that Top management commitment and support of ERP is implemented in HBSC to some extent (moderate level) according to respondents mean value.

The second research objective of the study was to examine enterprise resource planning (ERP) system implementation of Habesha brewery in terms of IT infrastructure and from the finding, the researcher concludes that IT infrastructure of ERP is implemented in HBSC to some extent according to respondents mean value.

The third research objective of the study was to assess enterprise resource planning (ERP) system implementation of Habesha brewery in terms of System quality and from the finding, the researcher concludes that System quality of ERP is implemented in HBSC to some extent (moderate level) according to respondents mean value.

The last and the fourth research objective of the study was to investigate enterprise resource planning (ERP) system implementation of Habesha brewery in terms of User Training and from the finding, the researcher concludes that User Training of ERP is implemented in HBSC to some extent (moderate level) according to respondents mean value.

Overall, all four-enterprise resource planning (ERP) system implementation factors, Top management commitment and support, IT infrastructure, System quality, and User Training have a significant effect on business performance of HBSC. In other word, when the outcomes of the study are considered, it can be concluded that the enterprise resource planning (ERP) system implementation plays the significant role in achieving the business performance.

5.3 Recommendations

Based on the findings of this research study and the conclusion made, the researcher makes the following recommendations, broadly, on the weak mean value of the descriptive statistics:

- Since Top management commitment and support of ERP is one of important factor for enterprise resource planning (ERP) system implementation of the company, HBSC top management should allocate all the required resources for ERP, should support the ERP implementation positively and enthusiastically, and also the Top management of the company should recognize the need for long-term support for the implementation of ERP.

- Based on the study finding, IT infrastructure of ERP is one of important factor for enterprise resource planning (ERP) system implementation of the company. Thus, there

should be reliable internet connection to use ERP system for logistics activities and System interruptions should be fixed instantly without affecting business activities.

- The study also find that System quality of ERP is one of important factor for enterprise resource planning (ERP) system implementation of the company, this suggest that to boost the System quality the company ERP software should consistent user interface and appears more professional in favor of speed to the business. Also, ERP system of the company should require only the minimum number of fields and screen to do a task.

- As a User Training is one of important factor for enterprise resource planning (ERP) system implementation of the company, the firm must focus on making capable enough the training materials and method to accomplish training objectives and align Training objectives to organizational objectives.

5.4 Further Research for the study

The researcher has proposed what areas or aspects further studies should consider.

- This study was conducted only with a few aspects of enterprise resource planning (ERP) system implementation factors, hence further research is needed by using other aspects of enterprise resource planning (ERP) system implementation that may affect the dependent variables directly or indirectly, which is not included in this study.

- Moreover, the study conducted on manufacturing firm, apart from this, other studies would be conducted to establish its significance in the other industries like service and other sector of the economy.

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Appendix

Research Questionnaire

ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

DEPARTMENT OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Dear Survey Respondents,

There is no need of writing your name

My name is Mesmak Berhe, a post graduate candidate at Addis Ababa University School of Commerce, Graduate Studies. I am conducting a research, which shall be submitted in partial fulfillment of the requirements for Master Degree in Logistics and Supply Chain Management. The purpose of this study is to understand **"assess the enterprise resource planning (ERP) system implementation; the case of Habesha breweries".**

Your willingness and cooperation in giving reliable information is well appreciated and the information you provide will be used for academic purpose and will be kept in strict confidentiality. Therefore, this is to kindly request you to take some of your precious time to fill the questionnaire at your convenience.

Your honest response and due attention are very much essential to complete the questionnaire. Please attempt to answer all the questions and tick the appropriate box that best suits your perspective for each statement.

Thank you for your cooperation!

General Instruction:

Please put right mark (√) inside the box to express your choice.

SECTION A: DEMOGRAPHIC CHARACTERISTICS

1. **Gender:**

   Male ☐ female ☐

2. **Age:**

   18 – 30 ☐ 31-40 ☐ 41-50 ☐ Above 50 ☐

3. **Educational level:**

   Certificate/Diploma ☐ First Degree ☐ Second degree and above ☐

4. **Your year of experience in Habesha Breweries S.C.:**

   ≤1 year ☐ 1 – 3 years ☐

   3 – 5 years ☐ Above 5 years ☐

SECTION B: EFFECT OF ENTERPRISE RESOURCE PLANNING (ERP) SYSTEM IMPLEMENTATION

The following list is related to ***enterprise resource planning (ERP) system implementation***. Please Tick ("√") the appropriate number to indicate the extent to which you agree or disagree with each statement. The item scales are five-point Likert type rate scales with;

1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

Sq.	Top management commitment and support	1	2	3	4	5
1	The top management has provided committed leadership for ERP implementation					
2	The top management has allocated all the required resources for ERP implementation					
3	Top management was regularly updated with the implementation process progress					
4	The top management has supported the ERP implementation project positively and enthusiastically					
5	Top management of the company recognizes the need for long-term support for the implementation of ERP					

	IT infrastructure					
1	The company has availed computer for all users of ERP System					
2	There is reliable intranet connection to use ERP system for logistics activities					
3	System interruptions are fixed instantly without affecting business activities					
4	There is instant support and maintenance from system administrators when problem occurs in using ERP system					
5	IT infrastructure device are adequately protected against virus attacks					
	System quality					
1	ERP system of the company is always ready and running as necessary (always working)					
2	ERP system of the company requires only the minimum number of fields and screen to do a task					
3	All data with in ERP system of the company are fully integrated and consistent					
4	The capacity of the ERP system is enough for all employees to do tasks at the same time					
5	The company ERP software has consistent user interface and appears more professional in favor of speed to the business					
	User Training					
1	HBSC has provided all resources required for Education and Training					
2	The training materials and method are capable enough to accomplish training objectives.					
3	The training program was handled by highly qualified consultants and trainers.					
4	The ERP System implementation training programs were properly and adequately designed for internal and external Stakeholders					
5	Training objectives are aligned to organizational objectives					