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Management Practices for Enhancing Operational Efficiency: A Comparative Analysis on Selected Bottled Water in Gurage zone.

MBA Thesis

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Management Practices For Enhancing Operational Efficiency: A comparative analysis on selected bottled water companies in Gurage zone.

A Thesis Submitted To the School Of Graduate Studies MBA Program in Partial Fulfillment of the Requirement for the Degree of Master in Business Administration (MBA)

By **Abreham Getahun**

Advisor: Abas Mohammed (Ph.D.)

DECLARATIONS

School Of Graduate Studies

I hereby declare that this thesis entitled "***Management practices for enhancing operational efficiency****: A comparative analysis on selected bottled water companies in Gurage zone",* has been Carried out by me under the guidance and supervision of Main Advisor **Abas Mohammed (Ph.D.)**

By:

_____	_____	_____
Name of Student	Signature	Date

CERTIFICATE

This is to certify that the thesis entities "Management practices for enhancing operational efficiency: A comparative analysis on selected bottled water companies in Gurage zone", Submitted to Wolkite University for the award of the Degree of Master of Business Administration (MBA) and is a record of Valuable research work carried out by Mr. Abreham Getahun Ashagrie, under my guidance and supervision

Main Advisor	*Signature*	*Date*
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EXAMINERS APPROVAL SHEET

We, undersigned members of the board of examiners of final open defenses Abreham Getahun have read and evaluated his thesis entitled ‘‘Management practice for enhancing operational efficiency: A comparative analysis on selected bottled water companies in Gurage zone’’, and examined the candidate. This is therefore, to certify that the thesis has been accepted in partial fulfillment of the required for the degree master’s in business administration.

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Final approval and acceptance of the thesis is contingent up on the submission of the final copy of the thesis to the school of graduate studies (SGS) through the school graduate committee (DGC/SGC) of the candidates department.

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ABSTRACT

*The Ethiopian bottled water industry, particularly in Gurage Zone, has experience rapid expansion, yet inefficiencies in management hinder optimal operational performance. This study examines the impact of human resource management (**HRM**) supply chain management (**SCM**), and customer relationship management (**CRM**) on operational efficiency in selected bottled water manufacturing companies Eden and Fikr. Using a comparative analysis approach the study employs descriptive statistics, regression analysis and ANOVA tests to access how management practices influence productivity, cost reduction and overall performance. Findings indicate that **SCM** has the strongest correlation with operational efficiency, followed by **CRM** in Eden and **HRM** playing a minimal role in both companies. The study highlights the importance of optimized supply chain networks, improved workforce management and effective customer interactions it driving efficiency. It concludes with recommendations for strategic managerial improvements to enhance competitiveness and performance in Ethiopia's bottled water sector.*

Key Words: **Human resource management, Supply chain management, Customer relationship management.**

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LIST OF ACRONYMS

OE- operations efficiency

HRM- human resource management

KPIs- Key Performance Indicators

CRM- Customer relationship management

SCM- Supply chain management

JIT- Just in time

Q1-22**-** Questions

ANOVA- Analysis of variance

CHAPTOR ONE

1. INTRODUCTION

1.1Background of the study

Enhancing operational efficiency starts with process refinement. Processes are at the core of operations. Without diving deep into how work is organized and understanding what's driving day-to-day operations, any improvements to the operational strategy will be pulled out of thin air and ineffective shortly. As numerous studies show, the real culprit to operational efficiency in a services business is repeated non-billable work and lack of structure. Not only do they consume too much time that can't be recovered, but they also stand in the way of successful project delivery (december, 2024)

Improving operations is not a one-and-done initiative. It is a combined effort that calls on Directors of Operations to optimize processes, people, financials, and technology. There's no universal remedy that can make up for a scalable business model and turn the company into a well-oiled machine overnight. Eventually, the financial viability of projects and services depends on the balance of all elements and is the result of continuous improvement (december, 2024).

The bottled water industry is one of fastest growing industries in the world, with a global market value of $185 billion in 2023, and an expected growth rate of 8.5% from 2023 to 2028. The bottled water industry in Ethiopia is also expanding rapidly, with more than 100 registered companies producing and distributing bottled water across the country. However, the industry faces several challenges, such as water scarcity, quality standards, regulatory compliance, distribution costs, and customer preferences. (iryna-viter, 2021).

Therefore, it is essential for the bottled water companies in Ethiopia to adopt and implement effective management practices that can enhance their operational efficiency and performance. Management practices refer to the methods, techniques, and tools that managers use to plan, organize, direct, and control the activities and resources of a business. Management practices can be categorized into three main areas: human resource management, supply chain management, and customer relationship management (Regassa, 2019).

Human resource management (HRM) is the process of managing the people who work for a business, including recruitment, training, motivation, compensation, performance appraisal. HRM

can affect the operational efficiency of a business by influencing the productivity, quality, and innovation of its employees (Anon-ch, 2014).

Supply chain management (SCM) is the process of managing the flow of materials, and money from the suppliers to the customers, including, production, inventory, transportation, and distribution. SCM can affect the operational efficiency of a business by influencing the cost, speed, and reliability of its operations (Anon-ch, 2014).

Customer relationship management is the process is the process of managing the interaction and relationships with the customers, including marketing, sales, service, and. CRM can affect the operational efficiency of a business by influencing the satisfaction, and profitability of its customers (Krishna, 2016).

The purpose of this research paper is to conduct a comparative analysis of the management practices for enhancing operational efficiency in the selected bottled water company in Gurage zone, Ethiopia. Gurage zone is one of the 8 zones of the central regional state of Ethiopia, with a population of about 1.8 million people and an area of about 5,500 square kilometers. Gurage zone is known for its agricultural potential and its cultural diversity. The bottled water industry in Gurage zone is relatively new and emerging, with several companies operating in the area, such as Gurage Mineral Water, Gurage Spring Water, Gurage Natural Water, and Gurage Pure Water.

1.2. Statement of the problem

Operational efficiency is a critical factor for business success, particularly in manufacturing industry, cost optimization, and customer satisfactions are key determinant of competitive advantage (read, 2024). The bottled water industry in Ethiopia, particularly in Gurage zone is growing rapidly, yet faces several challenges, including inefficient management practices, supply chain disruptions, and customer relationship gaps (Misganaw, 2022).

Despite the increasing demand for bottled water companies struggle with maintaining consistency in production reducing wastage, and improving customer satisfaction. Existing literature emphasizes that effective management practices namely human resource management (HRM), supply chain management (SCM), and customer relationship management (CRM) - play a vital role in enhancing operational efficiency (Awol, 2020).

However comparative analysis on Ethiopian bottled water companies remains limited, making it essential in selected companies. This research seeks address this gap by evaluating how HRM,

SCM, and CRM influence operational efficiency in Eden and Fikr bottled water companies in Gurage Zone.

1.3 Research Question

- What is the effect of human resource management practices on the operational efficiency of selected bottled water companies in Gurage zone?
- Water is the key factors of supply chain management that impact the operational efficiency of selected bottled water companies in Gurage zone?
- How do customer relationship management practices influence the operational efficiency of selected bottled water companies in Gurage zone?

1.4 Objectives

1.4.1 General objectives:

- To examine the management practices for enhancing operational efficiency in the selected bottled water companies in Gurage zone.

1.4.2 Specific objectives:

- To examine the effect of human resource management practice on operational efficiency of selected bottled water companies in Gurage zone.
- To identify the key factors of supply chain management on operational efficiency of selected bottled water companies in Gurage zone.
- To evaluate customer relationship management practices on the operational efficiency of research hypothesis.

1.5 significance of this study

There are several important reasons why comparing management approaches is important for improving operational efficiency, especially when looking at the selected bottled water companies in Gurage zone Ethiopia.

The study aims to discover best practices that other companies in the industry might implement to enhance their operations by conducting a comparative analysis of the selected bottled water companies in Gurage zone Ethiopia. The findings can guide strategic decisions, improve resource optimization, reduce waste and cost, and increase employee engagement and customer satisfaction.

By applying the best management techniques found through the comparative study, the factories can obtain a competitive advantage and achieve sustainable growth. The study can show how management practices affect customer service and product quality, which are key factors for customer loyalty. The study can also help the factories understand how management practices influence worker satisfaction and productivity, which are essential for a more driven and effective staff.

The study will offer suggestions for possible enhancements in management techniques to increase operational efficiency at both facilities based on the results of the comparison investigation. The information gathered and examined for the study will serve as the foundation for these recommendations.

1.6 The scope of the study

The scope of this study is to conduct a comparative analysis of the management practice for enhancing operational efficiency in the selected bottled water companies in Gurage zone, Ethiopia. The study focused on three main areas of management practices: human resource management, supply chain management, and customer relationship management. The study was also examine how these management practices affect the operational efficiency of the bottled water companies, measured by indicators such as time, money, labor, materials to maximize output.

The study used surveys to collect data from managers, employees, and customers of the bottled water companies. The study used descriptive, and gap analysis to analyses the data and compare the management practices and operational efficiency of the selected bottled water companies. The study was conducted in Gurage zone one of the six zones and two special districts of in the central regional state of Ethiopia. Gurage zone has a population of about 1.8 million people and an area of about 5,500 square kilometers. Gurage zone is known for its agricultural potential and its cultural diversity. The bottled water industry in Gurage zone is relatively new and emerging, with several companies operating in the area, such as Fiker Mineral Water, Eden Spring Water, Tsedey Natural Water, Waw Pure Water, and Girar Bottled Water.

1.7 Limitation of the study

The study has several limitations, such as the lack of generalizability to other sectors, the scarcity of data, the possibility of bias, the narrow scope, the omission of external factors, the time constraints, the challenges of comparative analysis, and the absence of qualitative data. These limitations affect the validity and reliability of the findings and the implications for the natural spring water industry.

1.8 Definition of Terms

Management Practices: The strategies, plans, and tactics used by an organization's management to achieve its goals are known as management practices. This can include leadership philosophies, decision-making processes, resource distribution, and organizational structure.

Operational efficiency: Operational efficiency is the ability of a company to minimize waste and maximize output, productivity, and performance in day-to-day operations. This could mean streamlining processes, maximizing the use of resources, and reducing costs without compromising quality.

Comparative Analysis: A method of identifying patterns, trends, and similarities by contrasting and comparing multiple things or variables. Here, it contrasts the operational efficacy and management approaches of Eden and Fiker Natural Spring Water Factories.

Key Performance Indicators (KPIs): Measurable measures, such as productivity growth, cost reduction, and quality improvement, are used to evaluate how effectively a company performs in achieving its strategic and operational goals.

Continuous Improvement: A systematic approach that enhances organizational performance and operations through ongoing innovation and minor modifications (Andrea Fronzetti, 2013)

1.9 Organization of the study

The study of the proposal currently addresses five chapters. Those five chapters consist of a content, chapter one contains the background of the study, the problem statement of the study, the research question, the objective of the research, the hypothesis, significance the study, the scope of the study limitation of the study, definition of terms. Chapter two: a literature review of the theoretical framework of the study, empirical framework of the study, and conceptual frame work of the study. Chapter three: research design and methodology, description of the study area, research design, type of data, source of data, data collection, population, Sampling size, Data Analysis, Data quality control (procedure), Reliability, Ethical Considerations. Chapter Four Respondent, Association between HRM, SCM, CRM and Operational efficiency, ANOVA test Normality test, linearity test, linear regression model of the study, discussion of the study, comparative analysis of the model between two companies. Chapter five addressed conclusion recommendation, direction for future researcher and limitation of the study.

CHAPTER TWO

LITERARURE REVIEW

2.1. Theoretical literature review

Management is the social process of an enterprise's managers integrating and coordinating resources toward the achievement of common, explicit goals. During the past six decades, it has become a distinct discipline with a body of knowledge. Organizational efforts for common goals can be traced back to the beginning of management as an art form (Smirti, 2021).

The profession of management has also evolved in recent decades. Large and medium-sized enterprises in India and elsewhere are typically managed by professionals – managers with little or no ownership of the enterprise and who view management as a career (Smirti, 2021).

The term 'management' refers to the process of planning, evaluating, organizing, leading, motivating, and controlling the human, financial, physical, and information resources of an organization to meet its objectives. By focusing on the use of available resources, such as financial resources, natural resources, technological resources, and personnel resources, management involves establishing the strategy of an organization and coordinating the efforts of its employees (or volunteer workers) to meet its objectives (Smirti., 2021).

In addition to selecting the organization's strategy, administration activities involve coordinating the efforts of staff members to meet these objectives. An organization's seniority structure can also be defined as management. You'll need a certain set of skills in order to function as an effective manager, including planning, communication, organization, and leadership. In addition to having a thorough understanding of the company's goals, you will also need to be able to direct employees, sales representatives and other operational functions to accomplish these goals (Smirti., 2021)

2.1.1 Supply chain management practice

The flow and transformation of goods and services from the stage of raw materials to the point of final use, as well as the information flows involved, are all included in the supply chain. Decisions must be made on what to manufacture, what to buy, where to get it, how much it will cost, and how

to deliver it from the supplier to the final consumers at the lowest feasible cost and on schedule. Compared to services, it is more important for the manufacturing and delivery of commodities. Aligning the upstream material flow with downstream distribution is one of the company's primary goals in order to adapt to fluctuating client demand without incurring expensive surplus inventory.

All supply chain operations, including those involving suppliers, manufacturers, distributors, retailers, and customers, depend on information. Throughout the supply chain, online communication is made possible by computer and real-time technologies. These days, bar code, the internet, electronic data exchange (EDI), electronic business, and the World Wide Web are some of the most widely used information technology applications for supply chain management.

The effectiveness of an organization's operational management is one of the main elements that can influence its success in the food and beverage sector (Islam, 2024). Operations management is the foundation of every business in the food and beverage sector. Efficiency in operations is a vital element that influences a company's success in terms of productivity, product quality, customer satisfaction, and profits. In facing global challenges, including fluctuations in raw material prices, changing demands, and increasingly high consumer demands, companies must continue to adapt and improve their operational efficiency (Kediri, 2023).

The food and beverage industry is a sector that attracts the attention of many people around the world. In an era, full of change and intense competition, companies in this industry are faced with challenges to stay relevant and excel (Kediri, 2023).

Improving operational management efficiency is not just an option but a necessity to maintain competitiveness in a rapidly changing market (Grewal, Saini, 2017). By optimizing production processes, inventory management, customer service, and utilization of technology, companies can reduce operational costs, increase speed and accuracy in service, and improve the quality of products served to customers (Kediri, 2023).

That study seeks to explore several strategies and steps that can be taken by companies in the food and beverage industry to improve the efficiency of their operational management. From the use of advanced technology to employee training, we can see how each of these elements can contribute to business success and sustainability in a competitive environment. Through innovative steps and continuous improvement, companies in the food and beverage industry can create a strong foundation to achieve sustainable growth. Along with the evolution of consumer needs and technological developments, efforts to improve operational management efficiency must be a top priority for every stakeholder in this industry (Kediri, 2023).

The management in any organization is the highest decision-making body of the organization and it is responsible for the maintenance, development, and allocation of available resources to attain the goals and objectives of the organization. Management is responsible for making better plans that will ensure the survival of the organization industry. The study was also done by (Fatma Zerah Tan, 2022).

According to (Law, J, 2016), demand anticipation is one operational component of a supply chain's ability to be responsive to shifts in consumer demand and be able to predict the actual output. Most companies project their sales based on shipment or sales data from prior years; therefore, they are forecast-driven rather than demand-driven. Rao et al. (2014) claim that while there are many reasons for uncertainty in practice, aligning supply with demand would be much simpler if demand were known with certainty.

2.1.1.1 Inventory management

Inventory management ensures that the company has sufficient inventory to meet customer demand. By regularly monitoring stock and using inventory management software, companies can avoid stock shortages that can lead to customer disappointment and lost sales. By managing inventory properly, companies can optimize the time to procure raw materials and avoid excess inventory. This helps reduce purchasing costs and avoid waste that can hurt the company's finances. Efficient inventory management helps companies better manage production and distribution. Companies can plan production according to customer demand and avoid production downtime due to raw material shortages. By having sufficient and consistently available inventory, companies can provide better customer service. Customers will feel prioritized and more satisfied with the services provided (Kediri, 2023).

In the food and beverage industry, some products have a limited shelf life. Good inventory management helps companies avoid having products in stock that are about to expire, thereby reducing waste and potential losses. By managing inventory properly, companies can improve logistics efficiency. Using inventory management software can help optimize shipping routes and reduce shipping costs. Efficient inventory management requires accurate and up-to-date data analysis. Collected inventory data can be used to make smarter decisions in inventory planning and management. In the food and beverage industry, where customer needs and demands can change quickly, efficient inventory management is the key to staying competitive and sustainable. By regularly monitoring stock, reducing waste, and using inventory management software, companies

can optimize procurement, production, and distribution processes, creating more efficient and profitable operations (Mentzer, et al., 2001).

2.1.2 Human Resource Management

2.1.2.1 Employee training and development

Well-trained employees tend to be more productive in carrying out their tasks. They have the knowledge and skills needed to get the job done more efficiently and on time. Well-trained employees will optimize the use of company resources, including raw materials, equipment, and working time. This helps companies reduce waste and increase the efficiency of resource use. Proper training in customer service enables employees to interact with customers effectively. They can better understand customer needs, provide appropriate solutions, and provide a positive customer experience. Employee training in occupational safety and security helps reduce the risk of an accident or injury in the workplace. Properly trained employees will know how to avoid dangerous situations and follow safety procedures properly. In the dynamic food and beverage industry, employees are often faced with different challenges. Well-trained employees have the skills and knowledge needed to solve problems better and deal with complex situations. Providing proper training to employees can increase their sense of attachment and loyalty to the company. Employees who feel supported and valued will tend to be more committed to making the best contribution to the company. Food and beverage companies often face changes in market trends, technology, or regulatory requirements. Well-trained employees adapt more easily to these changes and help companies stay relevant and sustainable. Employee training must be a strategic investment for companies in increasing operational efficiency and achieving business goals. By providing the right training, companies can build a team that is competent and ready to face existing business challenges, thus creating a strong foundation for long-term success in this competitive industry (Fatma Zerah Tan, 2022).

Fatman Zerah suggest that the employees of any organization have been seen as the most critical factor and most valuable assets and a vital key to the success of any organization. It has been established that employees are the life wire in any organization and their input is of critical importance to the continued growth and survival of the organization. The study done by (Albrecht, et al, 2015) examined employee engagement, human resource management practices, and competitive advantage in some selected firms. The study was able to justify the need to build robust

employee engagement. The study done by (Fatma Zerah Tan, 2022), examined the influence of organizational learning on employees' innovative behavior and work engagement.

2.1.3 Customer Relation Management Practice

Customer Relationship Management (CRM) is the process of managing all aspects of interaction a company has with its customers, including prospecting, sales and service. CRM applications attempt to provide insight into and improve the company/customer relationship by combining all these views of customer interaction into one picture.

Parvatiyar and sheth (2001) defined CRM is a comprehensive strategy and process of acquiring, retaining and partnering with selective customers to create superior value for the company and the customer.

According to Gartner, CRM is a business strategy designed to optimize profitability, revenue, and customer satisfaction‖. Customer Relationship Management is the establishment, development, maintenance and optimisation of long-term mutually valuable relationships between consumers and organizations. – CRM (UK) Ltd (2002)

According to Philip Kotler and Gary Armstrong, 'CRM is concerned with managing detailed information about individual customers and all customer "touch points" to maximise customer loyalty. It can also be defined as, 'an alignment of strategy, processes and technology to manage customers, and all customer-facing departments and partners'.

"The intangible bond between customers and the business is known as the customer relationship. "In order to improve customer happiness, competitive advantage, profit, and the organization's reputation, banks can use customer relationship management to examine their profitability, client needs and profiles, and profit potential area.

2.2 Empirical Review

There is a growing literature that studies empirically the impact of management on productivity.

The importance of management has long been recognized in the literature on production, productivity, and efficiency though its importance is not yet fully recognized in the mainstream economics literature which argues that there is no need to treat management separately because competition would weed out bad management swiftly (Inda Sukati, 2020). However, there is no empirical evidence for such a hypothesis. Large numbers of studies have found that differences in firm performance persist over time and the inability to adopt best management practices is a likely cause (Inda Sukati, 2020).

Inda Sukati examined the relationship between management practices and operational performance. The results of the empirical evidence of this article show that there is a meaningful relationship between them. Companies, that wants to be the most competitive companies against their competitors in their sector in the market, have to use active management as a gun that enhances their organizational performance and makes them leaders of the market (Inda Sukati, 2020)

Inda Sukati (2020) suggests it is unlikely that there exists a one-size-fits-all set of Productivity-enhancing management principles or practices. (Inda Sukati, 2020) Build upon this contingency approach, stating that the success of management practices is firm-specific and is affected by the prevailing institutional environment.

Wood and Wall investigate the link between management practices and productivity or performance and have assessed the impact of individual practice in isolation, the effects of joint adoption of practices, and the impact of clusters or systems of complementary practices (Inda Sukati, 2020)

The studies found in the literature have predominantly reported a positive effect of using management practices although it needs to be ensured that costs for introducing and maintaining these practices do not outweigh their benefits. Empirical evidence suggests that unionization is an important mediator for the success of management practices (Inda Sukati, 2020).

SCM practices consist of multi-dimensional construction which includes integration between companies and suppliers or upstream and integration between companies and customers or referred to as the downstream SC and integration that occurs within the company itself, such as integration between departments within the company (Jabbar, October 2021) Stated that outsourcing, company partnerships with suppliers, sharing of information in the SC, cycle time, concretion and all flows within SC, for example the flow product, the flow of information and the flow of financial, are a part of SCM practices. While (Inda Sukati, 2020) Stated that SCM practices also included the quality of products and services, purchasing activities, and fostering relationships with customers. An important aspect of SCM practices according to Indan Sukati. R was supply chain integration both inward integration and outward integration, information sharing in the SC and customer service management.

The aim of SCM practices is to build an organizational network between upstream organizations and downstream organizations as activities to produce more customer value in the term of improving the quality of products and services for end consumers. (Inda Sukati, 2020) Suggested that SCM practices need to involve an integrated approach to design,

(Dr. Ilkka Sillanpää, 2011) State that there should be several kinds of measures to be used in performance metrics: balanced approach, strategic, tactical and operational levels and financial as well as non- financial measures. SCM could be measured in various management or operation levels. Strategic level measures influence the top management decisions and also very often reflect the investigation of broad based policies and level of adherence to organizational goals. The tactical level deals with resource allocation and measuring performance against targets to be met in order to achieve results specified at the strategic level. Operation level measurements and metrics require accurate data and decision is made by low level managers. In operational level, metrics are relevant for day to day business and hence the main metrics are time related and non-financial metrics. Non-financial metrics include such as order lead time and delivery lead-time. Many of these metrics are time-related but also cost-related. These metrics are for top management for making strategic decisions as well as long-term plans and strategies.

(Adonay Habtu, 2024) One the major reasons organization apply BPR is to come up with a radical change in performance. But as stated by Hammer 70 percent of organizations that applied BPR have a failure history. If we look at the Ethiopian cultural context, Ethiopian culture is characterized by a risk adverse behavior. Such behavior cannot go in line with the radical change behavior of the Ethiopian civil service organizations. These problems are also further complicated by rigid nature of public institutions in the Ethiopian context. Consequently, an incremental or gradual change is more appropriate in the Ethiopian context. In this regard Adonay Habtu and Tewelde Mezgebo research shows that "considering the human resource and the technological capacities of Ethiopian civil service organizations, BPR can bring incremental benefit and evolutionary transformation instead of dramatic and radical change for foreseeable future to come" (Adonay Habtu, 2024).

In addition to the radical nature of BPR initiatives they also demand an exclusive top down approached for achieving radical change. Peppard & Fitzgerald, (1997) However due collective nature of the Ethiopian culture any change or transformation needs a nationwide support. That is way many BPR initiatives in Ethiopia are nor successful (Adonay Habtu, 2024). (These can be supported by research findings) "Since 2004, based on the general direction of the Ministry of Capacity Building, most federal civil service organizations have directed their efforts and resources towards implementing BPR. Though many claimed success, only few, for example, the Ministry of Trade and Industry, have slightly improved their efficiencies of service provisions

The (Adonay Habtu, 2024) BPR initiative demands multi-disciplinary, skilled, highly qualified, flexible and self-motivated employees who embrace responsibility and are willing to continuously

learn and expand their skill set. Concepts such as empowerment, teamwork and continuous learning are all at the core of the reengineering philosophy. (Ibid) Given the prevailing realities such as- very insignificant salary level, limited training and development opportunities, unfavorable working environment, and general nepotism and patronage dominated civil service environment, it is far from reality to expect such human resource pools in the Ethiopian public organizations (Adonay Habtu, 2024).

2.3 Conceptual Framework

2.3.1 Customer relationship management

Anyone working in sales, customer service, business development, marketing, recruiting, or any other department can better manage the relationships and external contacts that are essential to success with the help of a CRM system. With the help of a CRM solution, you can keep track of customer and prospect contact details, spot sales possibilities, document customer care problems, and run marketing campaigns in one convenient area. You can also make information about every customer interaction accessible to anybody in your organization that might require it (V. Ilango, 2018).

Collaboration is facilitated and productivity is raised with visibility and simple access to data. Every employee in your business has access to information about your clients, including how they have been contacted, what they have purchased, when they last made a purchase, how much they have paid, and much more. CRM can be particularly helpful to small businesses, where teams frequently need to figure out how to accomplish more with less, but it can assist companies of all sizes achieve business growth.

(V. Ilango, 2018) States that there is less time for everything else when there is more administration. A flurry of data can be produced by an engaged sales staff. While on the road, representatives speak with clients, meet with potential clients, and gather important information; but, too frequently, this information is saved on handwritten notes, laptops, or in the minds of your salespeople.

2.3.2 Human resource management

Human Resource Management focuses on principles, methods, and technologies that are used to improve the productivity of an organization. HR specialists achieve this through strategies and policies that increase the effectiveness of employees. The employees or staffs are also referred to as the human capital, the lifeblood and the most important resource of most organizations. There are

several different focus areas in human resources: Recruiting and staffing compensation and benefits training and learning labor and employee relations organization development depending on your role and the size of the company for which you work, your tasks might focus just on one area or multiple ones (Jabbar, October 2021).

2.3.3 Supply chain management

Businesses constantly strive to make their supply chains as cost-effective and efficient as possible through supply chain management. SCM usually aims to link or centrally manage a product's production, shipping, and distribution. Businesses can reduce unnecessary expenses and stages in the supply chain and expedite product delivery to customers by managing the chain. This is accomplished by maintaining stricter control over internal production, sales, distribution, and inventory as well as vendor inventories.

The company uses its people and machines to turn the components or raw materials it has acquired from its suppliers into something new at this crucial point in the supply chain management process. Although it is not the last phase of supply chain management, this finished product is the ultimate objective of the production process.

Assembling, testing, inspecting, and packing are some of the subtasks that make up the manufacturing process. Businesses need to be aware of waste or other elements that could cause them to stray from their initial plans during the manufacturing process.

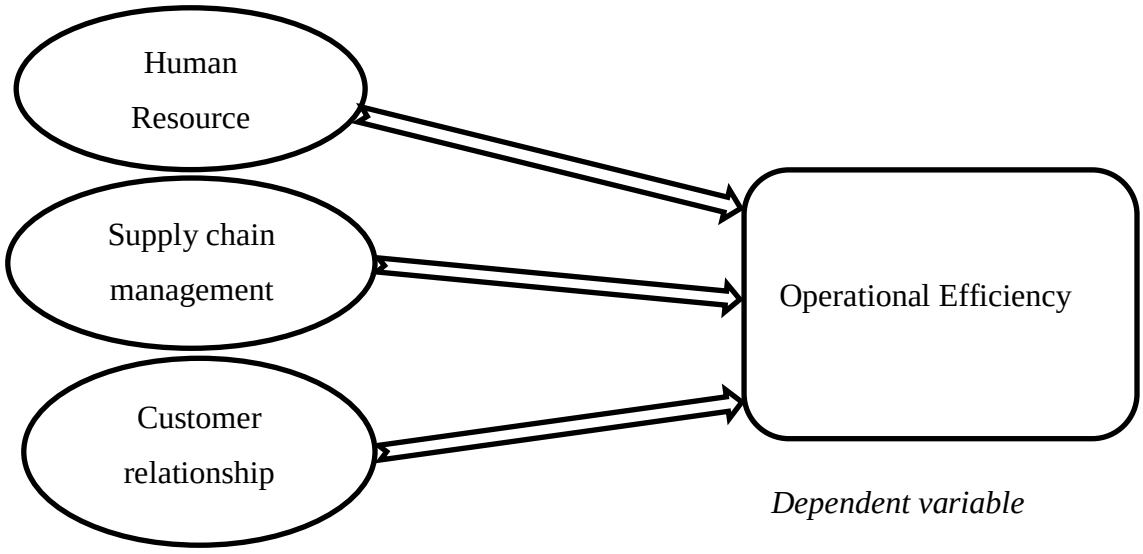


Figure 1: conceptual framework of the study (Developed from review of literature 2024)

CHAPTER THREE

3. RESEARCH DESIGN AND METHODOLOGY

3.1 Description of the study area

The study area of the research is Gurage zone. Gurage zone, located in Central Regional State of Ethiopia, served as the research's subject region. Gurage people, a Semitic-speaking ethnic group with a variety of cultural and linguistic roots, lived in Gurage zone. Gurage Zone shared borders with Hadiya and Yem Zone to the southeast, Kebena Special Woreda to the northwest, Oromo Region to the north and east, and Silt'e to the southeast. Mount Gurage, which reaches 3,600 meters above sea level, was its highest peak. According to 2007 census, there are 1,280,483 people living in Gurage zone.

Gurage zone is renowned for its semi-mountainous, fertile terrain, which has supported a range of agricultural pursuits, including the production of cereals, enset, livestock, and bees. Gurage zone as well with numerous rivers, forests, and wildlife resources, Gurage zone also boasted a rich and varied natural environment. The ecological and economic viability of Gurage zone is threatened by a number of issues, including soil erosion, deforestation, water scarcity, and climate change.

The bottled water industry in Gurage zone was relatively new and emerging, with several companies operating in the area, such as Fiker Spring Water, Tsedey spring water, Eden natural water, and Girar, and Waw spring water. These companies produced and distributed bottled water to various markets, both within and outside the zone. The bottled water industry in Gurage zone had the potential to contribute to the economic development and social welfare of the region, by creating employment opportunities, generating income, and providing safe and clean water to the consumers. However, the bottled water industry in Gurage zone also faced several challenges, such as quality standards, regulatory compliance, distribution costs, and customer preferences, which require effective management practices to enhance its operational efficiency and performance.

Each factory's management team was in charge of supervising the manufacturing process, guaranteeing quality control, handling human resources, and putting operational plans into action to increase productivity and efficiency.

To determine best practices for improving operational efficiency in the natural spring water sector, the study area for this comparative analysis is concentrated on the management and operational processes inside the selected bottled water companies in Gurage zone.

3.2 Research Design

The researcher used a descriptive research design, which focuses on systematically gazering and analyzing data to understand and compare management practices that enhance operational efficiency in selected bottled water companies' in Gurage zone. This design is well suited for conducting comparative analyses and identifying trends, gaps with the selected firms.

3.3 Research Approach

The research approach, the study employed a quantitative research approach. This means the researcher collected numerical data for a sizable sample using observations interviews, and secondary data sources. The study then applied descriptive and inferential statistics such as regression analysis and ANOvA to evaluate hypothesis and answer research questions

Using numerical data and statistical analysis, a quantitative research approach was employed to assess the management practices and operational efficiency of a selected of bottled water companies in the Gurage zone.

3.4 Sampling size

To conduct a comparative analysis of management strategies aimed at improving operational efficiency in the case study of the selected bottled water companies in Gurage zone, a subset of employees, managers, and stakeholders from selected bottled water companies should be chosen by probability sampling approaches. Techniques like random sampling were used in this.

To achieve this, a statistically determined sample size with a 95% confidence level and a 5% margin of error was assumed. Considering the probable margin of error and the degree of confidence. The study employed Yemane Taro's (1997) sample size determination formula to handle the data. Yemane states that the sample size has been declining with a range interval of 5% of the error term if the error term grows. Because of this, the choosing samples that represent 5% of the error term because it would have been challenging to choose more samples within the allotted time.

Where: N (total population)

n (sample size)

e (error term)

$n=N/ [1+Ne2]$

N=565 (total population of both two manufacturing companies)

$n=565/1+565(.05)^2$,

n= 234

3.5 Population

The study consists of **222** respondents from both two bottled water manufacturing companies, which means that out of **234** respondents**, 222** respondents give their own feedback to the researcher. From Eden bottled water manufacturing firm out of **136, 129** respondents were filled the questionnaires properly, whereas from Fikr bottled water manufacturing firm out of **98, 93** respondents were filled properly. The sample consists of respondents like Managers, and Employees, from the manufacturing industry, and it was essential to have their perspectives to comprehend the operational effectiveness and management practices at each establishment.

3.6 Source of data

Primary and secondary data combined can provide a comprehensive and balanced view of the management practices and operational efficiency of the selected bottled water companies in Gurage zone. This combination also enhanced the validity and reliability of the findings, as well as addressed the limitations and biases of each type of data.

The researcher used for this study both primary and secondary source of data. Primary source of data is obtained through questionnaire that collected from employees and managers of selected firms. Secondary source of data was gathered from published literatures, and empirical studies, books, journal articles, internet and web site.

3.7 Method of Data Collection

The main method of data collection for this study was questionnaire and interview to collect data. The questionnaires were directly distributed and collected from the respondents of selected firms. Semi structured interview was conducted for the human resource managers of both selected bottled water companies in Gurage zone. Most of the respondents education levels were high school complete, TVT certified, diploma for this the question designed in both English and Amharic language this is to utilize those who cannot clearly understand English language so they respondent easily, in both procedures the researcher collected data about the management practices to enhance operational efficiency, name as human resource management, supply chain management and customer relationship management as dependent and independent variables.

3.8 Reliability

Testing the scale's reliability is crucial before using statistical methods since it demonstrates how consistently a scale yields results when measurements are taken frequently. Finding the correlation between scores from various scale administrations is how this is accomplished. The scale is dependable if the correlation is high since it consistently produces findings. Cornbach's alpha is a reliability coefficient. It is frequently employed to gauge the reliability or interval consistency of a psychometric test result for a sample of examinees. Lee Cronbach gave it its original name in 1951 because he planned to add more coefficients.

The Kunder-Richardson formula 20 (KR-20), an analogous measure for dichotomous items, can be seen as an extension of the Measclres. Coefficients of 90 or above are therefore almost always acceptable, 80 or higher are acceptable in the majority of circumstances, and 70 may be appropriate in certain exploratory investigations for certain indices, according to Lombard (2010). As a result, the researcher examined the reliability of 32 of the items created for respondents by taking into account the previously given literature. Additionally, the data reveals that the reliability was goods, indicating that they were both acceptable and dependable. According to Lombard Always accept coefficients of 0.7 or above.

Table 3.1 Reliability Statistics Items

Variables	No of Items	Cronbach's Alpha
Human resource management (HRM)	7	.767
Supply chain management (SCM)	8	.812
Customer relationship management (CRM)	7	.717
Operational efficiency (OP)	10	.738

Source: Own data manipulation (2025).

3.9 Data Analysis

The researcher used several data analysis methods to examine management practices and their impact on operational efficiency in the bottled water companies in Gurage Zone. These methods include:

Descriptive statistics: used to summarize demographic characteristics and management practices, presenting data in tables and percentages.

Inferential statistics: applied techniques such as regression analysis, ANOVA, and correlation analysis to identify relationships between independent variables (HRM, SCM, and CRM) and operational efficiency.

Reliability testing: used cronbach's alpha to measure the consistency of the questionnaire responses.

Multiple Regression Analysis: develop a statistical model to predict operational efficiency based on key management practices.

These approaches helped the researcher systematically evaluate the impact of different management practices on operational efficiency of the bottled water companies.

3.11 Model Specification

The dependent variable (operational efficiency) and the independent variables (CRM, SCM, and HRM) formed the foundation of the model. Regression analysis was used in this study with the primary goal of improving the study's ability to describe, comprehend, and forecast the variables that were mentioned. Three independent variables and one dependent variable were used to create the regression model that follows.

$Yi = \beta 0 + \beta 1X\ 1 + \beta 2\ X2 + \beta 3X3 + Ui$

Where: Y is dependent variable operational efficiency.

$\beta 0$ = Constant term

the independent variables were X 1 = HRM, X 2 = SCM, and X 3 = CRM.

Ui = Error word or disturbance

the coefficient of independent variables is equal to **β 1, β 2**, and **β 3**.

Consequently, the following correlations were explained using this statistical method. Use multiple regressions (CRM, SCM, and HRM) to regress operational efficiency (as the dependent variable) in the chosen linear combination of the independent factors.

3.12 Data quality control (procedure)

Comparative study of management practice and operational effectiveness at the selected bottled water companies in Gurage zone, when these data quality control methods were put into practice, yielded trustworthy and useful insights for raising operational effectiveness at the selected firms.

3.12.1 Data Collection Protocol

To guarantee uniformity in data gathering between the two factories, a standardized methodology was created. This protocol contained instructions on how to record observational data, conduct interviews, and distribute questionnaires.

3.12.2 Data Validation

The completeness and accuracy of the gathered data were confirmed. To address any inconsistencies, this entailed verifying the data through several sources or conducting follow-up interviews.

3.12.3 Data Cleaning

The gathered data were cleaned up before analysis to remove any mistakes, differences, or irregularities that could have affected the accuracy of the analysis.

3.13 Ethical Considerations

Obtaining participants' informed consent before conducting interviews and on-site observations was one of the ethical considerations for this comparative investigation. Ensuring that the participants were aware of the study's goal, the intended use of their data, and the voluntary nature of their involvement is crucial.

The study upheld the respondents' privacy and confidentiality at all times. It was important to maintain the confidentiality of any private or sensitive material that was discussed in the interviews and never release it outside of the participant's consent.

CHAPTER FOUR

4. DATA PRESENTATION AND ANALYSIS

4.1 INTRODUCTION

The findings of the study's empirical analysis are presented in this chapter. The discussion focus on management practice for enhancing operational efficiency and make the comparative analysis with the context of data Eden and Fikr bottled water manufacturing company in Gurage zone Ethiopia. The results are shown in relation to the questioners' arrangement, such as CRM, SCM, and HRM. The primary topics discussed are respondent demographics and table-based data presentation in order to meet the study's goals.

4.2 Respondents Return Rate from selected Bottled water manufacturing company.

Table 1 show that 222 of questionnaires were collected from the respondents, it accounts for 94.87% of the total response rate out of 234 distributed questionnaires. No questioners were noted in respect to missing data.

4.2.1 Socio-Demographic characteristic of Operational Efficiency

Table 1. Demographic information of the respondent based on Gender

		Categories	Frequency	Percent
Gender	Eden	Male	91	70.5%
		Female	38	29.5%
	Fikr	Male	72	77.4%
		Female	21	22.6%
		Total	222	100%
Age	Eden	<25	9	7.0%
		25-35	72	55.8%
		36-45	30	23.2%
		46-60	18	14%
	Fikr	<25	9	9.7%
		25-35	60	64.5%
		36-45	21	22.6%
		46-60	3	3.2%
		Total	222	100%

Level of Education	Eden	Degree	11	8.5%
		Diploma	29	22.5%
		TVT Certificate	37	28.7%
		High school complete	52	40.3%
	Fikr	Degree	21	22.6%
		Diploma	13	14.0%
		TVT Certificate	25	26.9%
		High school complete	34	36.6%
		Total	222	100%
Work experience	Eden	1-3 year	9	7.0%
		4-5 years	72	55.8%
		More than 5 years	30	23.2%
	Fikr	1-3 year	9	9.7%
		4-5 years	60	64.5%
		More than 5 years	21	22.6%
		Total	222	100%
Position	Eden	Manager	2	1.6%
		Employee	127	98.4%
	Fikr	Manager	2	2.2%
		Employee	91	97.8%
		Total	222	100%

Source; survey result (2025)

4.2.1.1 Background of respondent by Gender

Based on the descriptive statics output table, the data based on the gender of the respondents, there were more males 91 (70.5%) respondents than females 38 (29.5%), as well as Fikr bottled water company also 77.4% male and 22.6% female, since both bottled water manufacturing company is dominated by male. This is due to in which the organization operates

4.2.1.2 Background of respondent by age

From the finding 7% of Eden and 9.7% of Fikr respondents were less than 25 years old, 55.8% of Eden and 64.5% of Fikr respondents were between 26 and 35 years old, 23.2% of Eden and 22.6% of Fikr respondents were between 36 and 45 years old, and the remaining 14% of Eden and 3.2% of Fikr respondents were of the respondent were 46 years old and above. According to the finding Youngers which is between 26 and 36 could dominate all others in both two company the company.

4.2.1.3 Education Background of respondent

As I listed above in chart, 8.5% Eden and 22.6% of Fikr respondent who had degree, 22.5% of Eden and 14.0 % of the respondent who had diploma, 28.7% of Eden and 26.9% Fikr who had TVT certified, and 36.6% of Eden and 36.6% of Fikr respondents who had high school certificate. This indicates that the majority of the employers were high school certified in terms of their education level on both two companies. So those two companies were ineffective on requirement and selection of qualified candidates' in order to enhance the operational efficiency of the companies

4.2.1.4 Work experience background of the respondent

Depend on work experience background of the respondent, 7% of Eden and 9.7% of Fikr respondents they are between 1 and 3 years work experienced, 55.8% of Eden and 64.5% of Fikr respondent they are between 3 and 5 years work experience, and the remaining 23.2% of Eden and 22.6% of respondents are 5 years' and above work experienced. Most of the employers were experienced in the company.

4.2.1.5 Position in the company background of the respondent

Base on their position in the company, they were managers and employers. 98.4% of Eden and 97.8% of Fikr respondents were employers out of 129 and 93 respectively. Whereas 1.6% of Eden and 2.2% of Fikr respondents were manager they were 2, 2 in number out of 129 and 93 for both companies. This indicates the company has two managers.

4.2.2 Human Resource Management

The statements that follow pertain to human resource management-related matters concerning the company where you currently work. Please indicate your degree of agreement with each statement so that the research can determine how HRM improves operational efficiency in the company.

Table 2. Human resource Management practice (HR M)

No	Effects of human resource management practices			S.D	D	N	A	S.A	Mean Value
1	Poor coordination on employer's for enhancing operational Efficiency.	Eden	Frequency	7	9	15	31	67	4.10
			Percent	5.4	7.0	11.6	24	51.9	
		Fikr	Frequency	37	33	5	11	7	2.12
			Percent	39.8	35.5	5.4	11.8	7.5	
2	In adequate training and development opportunities.	Eden	Frequency	1	3	9	37	79	4.47
			Percent	.8	2.3	7.0	28.7	61.2	
		Fikr	Frequency	20	9	9	26	29	3.38
			Percent	21.5	9.7	9.7	28.0	31.2	
3	In effective recruitment process on selecting qualified candidates	Eden	Frequency	2	7	14	47	59	4.19
			Percent	1.6	5.4	10.9	36.4	45.7	
		Fikr	Frequency	35	19	24	10	5	2.26
			Percent	37.6	20.4	25.8	10.8	5.4	
4	Lack of encouraging and rewarding employees who they are ineffective in their work	Eden	Frequency	2	7	13	51	56	4.18
			Percent	1.6	5.4	10.1	39.5	43.4	
		Fikr	Frequency	57	31	3	0	2	1.48
			Percent	61.3	33.3	3.2	0.0	2.2	
5	A positive organizational culture encourages collaboration and innovation, leading the organization to greater effectiveness.	Eden	Frequency	11	13	33	49	23	3.47
			Percent	8.5	10.1	25.6	38.0	17.8	
		Fikr	Frequency	32	6	11	20	24	2.98
			Percent	34.4	6.5	11.8	21.5	25.8	
6	Top management's involvements were not communicated with employers early enough before operational process.	Eden	Frequency	29	35	25	25	15	2.71
			Percent	22.5	27.1	19.4	19.4	11.6	
		Fikr	Frequency	44	23	10	11	5	2.03
			Percent	47.3	24.7	10.8	11.8	5.4	
7	Performance metrics and regular feedback help employees understand their roles and improve their contributions.	Eden	Frequency	17	20	56	23	13	2.96
			Percent	13.2	15.5	43.4	17.8	10.1	
		Fikr	Frequency	38	11	21	12	11	2.43
			Percent	40.9	11.8	22.6	12.9	11.8	

Source; survey result (2025)

The table reveals contrasting perceptions between employees at Eden and Fikr bottled water companies regarding human resource management practices.

The first row is comparison between two companies regarding to the impact of poor coordination on enhancing operational efficiency. Eden bottled water companies demonstrate a higher level of agreement among its respondents as indicated by the mean value of 4.10, compared to Fikr's 2.21. Significant majority of the respondents from Eden 51.9% strongly agree with the statement, and 24% agree, high lightly a positive view the role poor coordination in operational efficiency. On the othe hand Fikr's respondents predominantly disagree with the statement, with 39.8% strongly disagree, reflecting a more critical stance. This implies that respondent at Eden bottled water company perceive poor coordination as a factor of enhancing operation of the company, whereas Fikrs respondents are less inclined to associate it with operational efficiency.

The second row is comparison between two companies regarding to the impact of inadequate training and development enhancing operational efficiency. Eden bottled water companies demonstrate a higher level of agreement among its respondent as indicated by the mean value of 4.47, compared to Fikr's 3.38. Significant majority of the respondents from Eden 61.2% strongly agree with the statement, and 28.7% agree, high lightly a positive view the role inadequate training and development in operational efficiency. On the other hand Fikr's respondents predominantly neutral with the statement, with 31.2% strongly agree, reflecting a more critical stance. This implies that respondents at Eden bottled Water Companies perceive inadequate training and development as a factor of enhancing operation of the company. And Fikr bottled Water Company respondents perceive neutral with the statement.

The third row is comparison between two companies regarding to the impact of ineffective recruitment process on enhancing operational efficiency. Eden bottled water companies demonstrate a higher level of agreement among its respondents as indicated by the mean value of 4.19, compared to Fikr's 2.20. This implies that respondent at Eden bottled water company perceive ineffective recruitment process as a factor of enhancing operation of the company, whereas Fikrs respondents are less inclined to associate it with operational efficiency.

The fourth row is companies regarding to the impact of Lack of encouraging and rewarding employees on enhancing operational efficiency. Eden bottled water companies demonstrate a higher level of agreement among its respondents as indicated by the mean value of 4.18, compared to Fikr's 1.48. This implies that respondent at Eden bottled water company perceive Lack of encouraging and rewarding employees as a factor of enhancing operation of the company, whereas

Fikrs bottled water company respondent make their disagreement Lack of encouraging and rewarding employees as a factor of enhancing operation efficiency of the company

The fifth row is regarding to the A positive organizational culture enhancing operational efficiency. Eden bottled water companies demonstrate a neutral idea among its respondent as indicated by the mean value of 3.47, and respondents at Fikr's make disagreement mean values is 2.98. This implies that respondents at Fikr bottled Water Companies perceive a positive organizational culture is not as a factor of enhancing operation of the company.

The sixth row is regarding to top management's involvements enhancing operational efficiency. Both companies make disagreement among its respondent as indicated by the mean value of 2.71, 2.03 Eden and Fikr respectively. This implies that respondents at both Companies perceive top management's involvements are not as a factor of enhancing operation of the company.

The seventh row is regarding to Performance metrics and regular feedback helps enhancing operational efficiency. Both companies make disagreement among its respondent as indicated by the mean value of 2.96, 2.43 Eden and Fikr respectively. This implies that respondents at both Companies perceive Performance metrics and regular feedback are not as a factor of enhancing operation of the company.

4.2.3 Supply Chain Management

The following statements about supply chain management-related issues pertaining to the company you currently work for are listed. Please indicate how much you agree with each statement so that the research can determine how SCM improves operational efficiency in the company.

Table 3. Supply chain Management practice (SCM)

No	key factors of supply chain management that impact on enhance operational efficiency			**S.D**	**D**	**N**	**A**	**S.A**	Mean Value
1	Failure to comply with accurate forecasts based on demand and failure to maintain product quality standards.	Eden	Frequency	3	7	20	60	39	3.97
			Percent	2.3	5.4	15.5	46.5	20.2	
		Fikr	Frequency	42	2	4	19	26	2.84
			Percent	45.2	2.2	4.3	20.4	28.0	
2	The location of warehouses and the product alignment of product assortments hamper the efficiency of distribution.	Eden	Frequency	27	43	31	15	13	2.57
			Percent	20.9	33.3	24.0	11.6	10.1	
		Fikr	Frequency	69	18	1	4	1	1.39
			Percent	72.2	19.4	1.1	4.3	1.1	

3	Making just-in-time (JIT) product delivery unavailable to customers and shift to other sister company products.	Eden	Frequency	23	38	41	18	9	2.63
			Percent	17.8	29.5	31.8	14.0	7	
		Fikr	Frequency	58	23	5	5	2	1.60
			Percent	62.4	24.7	5.4	5.4	2.2	
4	Not taking strong partnerships with suppliers to make the company's products accessible to consumers.	Eden	Frequency	2	3	31	53	40	3.98
			Percent	1.6	2.3	24.0	41.1	31.0	
		Fikr	Frequency	38	7	10	22	16	2.69
			Percent	40.9	7.5	10.8	23.7	17.2	
5	lack of many providers, lack of accessibility and competitiveness in many parts of our country.	Eden	Frequency	7	18	5	49	50	3.91
			Percent	5.4	14.0	3.9	38.0	38.8	
		Fikr	Frequency	43	10	9	21	9	2.47
			Percent	46.2	10.8	9.7	22.6	9.7	
6	Well-defined procedures ensure consistency and efficiency.	Eden	Frequency	23	30	42	23	11	2.76
			Percent	17.8	23.3	32.6	17.8	8.5	
		Fikr	Frequency	45	12	17	12	7	2.18
			Percent	48.4	12.9	18.3	12.9	7.5	
7	Eliminating waste in processes increases efficiency and reduces costs.	Eden	Frequency	41	55	8	16	9	2.20
			Percent	31.8	42.6	6.2	12.4	7.0	
		Fikr	Frequency	28	8	23	14	20	2.89
			Percent	30.1	8.6	24.7	15.1	21.5	
8	Adhering to quality standards ensures product reliability and customer satisfaction.	Eden	Frequency	31	47	30	12	9	2.39
			Percent	24.0	36.4	23.3	9.3	7.0	
		Fikr	Frequency	46	11	5	21	10	2.33
			Percent	49.5	11.8	5.4	22.6	10.8	

Source; survey result (2025)

The table reveals contrasting perceptions between employees at Eden and Fikr bottled water companies regarding supply chain management practices.

The first row is regarding to the Failure to comply with accurate forecasts based on demand and failure to maintain product quality standards on enhancing operational efficiency. Fikr bottled water companies demonstrate their disagreement among its respondents as indicated by the mean value of 2.84, compared to Eden's 3.97. This implies that respondent at Eden bottled water company perceive their neutral idea on accurate forecasts and product quality as a factor of enhancing

operation of the company, whereas respondent at Fikr bottled water company perceive their disagreement on accurate forecasts and product quality as a factor of enhancing operation of the company.

The second row is regarding to the location of warehouses and the product alignment enhancing operational efficiency. Fikr bottled water companies demonstrate a higher level of disagreement among its respondent as indicated by the mean value of 1.39, compared to Eden's 2.57. This implies that respondents at both bottled Water Companies do not perceive location of warehouses and the product alignment as a factor of enhancing operation of the company.

The third row is regarding to making just-in-time (JIT) product delivery unavailable to customers on enhancing operational efficiency. Fikr bottled water companies demonstrate a higher level of disagreement among its respondent as indicated by the mean value of 1.60, compared to Eden's 2.63. This implies that respondents at both bottled Water Companies do not perceive making just-in-time (JIT) product delivery unavailable as a factor of enhancing operation of the company.

The fourth row is regarding to taking strong partnerships with suppliers on enhancing operational efficiency. Fikr bottled water companies demonstrate their disagreement among its respondents as indicated by the mean value of 2.69, compared to Eden's 3.98. This implies that respondent at Eden bottled water company perceive their neutral idea on taking strong partnerships with suppliers as a factor of enhancing operation of the company, whereas respondent at Fikr bottled water company perceive their disagreement on taking strong partnerships with suppliers as a factor of enhancing operation of the company.

The fifth row is regarding to the providers, accessibility and competitiveness enhancing operational efficiency. Fikr bottled water companies demonstrate their disagreement among its respondents as indicated by the mean value of 2.47, compared to Eden's 3.91. This implies that respondent at Eden bottled water company perceive their neutral idea on providers, accessibility and competitiveness as a factor of enhancing operation of the company, whereas respondent at Fikr bottled water company perceive their disagreement on providers, accessibility and competitiveness as a factor of enhancing operation of the company.

The sixth row is regarding to Well-defined procedures enhancing operational efficiency. Both companies make disagreement among its respondent as indicated by the mean value of 2.76, 2.18 Eden and Fikr respectively. This implies that respondents at both Companies perceive Well-defined procedures are not as a factor of enhancing operation of the company.

The seventh row is regarding to eliminating waste enhancing operational efficiency. Both companies make disagreement among its respondent as indicated by the mean value of 2.20, 2.89 Eden and Fikr respectively. This implies that respondents at both Companies perceive eliminating waste is not as a factor of enhancing operation of the company.

The eighth row is regarding to adhering to quality standards enhancing operational efficiency. Both companies make disagreement among its respondent as indicated by the mean value of 2.39, 2.33 Eden and Fikr respectively. This implies that respondents at both Companies perceive adhering to quality standards is not as a factor of enhancing operation of the company.

4.2.4 Customer Relationship Management

The following are statements about supply chain management-related issues pertaining to the company where you currently work. Please rate your agreement with each statement so that the research can determine how SCM improves operational efficiency in the company.

Table 4. Customer relationship Management practice (CRM)

No	customer relationship management practices influence on operational efficiency			**S.D**	**D**	**N**	**A**	**S.A**	Mean Value
1	Lack of centralized CRM system data access and sharing between departments.	Eden	Frequency	52	33	32	9	3	3.97
			Percent	40.3	25.6	24.8	7.0	2.3	
		Fikr	Frequency	43	17	22	6	5	2.84
			Percent	46.2	18.3	23.7	6.5	5.4	
2	Not reducing the frequency of CRM processes	Eden	Frequency	9	25	67	21	7	2.57
			Percent	7.0	19.4	51.9	16.3	5.4	
		Fikr	Frequency	51	23	16	2	3	1.39
			Percent	54.8	24.7	17.2	2.2	1.1	
3	CRM tools don't facilitate or create better communication between sales, marketing, and customer service teams.	Eden	Frequency	30	41	36	14	8	2.63
			Percent	23.3	31.8	27.9	10.9	6.2	
		Fikr	Frequency	27	36	16	5	8	1.60
			Percent	29.0	39.8	17.2	5.4	8.6	
4	Improving the quality of customer service provided by obtaining comprehensive customer profiles.	Eden	Frequency	29	32	39	17	12	3.98
			Percent	22.5	24.8	30.2	13.2	9.3	
		Fikr	Frequency	40	18	13	10	12	2.69
			Percent	43.0	19.4	14.0	10.8	12.9	

5	The internal collaboration of CRM tools facilitated better communication between teams (sales, marketing and customer service), enabling more coordinated strategies and faster problem solving.	Eden	Frequency	15	22	45	28	19	3.91
			Percent	11.6	17.1	34.9	21.7	14.7	
		Fikr	Frequency	32	7	20	14	20	2.47
			Percent	34.4	7.5	21.5	15.1	21.5	
6	Customer Interaction Improved customer satisfaction and loyalty through personalized messaging and timely responses.	Eden	Frequency	5	10	19	40	55	2.76
			Percent	3.9	7.8	14.7	31.0	42.6	
		Fikr	Frequency	35	14	4	25	15	2.18
			Percent	37.6	15.1	4.3	26.9	16.1	
7	Performance indicator tracking identified areas for improvement using key performance indicators (KPIs) and facilitated resource allocation.	Eden	Frequency	4	5	30	37	53	2.20
			Percent	3.1	3.9	23.3	28.7	41.1	
		Fikr	Frequency	41	10	22	12	8	2.89
			Percent	44.1	10.8	23.7	12.9	8.6	

Source; Source; survey result (2025)

The table reveals contrasting perceptions between employees at Eden and Fikr bottled water companies regarding customer relationship management practices.

The first row is regarding to centralized CRM system data access on enhancing operational efficiency. Fikr bottled water companies demonstrate their disagreement among its respondents as indicated by the mean value of 2.84, compared to Eden's 3.97. This implies that respondent at Eden bottled water company perceive their neutral idea on centralized CRM system data access as a factor of enhancing operation of the company, whereas respondent at Fikr bottled water company perceive their disagreement on centralized CRM system data access as a factor of enhancing operation of the company.

The second row is regarding to reducing the frequency of CRM processes on enhancing operational efficiency. Fikr bottled water companies demonstrate a higher level of disagreement among its respondent as indicated by the mean value of 1.39, compared to Eden's 2.57. This implies that respondents at both bottled Water Companies do not perceive reducing the frequency of CRM processes as a factor of enhancing operation of the company.

The third row is regarding to CRM tools on enhancing operational efficiency. Fikr bottled water companies demonstrate a higher level of disagreement among its respondent as indicated by the mean value of 1.60, compared to Eden's 2.63. This implies that respondents at both bottled Water Companies do not perceive CRM tools processes as a factor of enhancing operation of the company.

The fourth row is regarding to improving the quality of customer service on enhancing operational efficiency. Fikr bottled water companies demonstrate their disagreement among its respondents as indicated by the mean value of 2.69, compared to Eden's 3.98. This implies that respondent at Eden bottled water company perceive their neutral idea on improving the quality of customer service as a factor of enhancing operation of the company, whereas respondent at Fikr bottled water company perceive their disagreement on improving the quality of customer service as a factor of enhancing operation of the company.

The fifth row is regarding to the internal collaboration of CRM tools on enhancing operational efficiency. Fikr bottled water companies demonstrate their disagreement among its respondents as indicated by the mean value of 2.47, compared to Eden's 3.91. This implies that respondent at Eden bottled water company perceive their neutral idea on the internal collaboration of CRM tools as a factor of enhancing operation of the company, whereas respondent at Fikr bottled water company perceive their disagreement on the internal collaboration of CRM tools as a factor of enhancing operation of the company.

The sixth row is regarding to customer interaction Improved customer satisfaction and loyalty enhancing operational efficiency. Both companies make disagreement among its respondent as indicated by the mean value of 2.76, 2.18 Eden and Fikr respectively. This implies that respondents at both Companies perceive customer interaction is not as a factor of enhancing operation of the company.

The seventh row is regarding to performance indicator tracking identified areas for improvement using KPIs enhancing operational efficiency. Both companies make disagreement among its respondent as indicated by the mean value of 2.20, 2.89 Eden and Fikr respectively. This implies that respondents at both Companies perceive performance indicator is not as a factor of enhancing operation of the company.

4.2.5 Operational Efficiency

The following are statements about Operational Efficiency-related issues pertaining to the company where you currently work. Please rate your agreement with each statement.

Table5. Operational Efficiency

No	Operational Efficiency related questions			S.D	D	N	A	S.A	Mean Value
1	Our processes are streamlined and free from unnecessary steps.	Eden	Frequency	9	13	27	47	33	3.97
			Percent	7.0	10.1	20.9	36.4	25.6	
		Fikr	Frequency	44	7	14	17	11	2.84
			Percent	47.3	7.5	15.1	18.3	11.8	
2	We have the necessary tools and resources to perform our tasks efficiently.	Eden	Frequency	19	23	19	42	26	2.57
			Percent	14.7	17.8	14.7	32.6	20.2	
		Fikr	Frequency	37	9	16	17	14	1.39
			Percent	39.8	9.7	17.2	18.3	15.1	
3	Communication within team is effective and facilitates smooth operations.	Eden	Frequency	8	14	36	41	30	2.63
			Percent	6.2	10.9	27.9	31.8	23.3	
		Fikr	Frequency	40	25	16	0	12	1.60
			Percent	43.0	26.9	17.2	0.0	12.9	
4	We regularly review and optimize our operational processes.	Eden	Frequency	29	32	39	17	12	3.98
			Percent	22.5	24.8	30.2	13.2	9.3	
		Fikr	Frequency	45	13	25	7	3	2.69
			Percent	48.4	14.0	26.9	7.5	3.2	
5	The internal collaboration of CRM I feel empowered to make decisions that improve efficiency in my work area.	Eden	Frequency	22	39	34	19	15	3.91
			Percent	17.1	30.2	26.4	14.7	11.6	
		Fikr	Frequency	33	17	27	6	10	2.47
			Percent	35.5	18.3	29.0	6.5	10.8	
6	Our organization effectively utilizes technology to enhance operational efficiency.	Eden	Frequency	9	10	15	45	50	2.76
			Percent	7.0	7.8	11.6	34.9	38.8	
		Fikr	Frequency	57	6	10	19	1	2.18
			Percent	61.3	6.5	10.8	20.4	1.1	
7	There is a culture of continuous improvement within the organization.	Eden	Frequency	13	29	30	30	27	2.20
			Percent	10.1	22.5	23.3	22.3	20.9	
		Fikr	Frequency	39	10	22	12	10	2.89
			Percent	41.9	10.8	23.7	12.9	10.8	

8	We have clear performance metrics to evaluate operational efficiency.	Eden	Frequency	35	75	0	11	8	3.91
			Percent	27.1	58.1	0.0	8.5	6.2	
		Fikr	Frequency	43	21	13	9	7	2.47
			Percent	46.2	22.6	14.0	9.7	7.5	
9	The company prepares adequate training to perform our tasks efficiently.	Eden	Frequency	10	15	19	55	30	2.76
			Percent	7.8	11.6	14.7	42.6	23.3	
		Fikr	Frequency	38	18	16	13	8	2.18
			Percent	40.9	19.4	17.2	14.0	8.6	
10	Our organization is responsive to feedback regarding operational inefficiencies.	Eden	Frequency	37	43	30	12	7	2.20
			Percent	28.7	33.3	23.3	9.3	5.4	
		Fikr	Frequency	48	17	13	10	5	2.89
			Percent	51.6	18.3	14.0	10.8	5.4	

Source; Source; survey result (2025)

The table reveals contrasting perceptions between employees at Eden and Fikr bottled water companies regarding Operational Efficiency.

The first row is regarding to the processes are streamlined and free from unnecessary steps on enhancing operational. Fikr bottled water companies demonstrate their disagreement among its respondents as indicated by the mean value of 2.84, compared to Eden's 3.97. This implies that respondent at Eden bottled water company perceive their neutral idea on the processes are streamlined on enhancing operation of the company, whereas respondent at Fikr bottled water company perceive their disagreement on the processes are streamlined and free from unnecessary steps on enhancing operation of the company.

The second row is regarding to necessary tools and resources to perform our tasks enhance operational efficiency. Fikr bottled water companies demonstrate a higher level of disagreement among its respondent as indicated by the mean value of 1.39, compared to Eden's 2.57. This implies that respondents at both bottled Water Companies do not perceive necessary tools and resources to perform our tasks as a factor of enhancing operation of the company.

The third row is regarding to Communication within team is effective and facilitates on enhance operational efficiency. Fikr bottled water companies demonstrate a higher level of disagreement among its respondent as indicated by the mean value of 1.60, compared to Eden's 2.63. This implies that respondents at both bottled Water Companies do not perceive Communication within team as a factor of enhancing operation of the company.

The fourth row is regarding to regularly review and optimize our operational processes on enhancing operational efficiency. Fikr bottled water companies demonstrate their disagreement among its respondents as indicated by the mean value of 2.69, compared to Eden's 3.98. This implies that respondent at Eden bottled water company perceive their neutral idea on regularly review and optimize our operational processes on enhancing operation of the company, whereas respondent at Fikr bottled water company perceive their disagreement on regularly review and optimize our operational processes as a factor of enhancing operation of the company.

The fifth row is regarding to internal collaboration of CRM on enhancing operational efficiency. Fikr bottled water companies demonstrate their disagreement among its respondents as indicated by the mean value of 2.47, compared to Eden's 3.91. This implies that respondent at Eden bottled water company perceive their neutral idea on internal collaboration of CRM on enhancing operation of the company, whereas respondent at Fikr bottled water company perceive their disagreement on internal collaboration of CRM as a factor of enhancing operation of the company.

The sixth row is regarding to organization effectively utilizes technology enhancing operational efficiency. Both companies make disagreement among its respondent as indicated by the mean value of 2.76, 2.18 Eden and Fikr respectively. This implies that respondents at both Companies perceive organization effectively utilizes technology is not as a factor of enhancing operation of the company.

The seventh row is regarding to a culture of continuous improvement enhancing operational efficiency. Both companies make disagreement among its respondent as indicated by the mean value of 2.20, 2.89 Eden and Fikr respectively. This implies that respondents at both Companies perceive a culture of continuous improvement is not as a factor of enhancing operation of the company.

The eighth row is regarding to clear performance metric on enhancing operational efficiency. Fikr bottled water companies demonstrate their disagreement among its respondents as indicated by the mean value of 2.47, compared to Eden's 3.91. This implies that respondent at Eden bottled water company perceive their neutral idea on clear performance metric on enhancing operation of the company, whereas respondent at Fikr bottled water company perceive their disagreement on The company clear performance metric as a factor of enhancing operation of the company.

The ninth row is regarding to the company prepares adequate training to perform our tasks efficiently enhancing operational efficiency. Both companies make disagreement among its respondent as indicated by the mean value of 2.2.76, 2.18 Eden and Fikr respectively. This implies

that respondents at both Companies perceive the company prepares adequate training to perform our tasks efficiently

The tenth row is regarding to our organization is responsive to feedback enhancing operational efficiency. Both companies make disagreement among its respondent as indicated by the mean value of 2.20, 2.89 Eden and Fikr respectively. This implies that respondents at both Companies perceive our organization is responsive to feedback is not as a factor of enhancing operation of the company.

4.2.6 Summary of management practices respondent rate

Table 6. Summary of management practices

Descriptive Statistics				
Bottled water companies		Mean	Std. Deviation	N
Eden	Operational Efficiency	30.93	2.126	129
	Human Resource Management	26.08	2.533	129
	Supply Chain Management	24.40	2.241	129
	Customer Relationship Management	21.19	2.235	129
Fikr	Operational Efficiency	22.33	4.492	93
	Human Resource Management	16.68	3.757	93
	Supply Chain Management	18.40	4.011	93
	Customer Relationship Management	16.14	3.891	93
N= number of respondent				

Source: Own data manipulation (2025).

The table reveals contrasting perceptions between employees at Eden and Fikr bottled water companies regarding model summary

Across all variables OP, HRM, SCM and CRM Eden consistently scores higher in mean values. In OP Eden scores mean value 30.93 and std. deviation 2.126 compared to Fikr 22.33 mean and 4.492 this indicate more consistent and effective process.

In human resource management Eden's bottled water manufacturing company mean of 26.08 and std. deviation 2.533 Fikr's mean 16.68 and std. deviation 3.757 this implies that Eden bottled water manufacturing company more significant than Fikr bottled water manufacturing company.

Similarly in supply chain management practice Eden's bottled water manufacturing company mean value 24.40 and std. deviation 2.241 Fikr's bottled water manufacturing company mea 18.40 and std. deviation 4.011 this implies that Eden bottled water manufacturing company more significant than Fikr bottled water manufacturing company.

In Eden's bottled water manufacturing company mean value 21.19 and std. deviation 2.235 Fikr's bottled water manufacturing company mea 16.14and std. deviation 3.891 this also implies that Eden bottled water manufacturing company more significant than Fikr bottled water manufacturing company.

Eden consistently scores higher across all variables, reflecting better management practices and greater consistency among employee responses compared to Fikr. This comparison highlights Eden stronger organizational performance in key management areas.

4.3 Association between HRM, SCM, CRM & Operational Efficiency.

The degree of relationship between two sets of data is measured by correlation. Stronger ties between the two sets of data are indicated by higher correlated values (Coetzee 2003). The degree of link between the variables is displayed by correlation analysis.

The dependent variable, operational efficiency (OE), has a positive correlation with the independent variables, human resource management (HRM), supply chain management (SCM), and customer relationship management (CRM). This correlation is significant at the 1% level, as shown in Table 7.

Table 7. Association between HRM, SCM, CRM & Operational Efficiency.

Companies	Variables	HRM	SCM	CRM	OP
Eden	HRM	1			
	SCM	.001	1		
	CRM	.199*	.519**	1	
	OP	.575*	.450**	.360**	1
	N	129	129	129	129
Fikr	HRM	1			
	SCM	.051	1		
	CRM	.163	.107	1	
		93	93	93	
	OP	.086	.334**	.138	1
	N	93	93	93	93

*.OP= operational efficiency dependent variable
**. HRM= human resource management
***. SCM= supply chain management
****. CRM= customer relationship management
*****. N= number of respondents

Source: Own data manipulation (2025).

To ascertain the relationship between the dependent variable of operational efficiency and the practices of supply chain management (SCM), customer relationship management (CRM), and human resource management (HRM), a Pearson correlation and regression analysis were performed. To examine the link between the independent variables (HRM, SCM, and CRM) and the dependent variable (OP), correlation was applied to the data.

Pearson correlation of Operational efficiency with human resource management practice in Eden bottled water company (**r=0.575**) $p<0.05$, Fikr's bottled water manufacturing company (**r=0.086**) $p<0.05$ this show Eden bottled water company has more positive relationship between human resource management with Operational efficiency significant level of 5 % compared to Fikr.

Pearson correlation of Operational efficiency with supply chain management practice in Eden bottled water company (**r=0.450**) $p<0.05$, Fikr's bottled water manufacturing company (**r=0.334**) $p<0.05$ this show Eden bottled water company has more positive relationship between supply chain management with Operational efficiency significant level of 5 % compared to Fikr.

Pearson correlation of Operational efficiency with customer relationship management practice in Eden bottled water company (**r=0.360**) $p<0.05$, Fikr's bottled water manufacturing company (**r=0.138**) $p<0.05$ this show Eden bottled water company has more positive relationship between customer relationship management with Operational efficiency significant level of 5 % compared to Fikr.

At a significant level of 5%, the Pearson correlation between operational efficiency and human resource management reveals a substantial positive connection ($r=0.570$) $p<0.05$. Quality improvements in productivity and customer satisfaction are favorably connected with human resource management, and there is a strong correlation between human resource management and operational efficiency. The results indicate that there is a positive pairwise correlation between operational efficiency and HRM practices. Additionally, all the variables are statistically significant at $p<05$.

4.4 Multivariate Test

4.4.1 ANOVA Test for Fikr manufacturing firm.

Table 8. ANOVA table of **Fikr** bottled manufacturing firms

ANOVA					
Model	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3087.475	3	1029.158	131.705	.000
Within Groups	1973.725	89	22.1.76		
Total	5061.201	92			

Source: Own data manipulation (2025).

According to the study's findings, the model is statistically significant, as indicated by the ANOVA table's significant value of a high F-statistic and substantial level of.000. The relationship between the dependent and independent variables is well described by the research model. Therefore, supply chain management, customer relationship management, and human resource management are important independent variables that explain the variation in operational efficiency of Fikr bottled manufacturing firms.

4.4.2 ANOVA Test for Eden manufacturing firm.

Table 9. ANOVA table of **Eden** bottled manufacturing firms

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3993.957	3	1029.319	117.095	.000
Within Groups	2435.039	125	19.480		
Total	6428.995	128			

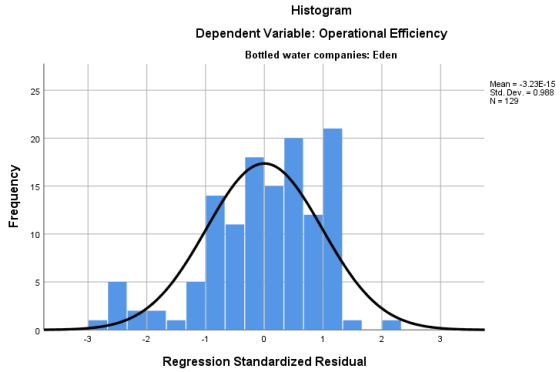
Source: Own data manipulation (2025).

According to the study's findings, the model is statistically significant, as indicated by the ANOVA table's significant value of a high F-statistic and substantial level of.000. The relationship between the dependent and independent variables is well described by the research model. Therefore, supply chain management, customer relationship management, and human resource management are important independent variables that explain the variation in operational efficiency of Eden bottled manufacturing firms.

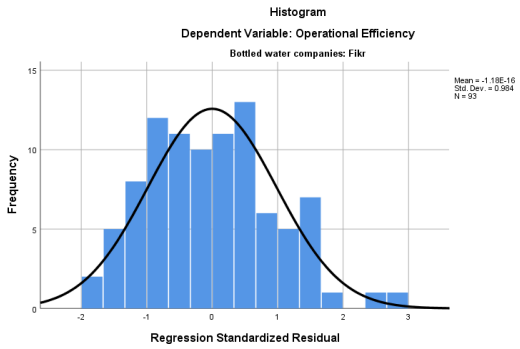
4.5 Normality Test

Regression standard residual histogram was used in this work to test the normality assumption; if the residuals are normally distributed, the histogram should have a bell shape. Bryman (1988).

Figure 2 figure of histogram



(a) Eden bottled water company

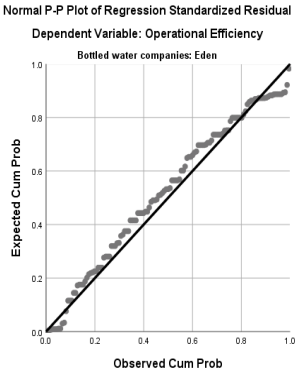


(b) Fikr bottled water company

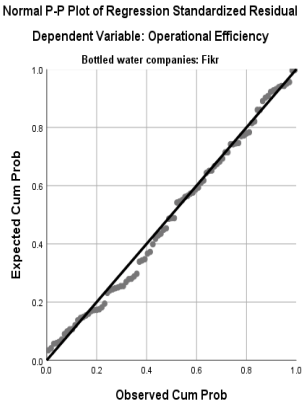
Both of the companies have residual means close to zero, suggesting well-centered residual distribution. Eden bottled water company sample size (129) compared to Fikr(93). A lager sample size a more comprehensive representation of operational efficiency variations. Actually Eden bottled water company has a slightly broader and more positive residual distribution supported by a large sample size and higher peak frequency. On the other hand, fikr shows highlight variations in operational efficiency influence.

4.6 Linearity Test

FigureFigure 3 of Linearity Test



(a) Eden bottled water company



(b) Fikr bottled water company

Things that define the line that we fit to the data take the place of the word model.

$(Yi = (b0 + b1Xi) + \varepsilon i) = Yi$

The outcome we wish to predict is called Yi, and the predictor variable is called X. In this case, b0 is the line's intercept, and b1 is the gradient of the straight line that was fitted to the data. The regression coefficients are those parameters, b1 and b0. The discrepancy between the score that participant I actually received and the score that the line predicted for them is represented by a residual term, εi.

A scatter plot's rising straight line trend indicates a clear, positive correlation between two variables. Three scatter plots were created in Figure 3 that showed a highly favorable link between operational efficiency and management practices (supply chain management, customer relationship management, and human resource management) for the bottled water firms Eden and Fikr.

Eden bottled water company exhibits a broader residual range and higher frequency, supported by a large sample size. These features suggest stronger central tendencies in operational efficiency influences. On the other hand, Fikr show a slightly fitted residual distribution, reflecting relatively consistent efficiency predictors but with fewer observations.

4.7 Linear Regression Model of the Study

Given the values of one or more independent variables, multiple linear regressions are a technique for estimating or predicting a value on a dependent variable. Statistical regression, such as correlations, looks at the relationship between variables.

Table 10. Linear regression model of the study.

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			L.B	U.B
1	(Constant)	4.527	1.385		3.268	.061	1.796	7.257
	HRM	.399	.051	.413	7.823	.000	.297	.500
	SCM	.577	.063	.459	9.200	.000	.454	.701
	CRM	.171	.064	.151	2.672	.038	.055	.296
*. HRM= human resource management **. SCM= supply chain management ***. CRM= customer relationship management ****. L.B= Lower Bound *****. U.B= Upper Bound								

Source: Own data manipulation (2025).

Multiple line regression parameter estimation is displayed in Table 10.

The relationship between the independent and dependent variables is explained by the following equation.

$Yi = \beta0 + \beta1x1 + \beta2x2 + \beta3x3$

where

Operational efficiency is the dependent variable, or response, denoted by Y.

β0 is a constant value.

b = standardized coefficients

x is an independent variable.

e is an unobservable variable, or random term.

Consequently, Y = 4.031 +.413HRM +.459CM + 0.151CRM+e is the regression equation.

If operational efficiency were Y.

While β0 = 4.031, β1, β2, and β3 are 0.413, 0.459, and 0.151, in that order.

Human Resource Management (HRM)

Supply Chain Management (SCM)

CRM stands for customer relationship management.

Supply chain management coefficient is.577. The operational efficiency of the business increased by 0.577 when supply chain management increased by one unit. The supply chain management coefficient (.577) is significant since its p-value is less than 0.05, at 0.000. Human resource management has a coefficient of 0.399. Therefore, assuming all other factors remain unchanged, a 0.399 unit gain in operational efficiency is anticipated for every unit increase in human resource management. The p-value for the human resource management coefficient (0.399) is 0.000, which is less than 0.05, making it significant.

Customer relationship management has a coefficient of 0.171. Accordingly, operational efficiency rises by 0.171 units for every unit increase in customer relationship practices. Because the customer relationship management coefficient (0.171) has a p-value of 0.038, which is less than 0.05, it differs significantly from 0.

The table's standardized beta coefficients show how much each variable contributed to the study. According to the data, supply chain management has the largest standard coefficient beta value (0.459) for this predictor variable, making it the predictor variable that most influences the variation of the dependent variable (operational efficiency). Accordingly, supply chain management offers the most distinctive explanation for the variance in the dependent variable (operational efficiency). After controlling for the variation accounted for by each of the model's other predictor variables.

Because of its second-highest beta value (0.413) when compared to the other predictor variables, human resource management is the predictor variable that contributes the second-highest to the variation of the dependent variable (operational efficiency). This indicates that, after controlling for the variance explained by all other predictor variables in the model, human resource management offers the second-strongest unique contribution to explaining the variation in the dependent variable. One of the predictor variables that positively influence the variation of the dependent variable (operational efficiency) is customer relationship management. When compared to other predictor variables, this predictor variable's beta value is 0.151, which indicates that customer relationship management contributes significantly to the explanation of the fluctuation of the independent variable.

4.8 Comparative analysis of the model between two companies

The coefficient table displays statistical measures that quantify the relationship between predictors (human resource management, supply chain management, and customer relationship management) and dependent variable (operational efficiency) for Eden and Fikr bottled water manufacturing companies.

The comparisons between two companies have similarities and key differences in model significance and predictor influence. Both company models analyze operational Efficiency, incorporating CRM, SCM, and HRM as independent variables, following a standard ANOVA structure with sum of squares, degrees of freedom, mean square, f-statistic, and significance (sig.) values.

Table 11. Comparisons of two companies' coefficients model

Coefficients[a]									
companies	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
			B	Std. Error	Beta			L.B	U.B
Eden	1	(Constant)	32.031	3.897		8.220	.805	24.319	39.743
		HRM	.177	.062	.192	1.245	.021	.045	.200
		SCM	.220	.080	.232	2.744	.007	.061	.379
		CRM	.140	.082	.421	1.770	.030	.563	.238

Fikr	1	(Constant)	15.460	3.835		4.031	.072	7.839	23.081
		HRM	.105	.120	.088	.875	.031	.134	.344
		SCM	.368	.112	.329	3.286	.001	.147	.590
		CRM	.103	.116	.089	.887	.034	.334	.129

*. Dependent Variable: Operational Efficiency
**. HRM= human resource management
***. SCM= supply chain management
****. CRM= customer relationship management
*****. L.B= Lower Bound
******. U.B= Upper Bound

Source: Own data manipulation (2025).

The comparison between the two regression coefficient tables highlights key differences in the predictors' influence on Operational Efficiency. In both companies, HRM, SCM, and CRM play significant roles, but their impact on operation varies.

The impact of human resource management (HRM) on operational efficiency is positively minimum and statistically insignificant for both companies. Eden shows a coefficient of B = 0.077, Beta = 0.092 and sig = .216

The coefficient table compares the impact of dependent variables; human resource management, supply chain management, and customer relationship management on dependent variable operational efficiency. For Eden and Fikr battled water manufacturing companies. Eden bottled water company shows a higher constant value (B = 32.031), indicating a stronger baseline operational efficiency compared to Fikr (B = 15.460).

Both companies' scores minimum and statistically insignificant impact from HRM regarding to respondent. Eden's human resource management coefficient is B = 0.177 and Beta = 0.192, while Fikr bottled water company slightly lower at B = 0.105 and Beta = 0.088, reflecting minor contribution on operational efficiency for both companies.

Supply chain management scores as a significant contribution for both companies. Fikr bottled water company demonstrate a stronger supply chain management impact with a coefficient of B = 0.368 and Beta = 0.329, compared to Eden's bottled water company coefficient of B= 0.220 and Beta = 0.232. This indicates that SCM plays a vital role than all other variables on operational efficiency for Fikr bottled Water Company.

Customer relationship management shows a different pattern. Eden's bottled Water Company customer relationship management coefficient is B = 0.140 and Beta = 0.161, suggests that

appositive impact, whereas Fikr's bottled water company customer relationship management coefficient B = 0.103 and Beta = 0.088, reflecting weaker and less significant effect on operational efficiency of the company.

The two companies differ in how management practices influence their operational efficiency regarding to their respondents. Fikr bottled water company shows stronger dependence efficiency on supply chain management for enhancing operational efficiency. While Eden bottled water manufacturing company exhibits a reliance on CRM for enhance operational efficiency compared to Fikr bottled water manufacturing company regarding to their respondent.

Generally, Eden bottled water company demonstrates higher operational efficiency overall, particularly due to its strong CRM and HRM practices, while Fikr relies more on SCM. If the goal is a well-rounded approach to efficiency, Eden is the strongest performance.

Based on coefficient table 11, the following hypothesis tests were formulated.

Hypopthesis1: SCM has a stronger positive impact on operational efficiency compared to **HRM** and **CRM.**

- **H_{o1}**: supply chain management (SCM) does not have a strong positive impact on operational efficiency compared to HRM and CRM, on both Eden and Fikr bottled water firms.
- **Ha_1**: supply chain management (SCM) has a strong positive impact on operational efficiency compared to HRM and CRM, on both Eden and Fikr bottled water firms.

Hypothesis2: CRM contribute significantly to operational efficiency in both firms

- **H_{o2}:** CRM does not contribute significantly to operational efficiency on both firms.
- **Ha_2:** CRM contributes significantly to operational efficiency on both Eden and Fikr bottled water manufacturing companies.

Hypothesis3: HRM has a minimal impact on operational efficiency in both companies.

- **H_{o3}**: HRM has a significant impact on operational efficiency
- **H_{a3}**: HRM has a minimal impact on operational efficiency in both companies.

These hypotheses can be tested using regression analysis, t-tests, and confidence intervals as indicated below:

For Eden:

- **HRM:** B= 0.177, t= 1.245, sig= 0.021(significant)
- **SCM:** B= 0.220, t= 2.744, sig= 0.007 (highly significant)

- **CRM:** B= 0.140, t= 1.77, sig= 0.030 (significant)

For Fikr:

- **HRM:** B= 0.105, t= .875, sig= 0.031(marginal significant)
- **SCM:** B= 0.368, t= 3.286, sig= 0.001 (highly significant)
- **CRM:** B= 0.103, t= 0.887, sig= 0.034 (significant)

4.9 Model Summary[b]

Table 12 Model Summary

companies	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Eden	1	.757[a]	.576	.572	.526
Fikr	1	.674[a]	.509	.503	.740

Source: Own data manipulation (2025).

The dependent variables may be responsible for the variance in the dependent variable, according to the Adjusted R square. According to the study, the independent variables (HRM, SCM, and CRM) can account for 57.2% and 50.3% of the variations in the dependent variable operational efficiency on both firms respectively. The remaining 42.8% and 49.7% are management practices that are not examined in this research. The coefficient of determination (Adjusted R square) for Eden and Fikr bottled water companies' is.572 and.503, respectively.

Eden bottled water company appears to benefit more directly from dependent variables HRM, SCM, and CRM in terms of operational efficiency than Fikr bottled Water Company as reflected by the higher Adjusted R square value. However have significant factors influencing their operational efficiency.

The **R value** (correlation coefficient) and **R square** (coefficient of determination) help evaluate the strength of the relationship between management practices (HRM, SCM, CRM) and operational efficiency. Based on the data, the independent variable R values are .757 and .674 for Eden and Fikr manufacturing firms respectively. It indicates a strong correlation between management practice and operational efficiency. Eden's model has a strong relationship than Fikr's.

R square value represents the proportion of variance in operational efficiency explained by HRM, SCM, and CRM. Eden management practices accounts for 57.6% of the variation in operational efficiency, while Fikr's explain 50.9%, this also Eden has better predictive power than Fikr

4.10 Discussion of results

The study conducted on management practices for enhancing operational efficiency in Eden and Fikr bottled water manufacturing companies in Gurage zone provides significant insights into organizational performance. The study found that different management practices, including supply chain management (SCM), customer relationship management (CRM), and human resource management (HRM), have different levels of impact on operational efficiency. SCM stood out as the most influential of them, making a substantial contribution to process and resource optimization. According to the study, effective supply chain management is necessary for prompt and effective operations, which maximizes dependability and productivity.

Compared to SCM, HRM practices showed a lesser association with operational efficiency, notwithstanding their good contributions. In order to properly utilize human capital, this data suggests that both businesses may need to enhance their hiring procedures, training programs, and performance evaluations. The report emphasizes how crucial it is to use strong HRM practices to promote employee engagement and teamwork.

The effects of CRM strategies on operational efficiency were not entirely consistent. According to Eden, CRM greatly improved operational results and customer pleasure, indicating that concentrating on CRM tactics is essential for preserving client loyalty and raising service standards. Fikr's CRM procedures, however, were less successful, pointing to areas where data integration and customer relationship management need to be strengthened.

Higher mean values and consistency in operational efficiency indicators further demonstrated Eden's superior performance across all tested management strategies in the comparative analysis. Fikr displayed diversity and possible gaps in HRM and CRM processes, despite showcasing strengths in certain areas, such as SCM.

Overall, the study comes to the conclusion that improving operational efficiency in both businesses requires giving SCM top priority, followed by focused enhancements in HRM and CRM. In order to achieve sustainable growth and a competitive edge in the bottled water sector, managerial decisions are based on the findings. For more thorough insights, future studies might examine other untested management techniques in greater detail and do more extensive industry comparisons.

CHAPTER FIVE

5. CONCLUSION AND RECOMMENDATION

5.1 Conclusion

In order to enhance operational efficiency management practice at all level will support the effort of the company and to be considering those management practices as the greatest asset of the company. HRM, SCM, and CRN, which are considered as the greatest asset of an organization, refer to people whose knowledge, skills & abilities are utilized to create and to deliver effective operation. Effective human resource management attracts the Wright quality and quantity of people, develops the knowledge, skills and abilities of employees for enhancing operational efficiency, upgrade the efficiency of operation of the company. The organization need to have an effective supply chain management in order to enhance operational efficiency of the company. When the supplies are efficient the organization have good opportunities for operation. The supply need to be selected based on what they required in operate efficiently and timely. Customer relationship management assigns the right customer constantly. Customer is good assets and measure for operate their goods and services timely and effectively.

The goal of the study was to evaluate how management practices affected the operational effectiveness of the companies that made Eden and Fikr bottled water.
The study found that operational efficiency is significantly impacted by management practices. It has been discovered that management practices, such as supply chain management, customer relationship management, and human resource management, are responsible for operational efficiency. Based on the findings, the researcher came to the conclusion that operational efficiency is significantly impacted by how well management practices are implemented inside the company. The results indicate that the operational efficiency of the organizations is impacted by management practices by around 64.5%. This type of analysis could assist the business in realizing and becoming more conscious of its management practices.

According to the regression study, the three primary management practices—supply chain management, customer relationship management, and human resource management—have varying effects on operational efficiency during this time. The organization's level of such management methods varies. In both the Eden and Fikr bottled water manufacturing companies, supply chain management has a greater impact on operational efficiency than the other independent factors. Customer relationship management, on the other hand, has a second effect on the Eden bottle

manufacturing company. Human resource management, however, has little effect on the operational effectiveness of the bottle manufacturing companies Eden and Fikr. Generally speaking, all dependent factors, to varying degrees, improve the operational efficiency of businesses.

Responses from participants in the bottle manufacturing companies Eden and Fikr indicate that supply chain management techniques enhance operational effectiveness. Furthermore, it can be inferred from the correlation study conclusion that operational efficiency and supply chain management have a positive and substantial link.

Finally the results of this study indicate that two independent variables; supply chain management, and customer relationship management are significantly correlated with operational efficiency while human resource management has minimal impact on operational efficiency and insignificant.

5.2 Recommendation

Strengthen Supply Chain Management: Both businesses should make investments to streamline their supply chain operations, emphasizing dependable and timely supplier relationships, effective inventory control systems, and adherence to quality standards. Enhancements to SCM have to continue to be a top strategic focus.

Improve Human Resource Management: Both businesses must make improvements to their hiring and selection procedures, offer frequent training sessions, and cultivate a performance-based organizational culture. The goal of HR policies should be to develop a skilled and driven staff.

Optimize Customer Relationship Management: While Fikr should look into ways to improve customer happiness by utilizing technology and individualized communication techniques, Eden should capitalize on its CRM assets. Long-term growth and increased client loyalty can result from strengthened CRM managements.

Establish Continuous Improvement Programs: In order to improve their operational efficiency, both companies should promote a culture of ongoing learning and innovation. They should also use performance measurements and frequent feedback channels.

Both company should prioritize and further optimize their supply chain management (SCM) processes, as SCM demonstrates the strongest and most significant contribution to operational efficiency for both organizations. Fikr bottled manufacturing company in particular, should continue to control its support on SCM practices to sustain and enhance its operational outcomes.

Customer relationship management CRM shows a significant positive impact on Eden’s bottled water manufacturing company operational efficiency. This indicating that Eden bottled water

manufacturing company should focus strengthening its CRM management practice further. While Fikr bottled water manufacturing company showing a weaker influence of CRN should explore opportunities to enhance the effectiveness of its CRM practice, actually still they have potential to positively impact its operations.

5.3 Directions for Future researcher

This research assessed selected management practices that are most applicable to Eden and Fikr bottled manufacturing companies. The study explored the effect of management practices on operational efficiency, specifically focusing on human resource management, supply chain management, and customer relationship management. According to the findings, in order to enhance operations and achieve the organization's desired goals, management utilizes continuous progress reviews and the implementation of effective management practices.

Therefore, this study may pave the way for further research on the implementation of management practices. Future researchers can assess additional management practices not included in this study and examine their impact on enhancing operational efficiency, as well as explore solutions for challenges faced by private and public organizations. Moreover, future research can extend to various sectors across different cities to generate more significant results. Although this study has certain limitations, operational efficiency remains a widely studied topic with opportunities for further exploration.

5.4. Limitation of the study

The purpose of this study was to investigate the effect of management practice on enhancing operational efficiency. The major constraints of the study that the researcher faced were unwillingness of management to disclose some information. The researcher select three management practice based on the literature done outside of Ethiopia, her was limitation of roll management practice in the case of Ethiopia most of the study single base management practices. The practices which are not concluding in this study may be more important with the context of Ethiopia.

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APPENDIX

Wolkite University

College of Business and Economics

MBA Questionnaire to be filled by Employees

Dear Respondent

This questionnaire is prepared to collect data for the study to be conducted on the title ″Management Practices for Enhancing Operational Efficiency: a comparative analysis on selected bottled water manufacturing company in Gurage Zone‟ as a partial fulfillment for master's Degree in Business Administration from Wolkite University.

For the these questions will be used to evaluate the impact of the management practice in the company on the enhancement of operational efficiency of the organization and the contribution to the benefits of the employer's compared with other similar companies. When you fill the questionnaires,

- Please indicate your answers with a check mark (√) in the appropriate box provided

Thank you very much for your willingness and response.

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PART 1: Demographic information.

1 Gender

Gender	mark on a right place
Male	
Female	

2 Age

Age	mark on a right place
<25	
26-35	
36-45	
46-60	
>60	

3 Level of Education

Level of Education	mark on a right place
Master's	
Degree	
Diploma	
TVT Certificate	
High school complete	
Primary	

4. Position in the company

Position	mark on a right place
Owner	
Manager	
Employee	

5 Work experiance

Experience	mark on a right place
Less than 1 year	
1-3 year	
4-5 years	
More than 5 years	

6 Position/ Category

position	mark on a right place
Employer	
Manager	
Owner	

Part 2:-The effect of human resource management practices for enhancing operational efficiency.

How much do you agree with those listed effects of human resource management practices on the enhancement of operational efficiency ? *Please mark on right place.* ***SA*** *strongly agrees,* ***A*** *agree,* ***N*** *neutral,* ***D*** *disagree,* ***SD*** *strongly disagree.*

No	Effects of human resource management practices	**S.D**	**D**	**N**	**A**	**S.A**
1	Poor coordination on employer's for enhancing operational efficiency.					
2	In effective recruitment process on selecting qualified candidates					
3	In adequate training and development opportunities.					
4	Lack of encouraging and rewarding employees who are effective in their work					
5	Top management's involvements were not communicated with employers early enough before operational process.					
6	A positive organizational culture encourages collaboration and innovation, leading the organization to greater effectiveness.					

7	Performance metrics and regular feedback help employees understand their roles and improve their contributions.					

Part 3:- The key factors of supply chain management that impact on enhancing operational efficiency of companies.

How much do you agree with the key factors of supply chain management that impact on enhance operational efficiency? *Please mark on right place.* ***SA*** *strongly agrees,* ***A*** *agree,* ***N*** *neutral,* ***D*** *disagree,* ***SD*** *strongly disagree.*

No	**key factors of supply chain management that impact on enhance operational efficiency**	**S.D**	**D**	**N**	**A**	**S.A**
1	Failure to comply with accurate forecasts based on demand and failure to maintain product quality standards.					
2	The location of warehouses and the product alignment of product assortments hamper the efficiency of distribution.					
3	Making just-in-time (JIT) product delivery unavailable to customers and shift to other sister company products.					
4	Not taking strong partnerships with suppliers to make the company's products accessible to consumers.					
5	lack of many providers and lack of accessibility and competitiveness in many parts of our country.					
6	Well-defined procedures ensure consistency and efficiency.					
7	Eliminating waste in processes increases efficiency and reduces costs.					
8	Adhering to quality standards ensures product reliability and customer satisfaction.					

Part 4:- The customer relationship management practices influence the operational efficiency of companies.

How much do you agree with the customer relationship management practices influence the operational efficiency? *Please mark on right place.* ***SA*** *strongly agrees,* ***A*** *agree,* ***N*** *neutral,* ***D*** *disagree,* ***SD*** *strongly disagree.*

No	customer relationship management practices influence the operational efficiency	**S.D**	**D**	**N**	**A**	**S.A**
1	Lack of centralized CRM system data access and sharing between departments					
2	Not reducing the frequency of CRM processes					
3	CRM tools don't facilitate or create better communication between sales, marketing, and customer service teams.					
4	Improving the quality of customer service provided by obtaining comprehensive customer profiles.					
5	The internal collaboration of CRM tools facilitated better communication between teams (sales, marketing and customer service), enabling more coordinated strategies and faster problem solving.					
6	Customer Interaction Improved customer satisfaction and loyalty through personalized messaging and timely responses.					
7	Performance indicator tracking identified areas for improvement using key performance indicators (KPIs) and facilitated resource allocation.					

Part 5:- Operational efficiency related questionnaires.

How much do you agree with questionnaires related to operational efficiency? *Please mark on right place. **SA** strongly agrees, **A** agree, **N** neutral, **D** disagree, **SD** strongly disagree.*

No	**customer relationship management practices influence the operational efficiency**	**S.D**	**D**	**N**	**A**	**S.A**
1	Our processes are streamlined and free from unnecessary steps.					
2	We have the necessary tools and resources to perform our tasks efficiently.					
3	Communication within team is effective and facilitates smooth operations.					
4	e regularly review and optimize our operational processes.					
5	The internal collaboration of CRM I feel empowered to make decisions that improve efficiency in my work area.					
6	Our organization effectively utilizes technology to enhance operational efficiency.					
7	There is a culture of continuous improvement within the organization.					
8	We have clear performance metrics to evaluate operational efficiency.					
9	The company prepares adequate training to perform our tasks efficiently.					
10	Our organization is responsive to feedback regarding operational inefficiencies.					

Thank you for your participating!

Abreham Getahun