KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,

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INSTITUTE OF DISTANCE LEARNING

ASSESSING THE IMPACT OF INVENTORY MANAGEMENT PRACTICES ON PRODUCTION PERFORMANCE IN THE BEVERAGE PRODUCTION INDUSTRY. THE MODERATING ROLE OF DYNAMIC CAPABILITIES.

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A THESIS SUBMITTED TO THE DEPARTMENT OF SUPPLY CHAIN AND INFORMATION SYSTEMS, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF

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DECLARATION

I hereby declare that this submission is my own work towards the Master of Science Logistics and Supply Chain Management Degree and that, to the best of my knowledge, it contains no material previously published by another person or material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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DEDICATION

I dedicate this work first and foremost to God Almighty through whose grace and mercy I was able to complete this programme,

I also specially dedicate this Thesis to my supportive wife and children for their care and efforts throughout my academic work.

To God be the Glory!

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To my family and friends for your support and the can-do spirit impacted in me, God richly bless you all.

ABSTRACT

The research sought to assess the impact of inventory management practices on production performance in the beverage industry, looking at the moderating role of dynamic capabilities. The study focused on an industry perspective, and leveraged data from four alcoholic beverage manufacturing firms within Ghana. The study chooses a sample of 120 staff and managers of the beverage industry but received 117 responses were received which constitute 97.5% response rate. Data was collected from the respondents using structured questionnaires. The respondents were chosen using both purposive and convenience sampling techniques, and the Statistical Package for Social Science version 20 was employed to analyze the data. The study found that the dominant inventory management practices in the beverage industry were; Economic order quantity, use of bar code scanner systems, enterprise resource planning systems, vendor managed inventory, and just-in-time. Economic order quantity, barcode scanner system, enterprise resource planning system, and vendor-managed inventory (independent variables) were found to have a significant and positive impact on production performance of the beverage manufacturing industry. The study found just-in-time (independent variable) to have an inverse and insignificant relationship and impact on production performance in the beverage industry. The study equally found economic order quantity to be the variable making most contribution to the prediction and production performance of the beverage industry. The study further found marketing capability, alliancing capability (independent variables) to have a positive and significant relationship with production performance of the beverage industries. Technological capability development (independent variable) was found to have inverse but positive relationship with production performance (dependent variable). Meanwhile, managerial capability (independent variable) has inverse and insignificant relationship with production performance of the beverage manufacturing industry. The study concluded that, a reasonable balance between dynamic capability strengthens the association between inventory management practices and production performance. Findings indicated that, introduction of dynamic capability into the operations of manufacturing firms enhance it level of performance. It is therefore recommended that, the beverage manufacturing managers should strategically manage and invest in boasting the performance of its dynamic capabilities so as to enhance performance.

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LIST OF ABBREVIATIONS

ABL	=	Accra Brewery Limited
DC	=	Dynamic Capability
PP	=	Production Performance
EOQ	=	Economic Order Quantity
JIT	=	Just-in-Time Delivery
KNUST		Kwame Nkrumah University of Science and Technology
SPSS	=	Statistical Package for Social Sciences
ERP	=	Enterprise Resource Planning
VMI	=	Vendor Managed Inventory
AC	=	Absorptive Capacity
TCA	=	Transaction Cost Analysis

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Many companies have struggled with inventory management and control in recent years, impacting their operational effectiveness. Inventory is resource-intensive; thus companies must create proper procedures to manage it. Well-managed inventory leads to higher performance and a competitive edge (Tiwari, Daryanto, & Daystar Wee, 2018). Multiple businesses worldwide struggle with inventory management, which delays manufacturing, processing, and operation and leads to losses.

Management must adopt precise inventory control processes to boost performance, according to Njoroge (2017). This is essential for commercial success. Inventory management evaluates ordering protections, storage, and use of production components (Muyundo, 2018). A company's production line's final goods quantity is also managed. Management techniques prevent production unit shortages or oversupplies that raise storage costs and component misuse. According to Radzuan, Rahim, Anuar, Nawi, and Osman (2015), too much stock limits the organization's finances, deteriorates and obsoletes products, and leads to abuse and theft. A stock shortage could disrupt operations, underutilize staff and machinery, dissatisfy customers, and damage consumer relations. Effective inventory management is needed to achieve operational efficiency based on raw material and facility stock balance. "Inventory" can relate to stockpiles, work-in-progress, consumables like spare components and unused materials, and finished goods. These consumables keep operations and processing equipment running smoothly.

Maintaining stock levels for the lowest cost is inventory management. Business expenses are reduced by lean inventory management. Working capital, finished goods,

machine components, and raw materials needed to make firm objects should be inventoried, according to Boche, Mulugeta, and Gudeta (2020). Inventory type is unimportant, but it must be appropriately managed to meet organizational goals including minimizing operational expenses, maintaining operations, and increasing productivity. Productivity is the goal of inventory management (Njoroge, 2017). Inventory management controls items and materials entering and leaving a company's functional and operational zones (Muller, 2019). Effective operation flow requires controlled unit and order transfers since too little or too much inventory might stop production due to waste, loss, and theft.

Good inventory management in manufacturing enterprises reduces operational costs, helps resolve inventory issues, and reduces cash holdings, according to Shen, Deng, Lao, and Wu (2016). The beverage sector seeks new ways to improve production, cut waste, satisfy customers, and outperform competitors in today's competitive market. To increase revenues and decrease expenses, the beverage business should strictly regulate inventory and follow the ABC analysis. Iasya and Handayati (2015) state that businesses with large inventories risk collapse and long-term profitability and sustainability if they don't manage their inventory well. Thus, efficient inventory management is necessary to avoid overinvestment. Thus, efficient inventory management is necessary to avoid overinvestment.

Reducing unnecessary inventories effects firm performance and profitability. In service delivery, Osei-Mensah (2016) observed that stock management is crucial, especially in the beverage business. Ghanaian industry provides 24-hour services, so management must design an inventory management system. Unless they effectively distribute

supplies and other inventory, operations would stop and customers will migrate to competitors' products in the beverage business. Onyango (2017) states that harsh competition, globalization, and resource shortages motivate enterprises to create items at lower costs and employ inventory management tactics. Inventory management solutions have grown in popularity because they minimize operational costs, maximize profitability, and improve supply chain efficiency.

Firms cannot use their usual capacities in unstable markets (Chmielewski & Paladino, 2007; Helfat et al., 2009). Because of this, the Dynamic Capabilities theory, a subset of the Resource-Based-View theory, expects enterprises to innovate and renew resources and core competences (Ramachandran, 2011). Higher-level capabilities that extend, adapt, transform, and develop resources and ordinary capabilities to improve performance in decision options (Eisenhardt and Martin, 2000; Winter, 2003). Dynamic capacities affect how quickly a firm responds to external changes (Easterby-Smith et al., 2009; Winter, 2003). This allows a corporation to actively generate, extend, or adjust its resource base through recurring, predictable choices and routines (Helfat, et al., 2009). Sensing, seizing, and reconfiguration are examples (Teece, 2007). The dynamic skills are those an organization utilizes to adapt to external changes. So it allows a business take advantage of possibilities and make all the necessary changes to its daily operations. In today's dynamic economy, organizations need dynamic capabilities to survive (Smith & Prietow, 2008).

Performance measures a company's cost of operations, adaptability, and reliability to generate trustworthy results. Also covered are product speed and quality (Wafula, 2016). Operational units need efficiency, effectiveness, production, and cost-cutting.

Periodic analyses are essential for management to understand the company's operations and performance. Production performance measures how successfully a company's processes and units work together to achieve its goals. Production performance, according to Marodin, Frank, Tortorella, and Fetterman (2019), is all activities an organization does to meet goals using available resources and schedules. Any deficiency in corporate aims and goals will require management to take corrective action to avoid worse crises and losses and produce high-quality products and services.

1.2 Statement of the Problem

Although controlling stock and distributing it at the appropriate time were tasks involved in inventory management, businesses often performed poorly. Excessive output can lead to high storage costs, inventory management issues force a halt to processing when raw materials are exhausted, and ineffective use of resources—people, machines, and resources—can result in waste and loss that negatively impacts a company's operational performance (Mbah et al., 2019). Because of the benefits, organizations have adopted inventory management practices. These inventory management practices are regarded as a great asset to a company because they assist in lowering operational expenses, maximizing revenue, and boosting sales. According to Nzuza (2015), firms occasionally struggle to manage their inventories, which results in decreased productivity, higher production costs, and resource waste. Additionally, a lack of inventory management practices has a detrimental impact on the company's production performance and makes it challenging to effectively and transparently track inventories across operational units and lines. Due to fierce competition from low-cost imports, high power prices, and poor demand in several economic sectors, manufacturers around the world are experiencing difficult times, with profits declining and some even entering the loss column.

The market share of beverages and distilleries has decreased due to the entry of new players in the manufacturing sector, which has also resulted in a decrease in industry turnover. For instance, look at the first half of 2020 (Lafarge, 2020). It is critical to ascertain whether inventory management techniques may improve production efficiency, which would subsequently improve the entire performance of manufacturing companies, especially in the beverage industry. Numerous studies have looked into how inventory management techniques affect production performance. For instance, Musau et al. (2017) looked at how inventory management methods affect organizational performance in textile manufacturing businesses. The findings show that inventory management improves the performance of textile businesses.

However, because production performance was not specifically addressed in this study, a conceptual gap exists. In the study of Nairobi-based construction enterprises' inventory management practices and supply chain efficiency, Joseph (2018) found that these practices had a significant impact on the efficiency of the latter. The study only looked at the construction industry as a whole, so the distilleries companies may not be able to use the results. Rapario (2019) investigated how cement manufacturing companies' supply chains performed and found that there was a relationship between inventory management practices and supply chain performance. However, because the study concentrated on supply chain performance and logistics management practices, there is a contextual gap. Moreover, none of the literature looked at inventory management practices and production performance in the beverage industry especially in the context of Ghana. Dynamic capacities have been described as direct drivers, prerequisites, moderators, or mediators of company performance by academics.

Performance As a result, there is disagreement on how the two are connected. studies on the performance of businesses and dynamic capabilities. For example, the connection between dynamic capacities and other organizational variables, including inventory management techniques and production performance, has not been well examined in the context. However, it is unknown to what degree dynamic capabilities can modify the relationship between inventory management techniques and manufacturing output in the beverage business. Therefore, the study aims to close the research gap by employing the moderating effect of dynamic capacities to evaluate the influence of inventory management techniques on production performance of the beverage industry in Ghana.

1.3 Objectives of the Study

The major objective of the study is to assess the impact of inventory management practices on production performance in the beverage industry, focusing on moderating role of dynamic capabilities. The specific objectives are;

1. To determine the inventory management practices adopted by the beverage industry.
2. To assess the impact of inventory management practices on production performance.
3. To examine the relationship between dynamic capabilities and production performance.
4. To assess the moderating role of dynamic capabilities on the relationship between inventory management practices and production performance.

1.4 Research Questions

1. What are the inventory management practices adopted by the beverage industry?
2. How does inventory management practices on production performance?
3. What is the nature of the relationship between dynamic capabilities and production performance?
4. What is the moderating role of dynamic capabilities on the relationship between inventory management practices and production performance?

1.5 Significance of the Study

The beverage sector management team, the Ghanaian government in policy creation and enforcement, and the academic community value the study. The accompanying paragraph details how each stakeholder will benefit. This study is meant to inform those who create, administer, and enforce inventory management and production performance guidelines in corporations and organizations, including the beverage industry. The study also highlights successes, difficulties, and solutions. The study will identify policy and regulatory gaps that can improve beverage sector efficiency.

The management of the company hopes the study will provide information to guide daily operations to minimize inventory holding costs and eliminate shortages, ensuring smooth operations flow. This study will show corporate management how maintaining inventory levels optimizes output. This study can provide empirical literature for future inventory management, procurement, and operations management researchers. The study will reveal gaps in production performance research for future scholars.

1.6 Overview of Research Methodology

In order to analyse and formally assess the correlations between the variables—inventory management methods and production performance—the study used both a descriptive and an explanatory research methodology, with the moderating influence of dynamic capabilities. The research approach is deductive because it starts with the formation of hypotheses and then collection of considerable data to test, confirm, or reject the hypotheses (Foster, 2012). It is also quantitative since it uses structural equation modeling to analyze the data.

Positivism serves as the study's epistemological philosophy, and objectivism serves as its ontological stance. The beverage sector in Ghana is the study's unit of analysis and its employees and managers are the target population. Using the convenient and purposive sampling techniques, a sample of 120 people is chosen. Utilizing exploratory factor analysis and confirmatory factor analysis, the data collected from the field is cleaned and examined for validity and reliability. The hierarchical regression model was used to analyze the the moderating role of dynamic capabilities on the relationship between inventory management practices and production performance

1.7 Scope of the Study

The impact of inventory management strategies on the performance of the beverage industries' production is the main topic of this study, with the moderating effect of dynamic capacities. Conceptually, the paper addresses the inventory management techniques used by the beverage sector, the effects of these techniques on production output, and the connection between dynamic capacities and output. As a result, the study's geographical scope includes Ghana's selected beverage manufacturing industries. Inventory management is the process of effectively overseeing the constant flow of units into and out of an existing inventory (Onkundi & Bichanga, 2016). This

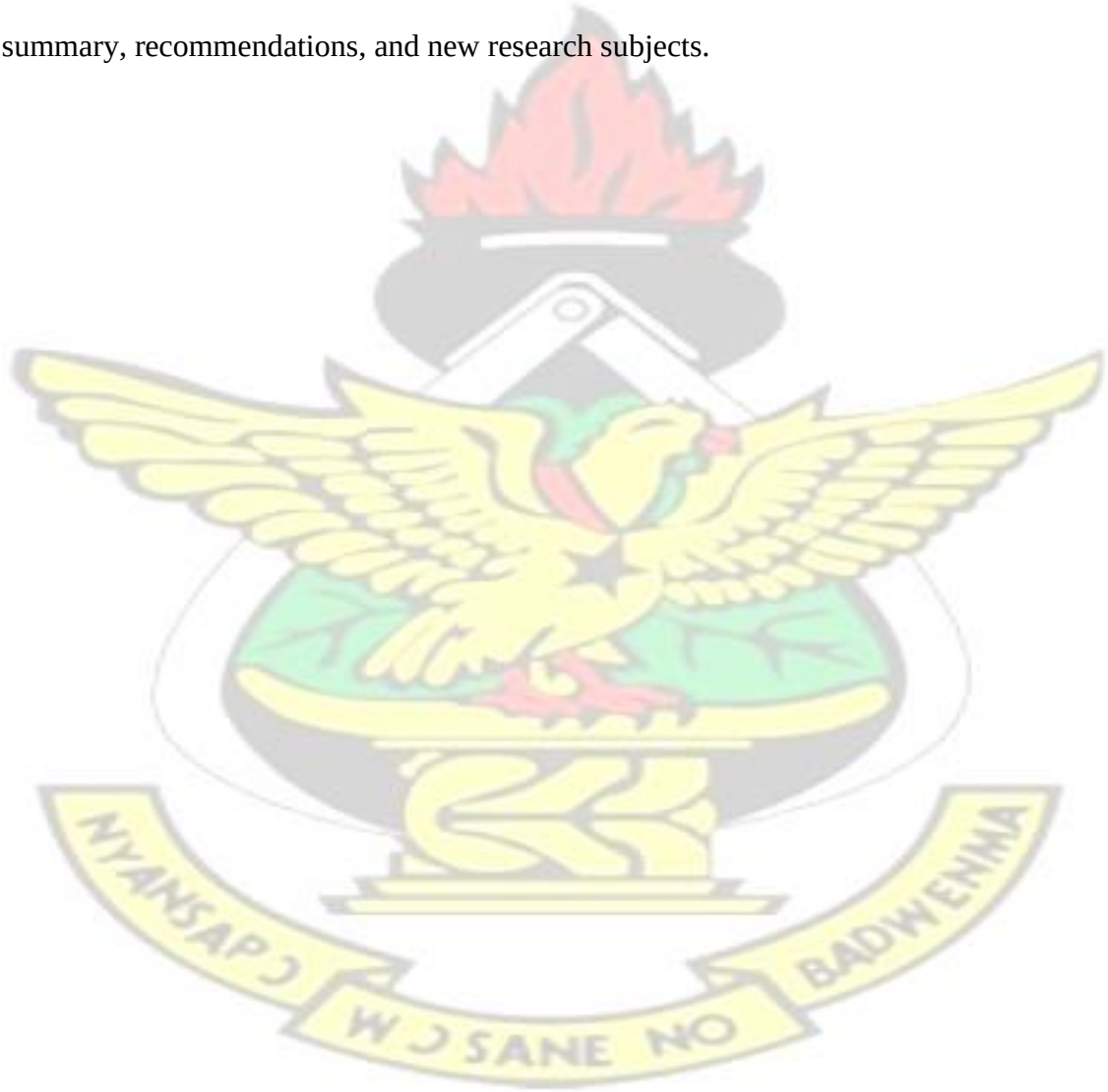
process usually involves controlling the transfer of the units in order to prevent the inventory from becoming too high, or dwindling to levels that could put the operation of a business into jeopardy. Effective inventory management seeks to control the costs associated with the inventory, from the perspective of the opportunity cost of the capital tied up in the inventory, the holding cost and the ordering costs. Dynamic Capabilities is a concept for organizational management and operations which focuses on the sustainable capacities and growth of an organization in an unpredictable industrial environment Teece, 2017).

1.8 Limitations of the Studies

Human endeavours typically face setbacks, and this study equally faced challenges. First and foremost, gathering information from the respondents was very challenging due to busy schedule and unwillingness to provide relevant information. The researcher therefore managed to gather relevant information from the respondents through persuasion. Some grumble about the annual student questionnaires, which haven't produced results. The researcher convinced respondents of academic research's importance to get their participation. Second, there are instances where respondent was not willing to provide correct information to the questions, however, the researcher convinced them to answer questions to the best of their ability. This project has experienced budgetary problems including questionnaire printing and data gathering, as does every research endeavour. In all these cases, the researcher did everything possible to assure study success. The sample collection and respondent availability may have caused bias. When answering the questionnaire, the study didn't consider the respondent's emotions.

1.9 Organization of the Study

Five chapters comprised this study. The first chapter covers the study's background of the study, problem statement, research objectives, research questions, significance, limitations, scope, and organization of the thesis. The second chapter includes the theoretical and conceptual framework and a literature review based on the study objectives. The third chapter covers study methodology, including design, target population, sampling strategies, sample size, instruments, data collection, and analysis. Chapter four covers data analysis and interpretation, while Chapter five covers a study summary, recommendations, and new research subjects.



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter assessed the theories and literature that had been cited in connection with the concepts under study. A literature review's main objective is to find, gather, analyze, and synthesize literature related to the research question (APU, 2015). It is the thorough and comprehensive analysis of the literature that is currently accessible on the study subject, claims Onwuegbuzie (2016). The three main theme areas on which the literature review in this study focused were the theoretical and conceptual framework, an empirical evaluation, and the definition of key terminology used in the study.

2.2 Conceptual Review

As stated, the research's component defines and explores ideas that are very important and deemed sensible for the investigation. Inventory control, dynamic capacities, and production output are pertinent examples of these factors (PP). The primary variables and the sub-variables of this study are described in this section along with their definitions, traits, benefits, and drawbacks. Practices for managing inventories, as well as dynamic capability and production performance, are the two key factors. In order to meet the study's goals, these variables direct the review's framework.

2.2.1 Inventory Management

Inventory management refers to a company's ability to maintain stock levels at the lowest possible cost (Gunasekaran et al., 2004; Lancioni et al., 2000). Inventory expenses consist of buying, storing, and losing money due to shortages (Drurry, 2004). Supply chain efficiency can be maintained in a variety of ways that contribute to things

like product replenishment and store assortment (Arshinder et al., 2007; Hoffman and Mehra, 2000). There is always a demand for new products, so it's important to start working with suppliers right away. Supplier participation is connected with new product success, according to the literature (Cadden and Downes, 2013; Johnsen, 2009). Strategic links with suppliers directly correlate to increased supplier participation. These measures help guarantee smooth upstream and downstream operations across the supply chain. However, plant-level constraints may impact supply chain-related procedures in the pharmaceutical industry. Inventory management is the practice of keeping track of the comings and goings of items in stock (Onkundi & Bichanga, 2016). This strategy often involves managing the transfer of units to prevent the inventory from increasing to dangerous levels or decreasing to dangerous levels that could threaten the operation of a firm.

Inventory costs can be broken down into three categories: the potential cost of the capital held in inventory, the holding cost, and the ordering expenditures. Making the inventory smaller and turning it more frequently while maintaining sufficient stock levels would cut the cost of goods sold and boost sales because the products will be available when customers need them (Wang, 2006) is one way in which manufacturing organizations can become more profitable with effective inventory management (Ngubane, 2015). Inventory control, as defined by Miller (20I0), is the practice of monitoring stock levels and ordering practices to ensure a steady supply of commodities without creating an excessive surplus. He defines effective inventory management as ensuring that supplies are available when and where they are needed. But the primary purpose of inventory control, as stated by Lau and Snell (2006), is to ascertain the quantity and placement of things in stock. There are many places in a manufacturing facility or distribution network where inventory control is essential to

prevent delays in production caused by a lack of critical materials. The term "inventory management" was used by Stevenson (2010) to describe the system by which organizations keep track of their stock. Adeyemi and Salami (2010) explain that inventory management is the process of maintaining tabs on and monitoring stock levels, forecasting future requests, and determining when and how to schedule. However, Deveshwar and Dhawal (2013) proposed that corporations employ inventory management as a method of organizing, storing, and replacing stock to ensure a steady supply of goods at a reasonable price. Choi (2012) claims that properly managing stock is essential for a company's success. Companies who care about their customers and want to provide a consistently high quality of service must ensure they have enough stock on hand to meet customer needs.

2.2.2 Inventory Management Practices

Inventory management is a technique used in supply chain management (Tungo, 2014) to organize the availability of products for customers, including sales goods, consumables, and replacement parts. A system's (or an operation's) ability to run for long periods of time for higher efficiency, purchase long run orders for better efficiency, have high stocks available for sale, and maintain a healthy working capital and cash flow is dependent on this balancing act. Ashok (2013) defines inventory as "the collection of items that a company presents for sale as different components of the product." Materials, work in progress, retail inventory, and components are all included. Ghosh and Kumar (2007) provide another definition of inventory, which is "the stock of items that a company maintains in anticipation of potential future demand." A company's inventory is any supplies it has on hand to meet its current and projected demands for output and sales (Arti & Dhawal, 2013).

Inventory management, on the other hand, is the "art and science of managing stock levels of a set of commodities at the lowest possible cost while still adhering to other pertinent targets and objectives defined by management" (Lwiki, Ojera, Mugenda, & Wachira, 2013). Inventory management is the act of deciding how much stock to keep on hand in order to take into account changes in demand, supply, and projections, according to Noor-Ajian, Faqih-Anas, Saimon, Fadzlita, and Bih- Lii (2014). The goal of inventory management is to help businesses identify and maintain the optimal level of inventory investment required to achieve their goals. The aim of inventory management is to obtain the optimal and most cost-effective inventory level, according to Benjamin (2001), referenced by Oladejo & Ajala (2016). Since holding an excessive amount of items increases the probability of waste, spoilage, and loss, takes more room, and is more expensive. Insufficient stock, on the other hand, frequently leads to production delays and subpar customer service.

Only-in-Time (JIT), Electronic Point-of-Sale (EPOS), bar coding, Lean inventory system, Material Requirements Planning (MRP), Enterprise Resource Planning (ERP), and Vendor Managed Inventory (VMI) are a few of the inventory management strategies used. Others include stock levels, ABC analysis, Strategic Supplier Partnership, Electronic Data Interchange (EDI), only-in-Time (JIT), EPOS, and bar coding. Every corporation can manage its stock efficiently by utilizing one of these techniques (Tungo, 2014). In the production of a good or service, stock on hand is just as crucial as any other tool. Many businesses kept finished goods, work-in-progress (WIP), components, raw materials, storage, spare parts, etc. in their inventories, which accounted for 80% or more of their working capital. Inventory management is defined in the literature as the "art and science of controlling stock levels of a certain group of commodities at the lowest possible cost while still satisfying other important

management purposes and objectives" (Lwiki, Ojera, Mugenda, & Wachira, 2013). According to Naliaka and Namusonge, there are a number of considerations that must be made when managing inventory, including lead times for replenishment, carrying costs, asset management, demand and price forecasting, physical inventory, inventory visibility, available space for inventory, quality management, returns, and defective goods (2015). Organizing the availability of products for consumers, including sales goods, consumables, and replacement components, is done using the inventory management technique in the supply chain management process (Tungo, 2014). This balancing act determines whether a system (or an operation) can operate for extended periods of time for higher efficiency, buy long-run orders for better efficiency, have high stocks available for sale, and maintain a healthy working capital and cash flow.

2.2.2.1 Economic Order Quantity (EOQ)

The EOQ model is an approach to inventory management that aims to reduce the usual expenses connected with purchasing and holding stock. In order to reduce overhead expenses, the amount of stock that should be acquired is determined using the optimum order quantity (EOQ) method. The EOQ is the foundation of a continuous-review inventory system and a minimum-cost procurement policy, both of which routinely check stock and place the same amount of orders. According to Le Roux and Lotter (2003), the model's fundamental assumptions consist of stable and well-known costs and demand, as well as the lack of point-of-sale discounts. However, in this conventional stock model, important considerations like product quality and supply gaps are ignored. Assumes, in other words, an unvarying and unchangeable standard of quality. Arslan and Metin (2010) updated the conventional EOQ model by

incorporating social and environmental norms as well as sustainability. Any business or manufacturing organization can benefit from using the EOQ model for a number of factors. According to Muhammad and Omar (2011), this strategy can be very helpful for businesses seeking to determine how much inventory to keep on hand, how many units to order at once, and how frequently to reorder in order to save costs. Businesses will benefit from this since it reduces their typically expensive holding and storage costs.

2.2.2.2 Just in Time (JIT)

By only placing orders for stock when they are truly needed, businesses can save money on inventory while simultaneously increasing efficiency and reducing waste using the JIT inventory management technique (Lee et al., 2013). Using this tactic successfully requires businesses to accurately anticipate customer demand. This method is different from the more common "just in case" approach, in which businesses save large stockpiles in case demand suddenly spikes. By eliminating the need for warehouse storage, JIT inventory management significantly reduces costs over conventional models (Monden, 2011). They save money on stock because they simply buy what they need to match customer demand. However, if a supplier is late, it could mean missed sales (both now and in the future) and higher costs for emergency purchases. Furthermore, while employing a JIT strategy, there is always the possibility of running out of stock. The term "just in time" was used by Bruwer (2010) to describe a system that ensures supplies are delivered right before they are needed. The JIT system approach conceptually combines the aims of low cost, high quality flexibility, and delivery dependability (Chakraborty, 2012). Its core tenets are the elimination of waste and the constant improvement of efficiency. When the two JIT objectives of

avoiding stock-outs and reducing inventory are in harmony, storage and holding costs are greatly reduced. Stock is also less likely to be sold off because it has expired or become obsolete. Gupta (2012) argues that the JIT system's primary benefit is that it helps businesses respond more quickly to shifts in the market, giving them an edge in the marketplace.

2.2.2.3 ABC Analysis

Manufacturing companies can also use the ABC Analysis method as an inventory management tool. According to this system, inventory items are divided into three categories: A denotes the most valuable items, B denotes the next most valuable items, and C denotes the least valuable objects (Ravinder, 2004). The usual method of classifying is to multiply the value per unit by the annual usage rate (Yu, 2010). The ABC technique aims to direct a manager's attention on the select few (A-items) crucial issues rather than the many unimportant ones (C-items). By separating them from the other items and categorizing them, a management can find inventory hotspots, especially those that are plentiful but not highly profitable.

2.2.2.4 Enterprise Resource Planning Systems

ERP adoption is common in modern enterprises. Kumar and Hillegersber (2000) observed that ERP systems are so prevalent in modern industry that they are called "the entry price for a business." ERP software integrates most of a company's basic tasks, such as transaction processing and management information, into information systems (Whitten et al., 2004). A company's ERP system may link its internal and external data, operations, and IT resources in real time. Shang and Seddon (2002) define an ERP system as a package of integrated applications. Kumar and Hillegersber stressed the

importance of SMEs in ERP. They admitted that small firms use ERP systems. ERPs have replaced alternatives for smaller and medium-sized organizations in recent years. According to Esteves (2009), due to financial limitations, small firms are now more able to purchase and employ ERP systems than they were in the past. Businesses spend a lot of money on computing infrastructure, which should increase productivity. Numerous research revealed advantages (Nicolaou et al., 2004; Velcu, 2007; Elragal and Al-Serafi, 2011). According to research, any project requires employees with the right mix of business and IT skills (Skok and Legge 2012; Wateridge 2007).

Hawa et al. (2012) investigate the effectiveness of HR's assistance with software engineering efforts. The study concentrated on the best ways to assign project team members according to their skills, backgrounds, and responsibilities. The fundamental human needs for the implementation of ERP in agro-processing were covered. Utilizing people's skills has an instant impact on the result. The organization must enable management to address issues quickly, effectively, and independently in all ways. Organizational leaders require strong opinions, trustworthy interpersonal and communication abilities, integrity, self-mastery, and drive in addition to physical endurance. As an organization grows, so do its management layers. Archiving is impossible when business data increases. A human cannot store and analyze data as quickly and effectively as an internet database. The company's first planning and planning application software swiftly developed into its most intricate and comprehensive enterprise system, supporting all business processes while reducing costs and enhancing operations (Chen, Liang, & Hsu, 2014).

ERP systems handle workflows, resources, and other operations for many firms today. It is currently considered crucial for company performance because it supports many business processes and ensures flawless transactions and results. Remember that

they've received a lot of bad press (Shaul and Tauber, 2013) while being a great solution for many companies. As mentioned, the ERP system is complex because it comprises programs for many organizational needs. ERP systems assist firms reduce costs, pool resources, and improve operations by using cutting-edge technology to provide solutions, according to Amoako-Gyampah (2004). Companies use "enterprise resource planning" (ERP) to refer to management software utilized in accounting, HR, and marketing.

Otieno (2008) recommends integrating financials, inventory, sales, and customer data into an ERP system. ERP's integrated software simplifies this process. Enterprise resource planning (ERP) at a company aims to manage external stakeholders and optimize information flow between all business functions. Many firms want to boost productivity. ERP software integrates all aspects of an organization. Third-party integration players may include vendors and customers. The process may involve them. From servers to networks to platforms to PCs, on-site ERP is installed on all company gear. The company runs and supervises the ERP system utilizing a software license approach. The firm will pay for facility operation, upkeep, and disaster recovery. ERP hosting services include physical server hosting and management. The service is usually supplied via an online or offline direct network connection (Owen, 2011).

2.2.3 Dynamic Capabilities

Globally, organizations seek methods to prosper in dynamic global competition (Pisano, 2016). Strategic managers and researchers today believe dynamic competencies are vital to strategy and business performance in the face of environmental uncertainty (Teece, 2017). Fast response times, flexible product

innovation, and managerial abilities to organize and redeploy internal and external talents have prevailed in the worldwide market (Teece, Pisano & Shuen, 2013). Businesses' ability to react to environmental dynamic to satisfy demand is a key performance factor.

According to Helfat and Martin (2015) an organization's dynamic capabilities include expanding, contracting, or changing its resource base. In order to obtain and maintain a competitive advantage, Teece (2017) described them as a firm's attitude to continuously integrate, reconfigure, refresh, and regenerate its resource capabilities and core competencies. The organization builds and modifies operational processes through dynamics, a taught and ongoing pattern of group behavior, to increase effectiveness (Peteraf, Stefano & Verona, 2013).

Dynamic capabilities are defined by Vogel & Güttel (2013) as collaboration, decision-making, and product creation processes. According to Harris & Helfat (2016), they restructure the firm's resource base by removing outdated resources or combining current resources in novel ways. These procedures may have been used by the company. According to Teece (2012), in order to maintain or improve performance, dynamic capabilities affect the company's current resource base and produce a new bundle or configuration of resources. According to Wilhelm, Schlömer, and Maurer, dynamic capability can change how resources are allocated, organizational procedures, knowledge is developed and transmitted, and how decisions are made in businesses (2015). Schilke (2013) claims that in order for businesses to compete in their markets, they need to have the ability to change and grow. DC expertise keeps businesses competitive in environments that change quickly (Akpobi, 2017). According to Cyfert, Chwikowska-Kubala, Szumowski, and Mikiewicz (2021), businesses can adapt to environmental changes with the aid of dynamic capacities. The opportunity search,

knowledge management and learning, coordination, configuration and reconfiguration, and organizational flexibility are all included in the Cyfert et al. (2021) DC model. Consequently, DC includes knowledge articulation, codification, learning processes, resource integration, reconfiguration, acquisition, and release (Zollo & Winter, 2002).

2.2.3.1 Absorptive Capabilities

The four main types present across sectors, according to Wang, Senaratne, and Rafiq in 2015, are absorptive capability, adaptable capability, and inventive capability. Other characteristics found across many industries, according to Teece, included managerial and marketing skills (2010). Absorptive competency is the capacity of an organization to identify significant outside information and use it for its own benefit. Utilizing knowledge strategically while leading an organization (Andrea & Peter, 2012).

2.2.3.2 Innovative Capabilities

A company's capacity for innovation is what allows it to develop new products and markets (Wang, 2014). In this study, managerial, marketing, partnering, and adaptive capability were used as the dependent variables to reflect dynamic capabilities in accordance with Teece's (2014) claim that different forms of dynamic capabilities exist depending on the industry.

2.2.3.3 Adaptive Capabilities

According to Paliokaite, resilient behavior, change management, and horizon scanning are examples of adaptive skills (2012). Horizon scanning regularly gathers market information (Ali, Sun & Ali 2017). Using horizon-scanning data, change management modifies objectives, strategies, structures, and practices (Henricks, Young & Kehoe,

2020). Resilience enhances a business' ability to withstand disruptions (Maria & Ioannis, 2019). According to this study, adaptive capability is the capacity to keep an eye out for new technologies, deal with change, and endure adversity (Paliokaite, 2012). According to Liu and Lin, an organization's capacity for adaptation determines its course for survival and performance (2019).

2.2.3.4 Marketing Capabilities

A company's marketing competence combines its knowledge, skills, and resources to satisfy market demands, enabling it to compete and provide value to customers (Sun & Price, 2016). Heirati, O'Cass, and Ngo (2013) define marketing competency as the ability to manage brands, customer relationships, and markets. Market sensing is used by the farm to identify trends in both current and emerging markets. Customer relationship management, according to Lin, Sanders, Sun, Shipton, and Mooi (2018), entails establishing and maintaining relationships with customers. Strong brand development, maintenance, and marketing are all part of brand management (Hanna & Rowley, 2011). This study operationalized marketing competence as market sensing, customer contact, and brand management, as stated by Heirati, O'Cass, and Ngo (2013).

2.2.3.5 Alliance Capabilities

According to Ziggers and Tjemkes (2010), alliance capacities include a variety of skills, including the ability to choose compatible partners, start a relationship, maybe change its form, and, if required, end it. According to Kih (2019), alliances have an impact on performance because they help firms get around resource limitations, protect against environmental risks, and open up new market opportunities. In the study done by Ziggers and Tjemkes (2010), four crucial factors—new partner identification, inter-organizational cooperation, alliance experience, and relationship termination—were used to quantify alliance capability.

2.2.3.6 Managerial Capabilities

According to Teece (2010), managerial competencies are the dynamic forces behind a firm's ability to renew resource positions and adapt to shifting external circumstances. According to Teece (2012), an organization's managerial skills are firmly based in its management's human capital, social capital, and cognitive ability. According to Helfat and Martin (2015), the acquisition of skills that call for a financial investment in training is included in the concept of human capital. Managers' decision-making processes vary depending on their human capital, claim Harris and Helfat (2014). According to Steers, Sanchez-Runde, and Nardon, management cognition refers to the mental models that guide managers' decision-making processes (2012). The idea that the advantages brought about by social ties may have an impact on workplace environments is where the idea of social capital first emerged. Helfat and Martin (2015) assert that managerial decision-making is influenced by cognitive processes. In this study by Teece (2012), managerial competence was operationalized as a set of skills that included decision-making, management style, employee development, succession planning, managerial human capital, and managerial social capital.

2.2.4 Concept of Production Performance

The assessment of production performance helps businesses understand their condition, progress toward goals, and alignment with goals. Habibah (2014) discovered that manufacturing involves the methodical conversion of raw resources into partially or fully finished goods that benefits consumers or users. Production is the methodical creation of commodities and services. Bunse and Vodicka (2011) define production as the quantification of labor and capital into goods. Production performance measures numerous operational efficiency elements of a manufacturing unit. By dividing input by output, the input-output ratio is determined. Additionally, the processing unit of a

business is rated according to the caliber of its output, operational effectiveness, adaptability to changes, reliability, and consistency. Measures of production efficiency examine the impact of total production costs on profitability, returns, and customer satisfaction (Muyundo, 2018).

According to Mbah, Obiezekwem, and Okuoyibo (2019), effective inventory management boosts machine utilization, warehousing expenses, and operational efficiency. High-quality operational efficiency and performance are guaranteed by ensuring raw material availability for continuous processing. Inventory management programs, according to Panwar, Jain, Rathore, Nepal, and Lyons (2018), boost output. Maintaining appropriate inventory levels, according to Mbah et al. (2019), prevents stock outs, enables continuous production, and makes the best use of organizational resources like machinery. The risk of both overproduction, which can result in theft, loss, and waste due to product obsolescence, and underproduction, which can result in consumer dissatisfaction and failure to meet market expectations, is diminished when there is enough inventory on hand. Machine optimization, waste reduction, and continuous processingin the manufacturing unit were used to evaluate production performance.

2.3 Theoretical Review

Kothari (2004) asserts that it is possible to explain and predict phenomena by class using a coherent set of tried-and-true hypotheses shared by the proper ones. To explain the justifications put out in this study in light of this definition, the study applies three theories. A research work's theory might be held or supported by the theoretical

framework of the investigation. The Wilson's EOQ Model and the notion of transaction cost analysis are two concepts that were used to support the study.

2.3.1 Transaction Cost Analysis Theory

Transaction Cost Analysis (TCA) reduces supply chain costs, according to Hall (2014). TCA was frequently employed in economics and organizational performance research. At the start of the 1970s, mathematician and economist Williamson built his transaction costs economics in the cutting-edge theory of an organization and integrated TCA into the general equilibrium model. Vertical integration increases trust and lowers transaction costs, according to Williamson (2015). Integration would likely reduce inventory management expenses, improve service to internal and external customers, and free up cash for other company uses. An organization's major purpose is to cut expenses, including supply chain transaction costs. Transaction cost reductions usually increased profitability. As previously stated, inventory management solutions were expected to dramatically improve supply chain management. This study examined whether beverage sector inventory management solutions improve production performance and profitability by measuring effective delivery and profitability.

2.3.2 Theory of Economic Order Quantity (Wilson's EOQ Model)

The EOQ approach, developed by Coleman (2013) and Ogbo (2011), focuses on placing orders in small enough quantities to lessen the cost stability between inventory holding costs and reorder costs. The demand is known and constant, the lead time cycle is well-known and constant, the price per unit is also constant, and the complete batch is quickly supplied, according to (Ogbo, 2011), who also listed other important assumptions for the EOQ model. EOQ frequently overlooks shield stockpiles, which take lead times and demand into account, making implementation challenging. The EOQ model requires shops to identify the point of ordering, the largest economically

possible amount of ordering, for each item under preservation. The model neglected the fact that all firms had uncertainty and assumed all other variables would remain constant. Changes in demand intensity, shipping damage, and delivery delays were uncertainties. The extent of demand uncertainty would require EOQ to be adjusted to defend against the unpredictable business condition.

In this study, demand volatility was prevalent, therefore employ adjusted economic order quantity as an EOQ model. It was crucial to understand how many Ghanaian beverage manufacturers used the EOQ approach and how it influenced output.

2.3.3 Resource-Based View Theory

A crucial idea for comprehending a firm's sustained competitive advantage is resource-based viewpoint theory. Midway through the 1980s, Wernerfelt, Rumelt, and Barney proposed the theory. According to the resource-based view, an organization's internal environment provides two competitive advantages that are essential to strategy. By effectively exploiting these resources, a company can acquire a sustainable competitive edge (Ringim, Razalli, & Hasnan, 2012). These assets are both tangible and intangible. For two key reasons, the resource-based view theory calls for a variety of resources. Due to resource heterogeneity, businesses can only distinguish themselves from rivals by using resources that are very different from their own (Kim, Shin, Kim & Lee, 2011). The business resources are immovable and non-transferable, which is the second tenet of the resource-based worldview theory (Akio, 2005). According to the resource-based perspective, beverage companies risk losing their competitive edge if key inventory management capabilities are hard to come by, duplicate, or replace.

According to the RBV hypothesis, businesses should concentrate on developing competitive advantages from within rather than outside. In order to support business strategy and satisfy future needs, supply management plans are a necessary component

of inventory management abilities (Carr & Pearson, 2002). Due to the interaction between buyers and other users in a complicated social network, skill duplication is challenging (Eltantawy, 2005). Sulastri (2006) claims that the RBV strategy aids firms in controlling inventories and allocating them effectively, enhancing performance and competitiveness. A cost-effective approach to inventory management relies on RBV's ability to identify unnecessary spending through value analysis. By examining materials, components, and systems, value analysis reveals ineffective spending (Husnah, 2013). The RBV has been criticized by a number of reviewers. Opponents contend that the resource-based view theory is operationally incorrect since it can only be applied in a static environment, which is untrue in actual life. The most well-known criticism of resource-based viewpoint theory is dynamic. This concept only applies to static situations since resources might not be sufficient in a dynamic environment to obtain a sustained competitive edge. In reality, businesses operate in a dynamic environment that changes quickly.

2.3 Empirical Review

Many studies have shown that "Just-in-Time" inventory management increases firm performance. Fullerton et al. (2003) found that outperforming companies use a better JIT inventory technique. Therefore, implement uniform workloads, setup times, and preventative maintenance schedules to save waste. Due to JIT methods, corporations constantly beat their rivals in profitability. Eroglu and Hofer (2011) used Empirical Leanness Indicator (ELI) to show that inventory management improves company performance. Empirical Leanness Indicator (ELI) inventory management is ideal,

according to Eroglu and Hofer (2011). Good inventory management is related to lean manufacturing, which reduces waste.

Leanness in US manufacturing from 2003 to 2008 improved profit margins, according to this study. Lean firms with positive returns are leaner than their industries. Inventory leanness improves company performance non-linearly, according to Eroglu and Hofer (2011). Poor inventory management ties up cash at the expense of profitable activities, according to Lazaridis and D. (2005)'s examination of 131 Athens Stock Exchange companies. By maintaining inventory levels, Lazaridis and Dimitrios (2005) advise managers can offer value to firms. Cannon (2008) found contradictions. The study found that inventory performance alone should not be used to evaluate a company. The study examined how inventory management was monitored by a firm's annual percentage change in inventory turnover and how return on assets (ROA) was used as a performance indicator.

In 2015, Muhayiniana examined how inventory management tactics improve manufacturing company management. The case study in Muhayimana (2015) was Kigali-based consumer goods manufacturer Sulfo Rwanda Ltd. Purposive sampling was utilized to choose study participants with relevant research information. A purposive sample of fourteen respondents was selected. According to the study, inventory management practices greatly impact a firm's operational effectiveness, particularly cost minimization. The study also indicated that inventory management improves customer service by avoiding unequal demand fulfillment. This research study focused on consumer products companies but only used 14 respondents from one firm and was not done in Nairobi, Kenya. Because it was conducted in Kigali, Rwanda, and due to its small sample size, the study's findings cannot accurately assess the

impact of inventory management practices on consumer goods manufacturing firms' performance in Nairobi.

2.4 Conceptual Framework

The conceptual framework illustrates the variables that are utilized to gauge the relationship between the independent and dependent variables. The link between the independent and dependent variables is depicted in the conceptual framework above. The dependent variable is production performance, whereas inventory management procedures are an independent variable. Our understanding of how the concepts in the study are produced and related is logically served by the conceptual framework (Film & Bibliothek, 2015). The Enterprise Resource Planning System, Just-in-Time, ABC Analysis, and Economic Order Quantity (EOQ) are the independent variables. Adaptive capability, marketing capability, alliance capability, managerial capability, and technical capability development are among the dependent variables.

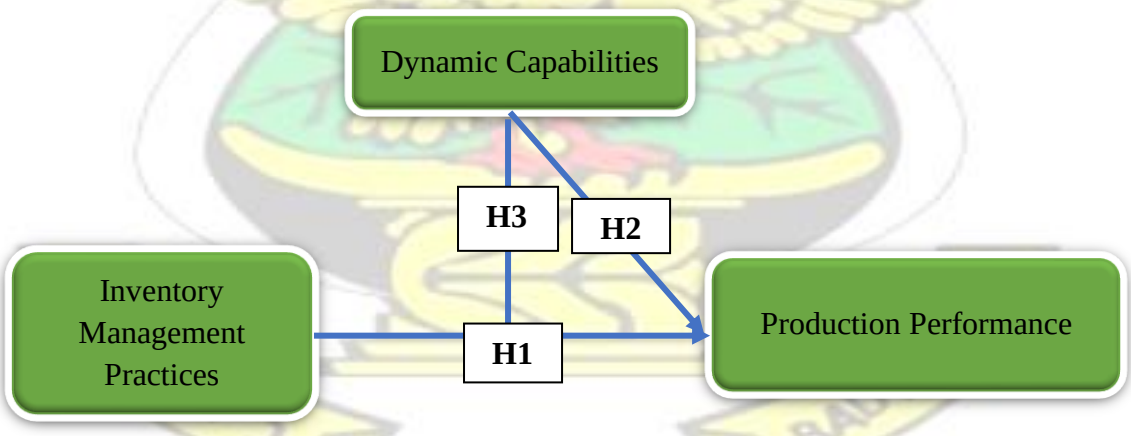


Figure 2.1: Conceptual Framework

Source: Researcher's Field Work, 2023

2.5 Hypothesis Development

Through the use of hypothetical reasoning, the study attempts to explain the direction and connections between the major topics examined. It does this by drawing on existing literature, dynamic capacities, and resource-based theories. The objectives, questions, and conceptual framework of the study—which are depicted in figure 2.1—are the sources of these findings. The conceptual model includes the relationships between inventory management strategies and production performance, as well as the connections between dynamic capability and production performance and the moderating role that dynamic capability plays in these relationships.

2.5.1 Inventory Management Practices and Production Performance.

In general, inventory management meant having too much or not enough inventory. In either scenario, inappropriate behavior is discouraged. According to Lysons (2016), inventory management involves balancing handling costs with stock keeping costs by controlling stock inventory levels and the physical distribution function. Effective inventory management increases sales and corporate performance, claim Mohamad, Suraidi, Rahman, and Suhaimi (2016). It takes a system that is managed by experts to manage inventories effectively.

The Empirical Leanness Indicator (ELI) developed by Eroglu and Hofer (2011) shown a favorable correlation between inventory control and output. The best inventory management tool, according to Eroglu (2011), is inventory leanness. By analyzing the link between working capital management and business profitability, Lazaridis (2005) emphasized the significance of inventory management and how ineffective management would cause money to be tied up at the expense of cost-effective operations. Rehman (2006) asserts that a company's profitability and daily inventory

turnover are inversely related. According to Nyabwanga et al. (2012), inventory budgets and inventory levels are frequently developed and checked in small businesses. According to Kwame, the majority of businesses have inventory budgets and track inventory levels (2007). According to Lazaridis and Tryponidis (2006), better inventory management helps businesses avoid squandering money on unsold goods. Performance is enhanced by effective inventory management, according to Nyabwanga et al (2012) saw the investigation of the impact of inventory management on organizational performance by Augustine, Trenkel, Wood, and Lorance. The study discovered a significant relationship among inventory control, productivity, and organizational cost cutting. In order to preserve production uniformity and productivity, he highlighted that management should monitor and adjust the inventory system.

Based on the literature, the study hypothesizes;

H1: Inventory management practices has a significant and positive effect on production performance

2.5.2 Dynamic Capability and Production Performance

Innovation helps DCs retain PP and spot possibilities in competitive markets (Yoshikuni et al., 2021). Dynamic businesses expand, adapt, and make first-order adjustments to opportunities and challenges (Hoopes & Madsen, 2008). The approaches used to define DCs in information system literature vary; for example, DCs ACAP is ambidexterity that can sense, seize, and transform (Steininger et al., 2021). The firm's DCs reconfigure, purchase, and release resources to balance demand and transition requirements. When the opportunity or demand arises, businesses can

strategically shape their functional capabilities utilizing DCs (Pavlou & El Sawy, 2006).

DCs affect company performance by allowing problems to be investigated through new methods, commodities, and services (Makadok, 2010). These skills improve the company's speed, output, and environmental adaption (Tallon, 2008). By allowing the corporation to take advantage of revenue-enhancing opportunities while saving expenses, it improves its ability to handle environmental change and alter FP. Finally, give a company new choice options and the chance to boost sales and earnings (Drnevich & Kriauciunas, 2011). Eisenhardt and Martin (2000) discovered that DCs can adapt by enhancing their standard capabilities and expanding their resource configurations to produce new alternatives for decision-making. Research suggests that DCs might have effects afterwards. DCs should enhance performance and provide a competitive advantage (Pezeshkan et al., 2016). By learning from the web, increasing revenue and financial performance, enhancing information and knowledge, and igniting innovative measures, DCs increase businesses' sensing capacities, enabling them to be more innovative in their product and service offerings (Hang et al., 2014).

The flow of information promotes product innovation and financial performance (Zahra & Hayton, 2008). The justification presented highlights the connections between FP and DCs, both direct and indirect (Pavlou & El Sawy, 2011). Despite the fact that DCs have been employed in research on organizational environment and company innovation, we linked them to FP. Organizations that use DC perform better than those who lack these capabilities.

The analysis makes the following assumptions based on the literature mentioned above:

H2: Dynamic Capability (DC) has a significant and positive effect on production performance

2.5.3 Moderating role of dynamic capabilities on the relationship between inventory management practices and production performance

Mwazmbo made hypotheses on the organizational resources, environmental dynamism, dynamic capacities, and organizational performance of large Kenyan manufacturing enterprises (2016). 56 sizable manufacturing firms were surveyed using a standardized questionnaire to collect data for the 2014 Kenya Association of Manufacturers database. The data were examined using descriptive and inferential statistics. It was discovered that organizational resources influence performance in addition to other aspects. The study found that internal dynamism did not act as a moderator in the relationship between dynamic capabilities and itself. Internal dynamism has an impact on dynamic capabilities and organizational effectiveness. Dynamic skills have a significant impact on non-financial performance, but not financial performance. Performance is impacted differently by organizational resources, dynamic capabilities, and environmental dynamism than by each of these factors alone.

Bii and Onyango (2018) examined the literature in order to identify patterns in dynamic skills, entrepreneurial orientation (EO), and business success. Tempelmayr et al. (2019) investigated how dynamic capacities affect servitizing organizations. DC are essential to the profitability of servitization, according to 206 industrial enterprises. Sensing and reconfiguring greatly enhanced business performance. Dynamic capacities are more important in servitization than ambient turbulence, which has little impact on output. Rono et al. (2020) looked at the success of Kenyan and DC beverage and food enterprises. They were interested in learning how perception, grasping, and reconfiguration impacted performance. 98 food and beverage factories were counted in order to get primary data. It was discovered that recognizing, seizing, and rearranging

abilities increases productivity in the food and beverage industry. They discovered that organizational ambidexterity was affected by DC and food and beverage output.

Mwangi (2016), Mandy Mok (2009), Oyewobi, Abimbola (2015), Parnell (2015), and Jifri all incorporated DC as a third variable (2016). According to Mwangi, DC has a favorable impact on moderator performance and inventory management operations (2016).

The study makes the following assumptions based on the aforementioned literature:

***H3: Dynamic capabilities (DC) positively* mediates the relationship between inventory management practices and production performance.**

CHAPTER THREE

METHODOLOGY AND PROFILE OF STUDY ORGANIZATIONS

3.0 Introduction

The study's methodology and profile are both presented in this chapter. The chapter specifically discusses the population of the study, the sampling procedure and sample size, the data collection method, data analysis, and the industry profile. It also discusses the research design, research approach, and research philosophy. The specifics of the study's statistical methods are also covered.

3.1 Research Design

Definition of a research design from Creswell and Plano Clark (2007): "procedures for collecting, evaluating, interpreting, and reporting data in research studies" (p.58). The goal is to bridge the gap between theoretical research questions and practical (and doable) investigations. What data will be needed, how that data will be collected and analyzed, and what questions might be answered are all set by the study design. Robson (2002) defines the three types of research strategies—exploratory, descriptive, and explanatory. The research incorporated both correlational and descriptive survey techniques. While correlational designs highlight the relationship between two measured variables (Jackson, 2014), descriptive surveys provide a snapshot of the status quo (Wimmer & Dominick, 2013). The study employed descriptive research to explore inventory management practices in the beverage industry. In order to better understand the connection between inventory management strategies and the productivity of companies in the beverage industry, an explanatory research strategy was adopted. Quantitative methods were used to gather and examine the numerical

data. The study relied on survey data. In a survey study (Brasel et al., 2020), participants are questioned about their value judgments, perspectives, and actions.

In order to understand the role of inventory management systems on beverage sector productivity, this study employed a mixture of descriptive and explanatory research approaches. Because of the use of a predetermined questionnaire, this study can be classified as quantitative.

study strategy is "the general plan of how the researcher will answer the research questions," as defined by Saunders et al. (2009). Research strategy, as described by Bryman (2008), is "a general orientation to the conduct of research." Case studies, experiments, surveys, and other methods are all used in the research process. Quantitative information from the management and staff of a beverage manufacturing company is collected and analyzed in this case study. Given the popularity of case studies in the social sciences (Amaratunga et al., 2002; Flyvbjerg, 2006), they were selected. Case study research can also incorporate quantitative data (Yin, 2003b; Gerring, 2007), providing a more complete picture for the researcher. As part of this study, information from numerous beverage producers will be gathered. The researcher employed a cases study approach to collect a sizable sample and draw broad conclusions from the data. In addition, it ensured a comprehensive study design and helped make sense of specific cases.

The study employs inductive reasoning. Quantitative studies can use either inductive or deductive reasoning. This inquiry made use of deductive reasoning because of a well-defined theory and hypothesis.

3.2 Population for the Study

According to Brasel et al. (2020), population refers to the total group of people or objects being constructed in any field of study that share a characteristic. The set of persons to whom study findings should be applied is referred to as the target population (Whitley & Kite, 2012). By "population," Kothari (2011) means all objects in the cosmos, which is another name for any topic of study. The demographic for this study's target population is the one for whom broad conclusions are sought. The study's population consists of the 140 employees and management from the beverage manufacturing company.

3.3 Sampling Technique and Sample Size

Samples are part of the population, according to Bryman (2013) and Spiegel (2012). It is represented by universe-selected units, according to Kothari (2011). A 30% sample size is recommended by Kothari (2011). A 33% sample size has been recommended by researchers (Jagero, 2011; Manoah, Indoshi, & Othuon, 2011; Owaa, Aloka, & Raburu, 2015). The survey sampled 120 beverage manufacturing company employees and managers. The beverage manufacturing enterprises' workforce and management were conveniently and purposefully sampled.

Scientific research employ sampling to choose units from a target population to reflect the study population (Berndt, 2020; Singh & Masuku, 2014; Taherdoost, 2016). To estimate population characteristics, researchers investigate sample characteristics (Walters, 2021).

Probability or representative sampling and non-probability sampling are two sampling methods, according to Saunders et al. (2012). It involves selecting individuals or items from a population to form a group having traits from the entire (Scheel et al., 2018).

Judgemental and purposive sampling are treated similarly in this article. Researchers use judgmental or purposive sampling to select population members for their studies if they know the population's composition and characteristics. Researcher familiarity with the population justifies picking participants (Campbell et al., 2020). Researchers purposefully select persons who can answer research questions for a certain purpose (Etikan & Bala, 2017). This sampling method is essential if the population is diverse and opposing views must be included.

Due to their exclusivity or compliance with the researcher's criteria, purposeful sampling restricts the collection of data to a small number of individuals or organizations (Sekaran & Bougie, 2010). This requires locating and selecting subject-matter specialists (Cresswell & Plano Clark, 2011). One nonprobability sampling method is convenience sampling, which selects population samples based on researchers' accessibility (Elfil & Negida, 2017). The sample is easy to pick and not meant to represent the population, thus they employ this method often. Its time, cost, and sample accessibility make it popular with qualitative researchers (Taherdoost, 2016).

Thus, the study used convenience and purposive sampling. The simplified Yamane formula (1967) replaced Cochran's method for population sample size calculation. For a 95% confidence level and 0.05 p-value, Yamane (1967) advised a sample size of;

N is the population size and e is precision.

Use this formula for our population, where N = 195 and the accuracy is ± 5%

Using p=0.5 and a 95% confidence interval, we obtain the sample size as

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

$$= \frac{180}{1+180\,(.05^2)}$$

$= \frac{180}{4.75}$

n= 120

The study therefore sampled 120 staff and management of the beverage manufacturing companies.

3.4 Data Collection Method

Ghauri et al. (2020) define data collection tools or instruments as the tools or equipment used to collect data, like a questionnaire or interview guide. Tools used to gather data include case studies and questionnaires. The study therefore used questionnaire in gathering the data.

3.4.1 Questionnaire

Structured and self-administered questionnaires would collect primary data. Questions are closed-ended. The statistics focused on respondents' demographics (age, sex, education, marital status). Beverage manufacturers' inventory management and production. According to Brace (2018), the questionnaire method is best for survey research. It is faster and cheaper than other ways. Data collection and analysis are easier with this strategy. Exiting literature included questions and measuring scales for the questionnaire. Questionnaires were utilized because they can collect data from big populations quickly and cheaply. Additionally, questionnaires are easy to administer and evaluate and give respondents time to consider their comments (Kothari, 2011). They eliminate biases from personal experiences and opinions (Kasomo, 2010). Closed-ended questions were utilized to gather study variables. The surveys were self-designed with study input.

3.5 Data Analysis Techniques

For accuracy and completeness, the survey was coded. In order to analyze the data, descriptive statistics like percentages and frequencies as well as measures of central tendency like means, standard deviation, and percentages were used. In order to simplify and organize data for simple understanding, Brasel et al. recommend using tables, bar charts, pie charts, frequencies, and percentages (2020).

Prior to being processed, analysed, and converted into information, raw quantitative data is meaningless (Saunders et al., 2012). In order to address the issues and objectives of an investigative study, data analysis tests the hypothesis. A common technique for quantitative business and social research, explanatory statistical data analysis was used in this study (Saunders et al., 2012). To produce acceptable endorsements, data has undergone extensive analysis and investigation. To examine the responses, SPSS was utilized. Frequency distribution and tables were used to present the data. Regression analysis, percentages, mean, and standard deviation all have meaning. To present respondent demographics in the first part, frequencies and percentages were used. The second part would investigate and assess inventory management techniques for the beverage industry using the mean, standard deviation, and percentages to gauge the first goal. The final segment used regression analysis to demonstrate how inventory management affects production performance. The fourth portion examined dynamic capacities and production performance using multiple linear regression analysis. The hierarchical regression model was used to analyze and discuss how dynamic capabilities moderate inventory management methods and production performance in

the fifth segment. Thus, mean, percentages, standard deviation, regression analysis, and hierarchical regression model are used to analyze data.

3.6 Reliability and Validity

According to Saunders et al. (2018), the consistency of the results produced by data collection techniques, the similarity of other researchers' observations or conclusions, or the openness with which raw data was interpreted are all examples of reliability. Consistency determines how reliable a measuring device is (Jackson, 2011). Validity assesses how well data gathering methods capture the intended outcomes (Saunders et al., 2018). Using Cronbach alpha, factor reliability was evaluated. According to Fawcett, a test is valid if it measures what it purports to (2013). When an instrument's components appear to measure the desired concept, it has face validity (Rubin & Bellamy, 2012). How well a measure captures all concept meanings is measured by content validity (Rubin & Babbie, 2016). Expert panels determine the veracity of the face and content (Kraska-Miller, 2014; Jackson, 2016).

The standardization of study instruments was based on recognized validity and reliability. Content validity was established in order to guarantee that research tools accurately represent concepts. This can only be done by one person. Prior to the primary investigation, a pilot study checked the tools and procedures. According to Brasel et al., 1% to 10% of the population may be pre-tested (2020). The piloting process removed some unclear questions, looked at instrument administration problems, tested data collection procedures, evaluated the viability of the study, predicted and fixed logical and procedural problems, and allowed for preliminary

(dummy) data analysis. In-depth questions was surveyed and clarified by the researcher.

3.7 Ethical issues

The study used human subjects, therefore research standards were followed. Consent, confidentiality, and data protection were important. No names were used to protect respondents' privacy. Again, respondent privacy and freedom were maintained to collect data in the most convenient way. The researcher followed ethical guidelines to collect pertinent data for analysis. It was voluntary to participate in the study. This research followed ethical standards. A letter of introduction from the Department of the School at Kwame Nkrumah University of Science and Technology was used to request authorization from beverage manufacturing companies before the investigation. Participants gave informed consent and were kept anonymous. Reference or bibliography was used to cite all scholarly work and data. The Kwame Nkrumah University for Science and Technology research code of conduct met goals.

3.8 Profile of Study Industry

The section discussed the profile of beverage manufacturing industry, which comprised of Kasapreko company limited, Gihoc distilleries company limited, Guinness Ghana limited, and Accra Breweries limited.

3.8.1 Kasapreko Company Ghana Limited

Kasapreko Company Limited began as a garage business with four employees in 1989 and has developed into a local multinational. The enterprise employs 160 Ghanaians and 2000 indirectly. It holds 50% of the Ghanaian liquor market and sends 30% of Alomo Bitters to Nigeria, its biggest export market. Exports total 32% of its products. Direct exports began a year ago.

The corporation established a quality control and product development division first among local liquor manufacturers. The company processes quality and training and development continuously. It brands all its products Kasapreko. Overall, the company generates 15 consumer brands. Alomo Bitters, Brandy, Cardinal Liqueur, Cocoa Liqueur, Dry Gin, Kasapak, Lime Cordial, Ogidigidi, Opeimu Bitters, Kasavino, Tonic Wine, Kalahari are Kasapreko products. The company has multiple distribution sites across Ghana's 10 regions and is well-known nationwide.

3.8.2 Gihoc Distilleries Company Limited (GIHOC)

The first modern distillery in West Africa was Gihoc Distilleries Company Limited. A year after Ghana gained independence, the pro-independence Industrial Development Corporation founded it in 1958. It became part of Ghana Industrial Holding Corporation in 1968 and made alcoholic beverages.

Reregistered and formed as a Limited Liability Company in 1980, it is a government-owned subsidiary of GIHOC. It has been a leading brand in Ghana for decades, making alcoholic beverages for local and international markets and enjoying tremendous local support. The company blends and bottles its brands with 40% local raw materials. The company's Takai coffee-cocoa mix is one of its most popular international brands. Takai, Lawyer Dry, Castle Bridge, Mandingo, Herb Afrik, Chevelier Brandy, Kaiser Imperial Aromatic Schnapps are corporate goods. Ghana has various firm distribution sites throughout the ten regions. About 2.5% of the company's production is exported. Two years ago, the company began direct exports after individual clients bought and exported its products.

3.8.3 Guinness Ghana Limited

Guinness Ghana Breweries Limited makes, sells, and distributes beer, stout, malt drinks, and their auxiliary products in Ghana. Kumasi is the company's headquarters. Diageo Highlands BV's Guinness Ghana Breweries Limited is that company. The Kaasai Industrial Area in Kumasi houses Guinness Ghana Breweries Limited (GGBL). It opened in 2004. When manufacturing began, the company only created Guinness, also known as Foreign Extra Stout. With stores nationwide, mainly in the south, the major depot was there. Over its 250-year existence, Guinness has become a global success story due to its famous advertising and long-standing presence in local communities. Due to increased consumer demand for the goods, the corporation must provide world-class services across the board. Guinness Ghana Breweries Limited was the ideal study subject because of their ability to move from a vertically integrated corporation and their new approach to outsourcing logistical tasks they cannot perform internally.

3.8.4 Accra Brewery Limited (ABL)

Overseas Breweries Limited, renamed Accra Brewery Limited (ABL), was founded on June 30, 1931, to create a brewing sector in the Gold Coast. It was the first brewing industry in West Africa and the Gold Coast's first non-traditional industrial industry. To allow Ghanaian involvement, Accra Brewery Limited acquired the assets of Overseas Breweries Ltd. on April 1, 1975. The Ghana Stock Exchange tentatively listed the firm on November 12, 1990, and formally on November 20, 1991. SABMiller plc (formerly South African Breweries) bought majority interests in 1997. With one billion authorized shares and 249,446,664 issued, ABL has a declared capital of GH¢7,332,000.00. With 62.9% of the shares, Overseas Breweries Limited is its largest shareholder. ABL, a public firm, makes and sells beer, sparkling soft drinks, and non-

alcoholic malt beverages. In Accra, Ghana, ABL is on the first floor of the Nasser building at 22 Farrar Avenue.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.0 Introduction

This chapter analyses data and presents outcomes. The study examines how inventory management practises affect beverage sector production performance with dynamic capacities as a moderator. Structured questionnaires were utilized to obtain primary data from beverage industry workers to fulfill the goals. The study discusses demographics, beverage industry inventory management practices, their effects on production performance, the relationship between dynamic capabilities and production performance, and how dynamic capabilities moderate this relationship. Regression and hierarchical regression showed the data. Also evaluated was variable reliability using Cronbach alpha. The study sampled 120 beverage sector personnel and supervisors, and 117 responded (97.5%).

4.1 Demographic Profile of Respondents

The study examined demographic details such respondents' marital status, degree of education, number of years spent at the company, and gender as well as information about the sorts of beverages produced.

Table 4.1: Demographic information of respondents

Variable	Frequency	Percentage
Gender		
Male	71	60.7%
Female	46	39.3%
Marital status		
Single	54	46.2%
Married	61	52.1%
Divorced	2	1.7%
Educational qualification		
Diploma/HND	23	19.7%
First Degree	53	45.3%
Master's	24	20.5%
Professional Certificate	17	14.5%
Years of Working in the Beverage Industry		
Below 2 Years	18	15.4%
2-5Years	43	36.8%
5-8 Years	40	34.2%
Above 8 years	16	13.7%

Source: Researchers Field data, 2023

This chapter encompasses the examination of data, the presentation, and the subsequent discussion of the obtained results. The main aim of this study is to evaluate the influence of inventory management strategies on production performance within the beverage industry, taking into consideration the moderating effect of dynamic capacities. In order to accomplish the aforementioned aims, a structured questionnaire was employed to gather primary data from the personnel employed in the beverage sectors. This study examines various aspects related to the beverage industry, including demographic information, inventory management practices, the influence of these practices on production performance, the association between dynamic capabilities and production performance, and the potential moderating effect of dynamic capabilities on the relationship between inventory management practices and production performance. The data was presented using regression analysis, specifically employing a hierarchical

regression model. The reliability of variables was assessed by employing the Cronbach alpha coefficient. The survey was conducted with a total sample size of 120 individuals who were staff and managers in the beverage business. Out of this sample, 117 replies were obtained, resulting in a response rate of 97.5%.

4.2 Reliability of data using Cronbach Alpha

The Cronbach Alpha coefficient was employed to verify the internal consistency among the variables in order to guarantee the validity of their use in the study. Variables are shown together with the relevant coefficients in Table 4.2 below.

Table 4.2: Reliability Data using Cronbach's Alpha

Variable	Cronbach Alpha	Number of Items
Economic Order Quantity	.913	5
Just-in-Time	.671	5
Barcode Scanner System and RFID	.876	6
Enterprise Resource Planning System	.945	5
Vendor Managed Inventory System	.924	5
Adaptive Capability	.952	7
Marketing Capability	.944	8
Alliancing Capability	.903	7
Managerial Capability	.924	6
Technological Capability	.920	6
Production Performance	.977	4
		8

Source: Researchers Field data, 2023

To assess the scale's reliability, the data collected was subjected to Cronbach's alpha coefficient analysis. The purpose of this study was to assess the reliability and consistency of the scales employed in the questionnaire. Specifically, it aimed to examine the extent to which the items comprising the scale exhibit internal coherence. The purpose of this analysis is to ascertain whether the measurements being taken are capturing the same fundamental concept. According to DeVellis (2003), it is desirable for the Cronbach alpha coefficient of a scale to exceed 0.7. Values exceeding 0.7 are

deemed acceptable, although values surpassing 0.8 are considered more desirable. All of the conducted reliability tests demonstrated a Cronbach's alpha value exceeding 0.7, indicating a high level of dependability, desirability, and accuracy in the work. The reliability data were presented in Table 4.2 above.

4.3 The Inventory Management Practices adopted by the Beverage Industry

In order to get insight into the level of engagement of staff and management in the beverage industry, as well as the scores of respondents on the major topics of the study, it was thought necessary to do descriptive statistics. Consequently, a descriptive analysis was performed to augment the researcher's comprehension of the inventory management techniques implemented by the beverage industry. This study focused on the perspectives of the employees and management who participated in the survey. The inventory management strategies implemented by the beverage industry are presented in Table 4.3. Informants were required to utilize a seven-point scale to assess the extent to which the employees, management, and respondents exhibited each item, with the scale ranging from 'strongly disagree = 1' to 'strongly agree = 7'.

4.3.1 Descriptive Statistics Result for Economic Order Quantity

The following table lists the components and variables used in the evaluation of economic order quantity as a part of the inventory management procedures employed by the beverage sector.

Table 4.3: Descriptive Statistics Result for Economic Order Quantity

Variables	N	Min	Max	Mean	Std. Deviation
The factory uses economic order quantity practices to estimate how much of an item to order.	117	1	7	5.34	1.340
The factory orders the optimal ordering quantity for an item of stock that minimizes cost	117	1	7	5.25	1.514
Economic order quantity practices enable the factory to plan for its inventory replenishment on timely basis	117	1	7	5.53	1.477
Economic order quantity practice helps the factory in deciding when to order an item of stock	117	1	7	5.58	1.301
The factory minimizes the storage cost by using economic order quantity practices.	117	2	7	5.48	1.324
Valid N (listwise)	117				

Source: Researchers Field data, 2023

According to the data presented in Table 4.3, participants were asked to express their level of agreement or disagreement on the item that measures the economic order quantity as a constituent of the inventory management strategies employed by the beverage sector. According to the provided table, it can be observed that the respondents expressed a range of opinions on the topic. The minimum value (1) was associated with strong disagreement, while the maximum value (7) was associated with strong agreement from the staff and management of the company. These individuals indicated that the factory employs economic order quantity practices to determine the appropriate quantity of items to be ordered. Additional research revealed that the organization engages in the determination of the most favorable quantity for ordering a certain stock item, aiming to minimize costs. This decision-making process is evaluated on a scale ranging from a minimum value of 1, indicating strong disagreement among respondents, to a maximum value of 7, indicating high agreement. The implementation of economic order quantity procedures allows the factory to effectively schedule inventory replenishment, a point of contention among respondents with a minimum

rating of 1 indicating strong disagreement, and a maximum rating of 7 indicating strong agreement. In addition, the use of economic order quantity procedures assists the manufacturing facility in determining the optimal timing for placing orders for inventory items. The respondents were asked to rate their level of agreement on a scale ranging from 1 (strongly disagree) to 7 (strongly agree). In the study, it was observed that a subset of respondents, specifically those with a minimum value of 2 and a maximum value of 7, expressed that the factory effectively reduces storage costs through the implementation of economic order quantity practices.

4.3.2 Descriptive Statistics for Just-in-Time

The table below shows the items and variables used in assessing just-in-time as a component of the inventory management practices adopted by the beverage industry.

Table 4.4: Descriptive Statistics for Just-in-Time

Variables	N	Min	Max	Mean	Std. Deviation
Some items are only ordered based on a request or at the time of the demand	117	1	7	5.70	1.493
The company reduce inventory by providing a situation that makes its processes much simpler.	117	1	7	5.45	1.329
It take long time for beverage manufacturing companies to receive an order	117	1	7	3.74	1.881
It take long time for beverage manufacturing companies to deliver goods received to customers	117	1	7	3.85	2.020
Policies and procedures clearly stated and systematically communicated.	117	1	7	5.26	1.197
Some items are only ordered based on a request or at the time of the demand.	117	1	7	5.62	1.337
Valid N (listwise)	117				

Source: Researchers Field data, 2023

Table 4.4 shows the characteristics used to evaluate just-in-time inventory management solutions in the beverage industry. The beverage industry's inventory management

systems must include just-in-time, thus respondents had to indicate their agreement or disagreement. The table shows that respondents had diverse opinions. The range of 1 to 7 shows substantial disagreement or agreement.

Additionally, certain items are only ordered as needed. Additional analysis showed that the company streamlined its processes, reducing inventories. The study showed that most respondents highly agreed with this strategy, with a grade of 7 on a scale of 1 to 7. Again, beverage manufacturers take a long time to receive orders. The respondents rated their agreement from 1 (strongly disagree) to 7 (strongly agree).

Additional investigation showed that the company takes a long time to deliver goods. The survey responses ranged from 1 to 7, signifying strong disagreement to strong agreement. The analysis found that internal and external stakeholders understood the company's policies. The respondents rated their agreement from 1 (strongly disagree) to 7 (strongly agree). In the survey, respondents rated item (1) from 1 to 7, indicating severe disagreement. Additionally, some items were only ordered upon request or demand.

4.3.3 Descriptive Statistics for Barcode scanner system & Radio Frequency Identification

The table below shows the items and variables used in assessing barcode scanner system & radio frequency identification as a component of the inventory management practices adopted by the beverage industry.

Table 4.5: Descriptive Statistics for Barcode scanner system & Radio Frequency Identification

Variables	N	Min	Max	Mean	Std. Deviation

The firm ensures that there is shared product design with the suppliers and customers to enhance timely delivery of goods	117	1	7	5.00	1.438
The firm ensures that there is movement towards single sourcing proximate suppliers to enhance timely delivery of goods	117	1	7	4.99	1.297
The organization has ensured that there is reduced machine setup times for the reduction of stock out costs	117	2	7	5.39	1.306
The RFID system has led to dramatic improvements in the firms return on investments, quality and efficiency	117	2	55	5.88	4.753
The firm has ensured that there is total preventive maintenance that emphasizes that production create items that arrive when needed to reduce wastes	117	2	7	5.45	1.200
The implementation of RFID system has yielded minimum inventories	117	1	7	5.06	1.487
The implementation of RFID system has led to improved quality, least amount of resources and provided maximum motivation to supply chain solve problems as soon as they occur	117	2	7	5.50	1.119
Valid N (listwise)	117				

Source: Researchers Field data, 2023

As shown in table 4.5, respondents were asked to rate their agreement or disagreement with item measuring barcode scanner systems and radio frequency identification as part of beverage sector inventory management. In the table above, (1) strongly disagreed, (7) strongly agreed, and the firm ensures shared product design with suppliers and customers to improve timely delivery. Findings showed that the manufacturing company secures single sourcing nearby suppliers to improve timely delivery of goods, with (1) strongly disagreeing and (7) strongly agreeing. The result also showed that the corporation has cut machine setup times to reduce stock out costs, with (2) disagreeing and (7) strongly agreeing.

Additionally, the RFID technology has dramatically improved the firm's return on investments, quality, and efficiency, with (2) disagreeing and (7) strongly agreeing.

Finding equally revealed that the company has ensured total preventive maintenance that emphasizes that production creates items that arrive when needed to reduce waste, with (2) disagreeing and (7) strongly agreeing. Again, the introduction of radio frequency identification (RFID) has yielded minimum incentives, with (1) strongly disagreeing and (7) strongly agreeing. Again, (2) of respondents disagreed, while (7) strongly agreed that radio frequency identification system has improved quality, reduced resources, and motivated supply chain. solve problem as soon as it occurs.

4.3.4 Descriptive Statistics for Enterprise Resource Planning System

The table below shows the items and variables used in assessing enterprise resource planning system as a component of the inventory management practices adopted by the beverage industry.

Table 4.6: Descriptive Statistics for Enterprise Resource Planning System

Variables	N	Min	Max	Mean	Std. Deviation
The firm ensures that there is planning for inventory to improve decision making for the timely delivery of goods	117	2	7	5.50	1.356
The connectivity with the suppliers of the firms enhances reduction of stock out costs	117	1	7	5.54	1.355
Inventory accuracy facilitates flow of information for timely delivery of goods	117	2	7	5.43	1.335
The firm ensures that there is planning of inventory that coordinates all resources and activities for the reduction of wastes	117	1	7	5.45	1.417
The ERP systems assists in managing the connections with the outside stakeholders as well as enhancing reduction of stock out costs	117	1	7	5.38	1.244
Valid N (listwise)	117				

Source: Researchers Field data, 2023

The variables used to evaluate enterprise resource planning as part of beverage industry inventory management are shown in Table 4.6. Respondents were asked to rate item measuring enterprise resource planning system as part of beverage sector inventory management. According to the table above, two respondents disagreed, seven strongly agreed, and the organization plans inventory to improve decision-making for timely delivery. The result also showed that firm connectedness with suppliers reduces stock out cost, with (2) disagreeing and (7) significantly agreeing.

Findings showed that inventory correctness allows flow of information for timely delivery of goods, with (1) strongly disagreeing and (7) strongly agreeing. The result also showed that the company plans inventories to coordinate all resources and activities to reduce waste, with (1) strongly disagreeing and (7) strongly agreeing. Findings also showed that enterprise resource planning systems help manage

relationships with outside stakeholders and reduce stock out, with (1) strongly disagreeing and (7) strongly agreeing.

4.3.5 Descriptive Statistics for Vendor Managed Inventory

The table below shows the items and variables used in assessing vendor managed inventory system as a component of the inventory management practices adopted by the beverage industry.

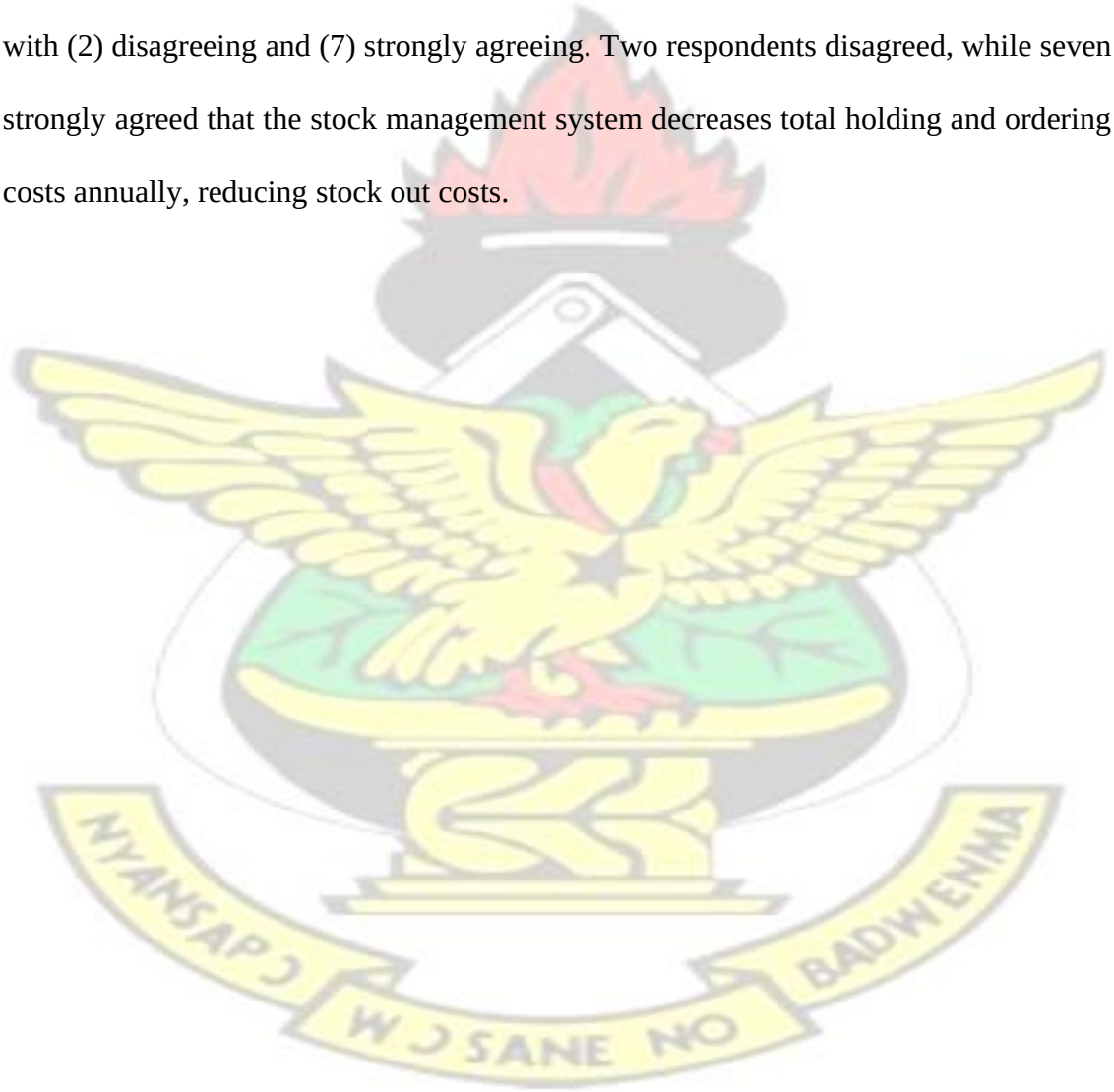
Table 4.7: Descriptive Statistics for Vendor Managed Inventory

Variables	N	Min	Max	Mean	Std. Deviation
The stock management system in the firm minimizes the total holding and ordering costs annually thus leading reduction of stock out costs	117	1	7	5.09	1.491
The firm ensures that there is optimal stock levels to reduce stock out costs	117	2	7	5.68	1.181
The firm ensures that the replenishment of inventory minimizes the lead time for the timely delivery of goods	117	2	7	5.52	1.291
The firm ensures that there is a working stock management system to reduce lead cycle time for effective reduction of wastes	117	1	7	5.40	1.253
The firm ensures that there is adequate optimal stock levels for the reduction of wastes	117	2	7	5.51	1.134
The stock management system in the firm minimizes the total holding and ordering costs annually thus leading to reduction of stock out costs.	117	2	7	5.56	1.141
Valid N (listwise)	117				

Source: Researchers Field data, 2023

The variables used to evaluate vendor-managed inventory in beverage industry inventory management are shown in Table 4.6. Respondents were asked to rate item measuring vendor controlled inventory system as part of beverage sector inventory

management methods. In the table above, (1) strongly disagreed, (7) strongly agreed, and the firm's stock management system minimizes total holding and ordering costs annually, reducing stock out costs. Findings showed that the company replenishes inventory to minimize lead time for timely delivery of goods, with (2) disagreeing and (7) strongly agreeing. The company has a stock management system to reduce lead cycle time and waste, which (1) strongly disagrees and (7) strongly agrees. Finding found that the organization ensures enough optimal supply levels for waste reduction, with (2) disagreeing and (7) strongly agreeing. Two respondents disagreed, while seven strongly agreed that the stock management system decreases total holding and ordering costs annually, reducing stock out costs.



4.4 Relationship between Inventory Management Practices and Production Performance.

The section provides correlation analysis among inventory management practices (independent variable) and production performance (dependent variables). Correlation analysis is usually performance to establish the extent to which the variables correlate with one another, which is basically test of relationship among the variables under study.

4.4.1 Correlation Analysis of Inventory Management Practices and Production Performance.

The table below display the correlation analysis of inventory management practices on production performance. The variables used to measure inventory management practices include; economic order quantity, just-in-time, barcode scanner system and radio frequency identification, enterprise resource planning system, and vendor managed inventory system.

Table 4.8: Correlation Analysis Result for Inventory Management Practices and Production Performance.

Variable	1	2	3	4	5	6
1. EOQ	1					
2. JIT	783**	1				
3. BSS	.791**	.715**	1			
4. ERPS	.816**	.772**	.779**			
5. VMI	.831**	.778**	.770**	886**	1	
6.PPBI	813**	642**	.698**	639**	.726**	1

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

EOQ= Economic Order Quantity, JIT = Just-In-Time, BSS = Barcode Scanner System, ERPS = Enterprise Resource Planning System, VMI = Vendor Managed Inventory, PPBI = Production Performance of Beverage Industry.

Inferring from results of the correlation analysis as displayed in table 4.8, all variables inter-correlate. The results indicate that: economic order quantity correlate with just-in-time delivery (Coefficient=-.783; p-value <.000), economic order quantity correlate with barcode scanner system (Coefficient=.791; p-value<.000), economic order quantity correlate with enterprise resource planning systems (Coefficient=.816; p-value <.000), economic order quantity correlate with vendor managed inventory (Coefficient=-.831; p-value <.000), economic order quantity correlate with production performance of beverage industry (Coefficient=-.813; p-value <.000). Again, just-in-time correlate with barcode scanner system (Coefficient=.715 p-value <.000), just-in-time correlate with enterprise resource planning systems (Coefficient=.772; p-value <.000), just-in-time correlate with vendor managed inventory (Coefficient=-.778; p-value <.000), just-in-time correlate with production performance of beverage industry (Coefficient=-.642; p-value <.000). Moreover, barcode scanner system correlate with enterprise resource planning system (Coefficient=.779; p-value <.000.), barcode scanner system correlate with vendor managed inventory (Coefficient=.770; p-value <.000), barcode scanner system correlate with production performance of beverage industry (Coefficient=-.698; p-value <.000). Again, enterprise resource planning systems correlate with vendor managed inventory (Coefficient=.886; p-value <.000), enterprise resource planning correlate with production performance of beverage industry (Coefficient= .639; p-value <.000). Again, vendor managed inventory correlate with production performance of beverage industry (Coefficient=-.726; p-value <.000). This indicate that, the variables inter correlate and are therefore having effect on production performance of beverage industry.

4.5 Impact of Inventory Management Practices on Production Performance

The study used multiple linear regression to access the impact of inventory management practices on production performance of beverage industry. The coefficient, significance (T statistics) and beta values were used in interpretation of the results at 95% confidence level. The regressions equation is thereby presented as Y= a $+b_1X_1 +b_2X_2 + b_3+X_3 +b_4X_4 +b_5X_5$. In computing the figures as generated from the multiple regression analysis, the equation however took the form; Y= 943+.854(X_1) +.033(X_2) +.241(X_3) +.414(X_4) +473X_5.

Inventory management procedures are independent variables, but beverage industry production performance is dependent. Economic order quantity, just-in-time, barcode scanners, RFID, ERP systems, and vendor-managed inventory are independent variables. Table 4.9, 4.10, 4.11, and 4.12 contain model summary, ANOVA, and coefficient tables.

Table 4.9: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.834[a]	.695	.682	.82558

a. Predictors: (Constant), Economic Order Quantity, Just-in-Time, Barcode Scanner System and Radio Frequency Identification, Enterprise Resource Planning Systems, and Vendor Managed Inventory.

From the model summary above, the result indicated that, there exist a strong relationship among inventory management practices and production performance of beverage industries with a value of .834. The R^2 value indicates that 69% (.695) of inventory management practices could be explained using production performance of beverage industries.

Table 4.10: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	172.761	5	34.552	50.695	.000[b]
	Residual	75.655	111	.682		
	Total	248.415	116			

a. Dependent Variable: **Production Performance of Beverage Industries.**
b. Predictors: (Constant), Economic Order Quantity, Just-in-Time, Barcode Scanner System and Radio Frequency Identification, Enterprise Resource Planning Systems, and Vendor Managed Inventory.

The F statistics of 50.695*** shows that the model is fit and significant.

Table 4.11: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.943	.463		-2.035	.044
	Economic Order Quantity	.854	.136	.693	6.262	.000
	Just-in-Time	-.033	.143	-.022	-.234	.816
	Barcode Scanner System	.241	.133	.170	1.811	.073
	Enterprise Resource Planning	-.414	.149	-.344	-2.780	.006
	Vendor Managed Inventory	.473	.176	.340	2.693	.008

a. Dependent Variable: **Production Performance of Beverage Industries.**

4.5.1 Economic Order Quantity

Economic order amount reveals a favorable correlation between inventory management methods and beverage sector production performance with a coefficient of. 854. Just-in-time, barcode scanner system, radio frequency identification, enterprise resource planning system, and vendor controlled inventory all remained constant, beverage sector production performance index would increase. Economic order quantity is statistically significant and uniquely explains beverage industry production performance (T=.6.262; Sig =.000). The economic order quantity lets businesses plan stock replenishment weekly, quarterly, or annually. This allows warehouses to have inexpensive garage prices because goods come in and goes out immediately.

4.5.2 Just-in-Time

The Just-in-Time coefficient is -033, indicating an adverse link between inventory management procedures and beverage industry production performance. The beverage industry's production index would rise if economic order quantity, barcode scanner system, radio frequency identification, enterprise resource planning system, and vendor managed inventory were remained constant. Just-in-Time does not explain beverage industry production performance (T=. -.234; Sig =.816). Businesses use JIT to reduce inventory cost and boost efficiency by obtaining inventory only as needed. The investigation shows that beverage manufacturers do not utilize Just-in-Time in their production and manufacturing processes.

4.5.3 Barcode Scanner System and Radio Frequency Identification

The coefficient for barcode scanner system and radio frequency identification is.241, indicating a favorable association between inventory management and beverage sector production. Economic order quantity, just-in-time, enterprise resource planning system, and vendor controlled inventory all remained constant, beverage sector production performance index would increase. Barcode scanning system and radio frequency identification are statistically significant and uniquely explain beverage sector production performance (T=. 1.811; Sig =.073). These systems provide managers with continuous inventory data, reducing the requirement for periodic inventories and order-size determinations.

4.5.4 Enterprise Resource Planning System

The regression value for enterprise resource planning systems is -.414 showing an inverse relationship between inventory management practices and production

performance of beverage industry. All things been equal when economic order quantity, just-in-time, barcode scanner system and radio frequency identification, vendor managed inventory are held constant, the index of production performance of the beverage industry would increase. Enterprise resource planning systems is statistically significant, and the variable is making a unique contribution to the explaining of production performance of the beverage industry (T=. -2.780; Sig = .006). Generally, the beverage manufacturing company deployed ERPs to optimize effectiveness and the overall significance and the main purpose of ERP investments, is to improve control over key organizational and business processes.

4.5.5 Vendor Managed Inventory

With VMI, the supplier keeps inventory on site or nearby so the client can get it immediately. This instant access lets customers pull product as needed and only pay for what they need, lowering inventory investment and increasing inventory turns. With a coefficient of.473, vendor-managed inventory techniques improve beverage sector production. The beverage industry's production index would rise if economic order quantity, just-in-time, barcode scanner system, radio frequency identification, and enterprise resource planning were held constant. Supplier-managed inventory is statistically significant and uniquely explains beverage industry production performance (T=. 2.693; Sig =.008). Manufacturers can eliminate stock outs, customer reorders, and inventory reductions through VMI methods. It saves the consumer money on ordering, shipping, counting inventory, and stocking low-value items.

4.5.6 Beta Value

When comparing the impact of independent variables (Economic Order Quantity, Just-in-Time, Barcode Scanner System and Radio Frequency Identification, Enterprise

Resource Planning Systems, and Vendor Managed Inventory) on beverage industry production performance, beta values without the negative sign are best. Beta values for Economic Order Quantity, Just-in-Time, Barcode Scanner System, RFID, ERP Systems, and Vendor Managed Inventory are.854,.033,.241,.414, and.473. Economic order quantity has a beta value of.854, making it the best predictor of beverage industry production.

4.5.7 Confirmation of Hypothesis One

The table shows the confirmation of hypothesis one.

Table 4.13: Summary of Hypothesis Construct

H	**Hypothesis Relationship**	**Path Coefficient**	**T-Statistics**	**Significant/Not**	**Hypothesis Supported**
H1	Economic order quantity and production performance of the beverage industry.	0.853	6.262	Significant at .000	Supported at p-value <.000
H2	Just-in-Time and production performance of the beverage industry.	0.033	.234	Not Significant at .816	Not Supported at p-value >.816
H3	Barcode Scanner and RFID and production performance of the beverage industry.	0.241	1.811	Significant at .073	Supported at p-value <.073
H4	Enterprise Resource Planning system and production performance of the beverage industry..	0.414	2.780	Significant at .006	Supported at p-value <.006
H5	Vendor Managed Inventory	0.473	2.693	Significant at .008	Supported at p-value <.008

Source: Researchers Field data, 2023

4.6 Relationship between Dynamic Capability and Production Performance

The section provides correlation analysis among dynamic capability (DC) and production performance (PP). Correlation analysis is usually performance to establish the extent to which the variables correlate with one another, which is basically test of relationship among the variables under study.

4.6.1 Correlation Analysis of Dynamic Capabilities on Production Performance.

The table below display the correlation analysis of dynamic capabilities on production performance. The variables used to measure dynamic capabilities include; adaptive capability, marketing capability, alliancing capability, managerial capability, and technological capability development.

Table 4.14: Correlation Analysis of Dynamic Capability on Production Performance.

Variable	1	2	3	4	5	6
1. AC	1					
2. MC	884**	1				
3. ALC	.725**	.829**	1			
4. MGC	.780**	.727**	.667**			
5. TCD	.734**	.820**	.823**	514**	1	
6.PPBI	712**	806**	.748**	617**	.642**	1

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

AC= Adaptive Capability, MC = Marketing Capability, ALC = Alliancing Capability, MGC = Managerial Capability, TCDI = Technological Capability Development, PPBI = Production Performance of Beverage Industry.

Inferring from results of the correlation analysis as displayed in table 4.14, all variables inter-correlate. The results indicate that: adaptive capability correlate with marketing capability (Coefficient= 884; p-value <.000), adaptive capability correlate with alliancing capability (Coefficient=.725; p-value<.000), adaptive capability correlate with managerial capability (Coefficient=.780; p-value <.000), adaptive capability correlate with technology capability development (Coefficient=-.734; p-value <.000), adaptive capability correlate with production performance of beverage industry (Coefficient= 712; p-value <.000). Again, marketing capability correlate with alliancing capability (Coefficient=.829 p-value <.000), marketing capability correlate with managerial capability (Coefficient=.727; p-value <.000), marketing capability correlate with technological capability development (Coefficient=-.820; p-value <.000),

marketing capability correlate with production performance of beverage industry (Coefficient=-.806; p-value <.000).

Moreover, alliancing capability correlate with managerial capability (Coefficient=.667; p-value <.000.), alliancing capability correlate with technological capability development (Coefficient=.823; p-value <.000), alliancing capability correlate with production performance of beverage industry (Coefficient=-.748; p-value <.000). Again, managerial capability correlate with technological capability development (Coefficient=.514; p-value <.000), managerial capability correlate with production performance of beverage industry (Coefficient= .617; p-value <.000). Again, technological capability development correlate with production performance of beverage industry (Coefficient= 642; p-value <.000). This indicate that, the variables inter correlate and are therefore having effect on production performance of beverage industry.

4.7 Impact of Dynamic Capability on Production Performance

The study used multiple linear regression to access the impact of dynamic capability on production performance of beverage industry. The coefficient, significance (T statistics) and beta values were used in interpretation of the results at 95% confidence level. The regressions equation is thereby presented as $Y= a +b_1X_1 +b_2X_2 + b_3+X_3 +b_4X_4 +b_5X_5$. In computing the figures as generated from the multiple regression analysis, the equation however took the form; $Y= 1.235+.070(X_1) +.854(X_2) +.578(X_3) +.046(X_4) +285X_5$.

Dynamic capability is an independent variable, whereas beverage industry production performance is a dependent variable. Independent factors include managerial capability, technology advancement, marketing capability, alliance-building capability,

and adaptable capability. Tables 4.15, 4.16, and 4.17, respectively, display the model summary, ANOVA, and coefficient table.

Table 4.15: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.827[a]	.684	.669	.84355

a. Predictors: (Constant), adaptive capability, marketing capability, alliancing capability, managerial capability, and technological capability development.

According to the results of the model summarized above, there is a significant association between dynamic capability and production performance of the beverage sectors, with a value of.827. The R^2 result implies that the production performance of the beverage industry can explain 68 percent (.684) of dynamic capability.

Table 4.16: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	167.807	5	33.561	47.165	.000[b]
	Residual	77.561	109	.712		
	Total	245.368	114			

a. Dependent Variable: **Production Performance of Beverage Industries**.
b. Predictors: (Constant), adaptive capability, marketing capability, alliancing capability, managerial capability, and technological capability development.

The F statistics of 47.165*** shows that the model is fit and significant.

Table 4.17: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.235	.466		-2.651	.009
	Adaptive Capability	.070	.158	.058	.442	.660
	Marketing Capability	.854	.190	.663	4.487	.000
	Alliancing Capability	.578	.177	.380	3.260	.001
	Managerial Capability	-.046	.123	-.036	-.374	.709
	Technological Capability Development	-.285	.135	-.241	-2.102	.038

a. Dependent Variable: Production Performance of Beverage Industries.

4.7.1 Adaptive Capability

With a coefficient of 070, adaptive capability demonstrates a favorable correlation between dynamic capability and production performance in the beverage business. The beverage industry's production performance index would rise if all other factors were constant, including marketing capability, partnering capability, managerial capability, and technological capability development. According to statistics, adaptive capability is not statistically significant, and the variable does not provide anything special to the explanation of the production performance of the beverage business (T=.442; Sig =.660). The inference is that having the flexibility to adapt helps manufacturing

enterprises and organizations stay ahead of the market's fierce competition. Through their ability to adapt, managers may detect changes in an organization's performance as they happen and take prompt action to counteract competitors' strategies and keep the goals in mind.

4.7.2 Marketing Capability

With a coefficient of 854 marketing capability demonstrates a favorable association between dynamic capability and beverage sector production performance. If everything remained constant in the beverage industry's production performance index—namely, dynamic capability, alliancing capability, managerial capability, and technological capability development—it would rise. Marketing ability is statistically significant, and the variable is uniquely contributing to the explanatory power of the beverage industry's production performance (T=4.487; Sig =.000). The inference is that businesses rely on their marketing capabilities to convert inputs into outputs in accordance with their marketing mix strategies, and that the effectiveness of these marketing capabilities is correlated with business performance.

4.7.3 Alliancing Capability

The regression value for alliancing capabilities is.578, indicating a favorable correlation between dynamic capabilities and beverage industry production performance. If everything remained constant in the beverage industry's production performance index—namely, dynamic capability, marketing capability, managerial capability, and technological capability development—it would rise. The variable is uniquely contributing to the explanation of the production performance of the beverage industry and is statistically significant (T= 3.260; Sig =.001). The alliance capacity capabilities

argued that both a firm's ability to manage its portfolio of alliances holistically and its ability to manage individual partnerships within the portfolio needed to be improved.

4.7.4 Managerial Capability

Dynamic capacities and production success in the beverage business are inversely correlated, according to managerial capability. If everything remained constant in the beverage industry's production performance index—including dynamic capability, marketing capability, partnering capability, and technological capability development—the index would rise. The variable is not statistically significant, and it is not explaining the production performance of the beverage business in any particular way (T= -.374; Sig =.709). The conclusion is that many institutions find it difficult to imagine how they would apply management competencies in order to provide the best to the market and remain competitive in today's competitive and dynamic business climate. Additionally, because of the intense competition in the industrial business environment, management competencies must constantly evolve.

4.7.5 Technological Capability Development

The inverse relationship between dynamic capabilities and production performance in the beverage industry may be shown by the coefficient value for technological capability development, which is -.285. If everything else were equal and management, marketing, partnering, and dynamic capabilities were all held constant, the beverage industry's production performance index would rise. The variable is not statistically significant and does not contribute particularly to the explanation of the production performance of the beverage industry (T= -2.102; Sig =.038). The term "technological competence" refers to the additional and unique resources, such as knowledge,

expertise, institutional structures, and links, that are required to create and manage technical change.

4.7.6 Beta Value

It is wise to use beta values without taking into account the negative sign when comparing the impact of independent variables (adaptive capability, marketing capability, allying capability, managerial capability, and technological capability development) on the production performance of the beverage industry. The beta values for technical capability development are.070,.854,.578,.046, and.285 for adaptive capability, marketing capability, alliance capability, managerial capability, and technological capability. The variable contributing most strongly to the forecast of production performance in the beverage business is marketing capabilities, which has a beta value of.854.

4.11 Hypothesis

Table 4.18: Summary of Hypothesis Construct

H2	**Hypothesis Relationship**	**Path Coefficient**	**T-Statistics**	**Significant/Not**	**Hypothesis Supported**
H2a	Adaptive capability and production performance of the beverage industry.	0.070	.442	Not Significant at .660	Not Supported at p-value >.660
H2b	Marketing capability and production performance of the beverage industry.	0.854	4.487	Significant at .000	Supported at p-value <.000
H2c	Alliancing capability and production performance of the beverage industry.	0.578	32.60	Significant at .001	Supported at p-value <.001
H2d	Managerial capability and production performance of the beverage industry..	-.046	-.374	Not Significant at .709	Not Supported at p-value >.709
H2e	Technological capability Development	-.285	-2.102	Significant at .038	Supported at p-value <.038

Source: Researchers Field data, 2023

4.12 The Moderating Role of Dynamic Capabilities

The study evaluates the moderating impact of dynamic capabilities on beverage manufacturing businesses' production performance and inventory management strategies. The study's hypotheses were evaluated and assessed using hierarchical regression model analysis, as was previously mentioned.

Table 4.19: Hierarchical Regression Analysis Results

	Production Performance			Sig.
	Model 1	Model 2	Model3	
	Beta(t-value.)	Beta(t-value.)	Beta(t-value.)	
IMPs	.773(12.947)			.000
IMPs		.301(1.894)		.061
DC		.506(3.188)		.002
IMPs			.108(431)	.668
DC			.384(1.853)	.066
InterTerm			.384(6.673)	.037
	Model			
	Indices			
R	.773	.794	.796	
R2	.597	.631	.634	
Adjus. R2	.594	.624	.624	
R2 Change	.597	.033	.003	
Df	113	112	111	
F-statistics	167.616	95.685	64.097	
Durb.-Wat	1.864	1.864	1.864	
Sig.	.000	.000	.000	

Notes: n=117, Regression is significant at p<.05*, standardized regression coefficients are reported. IMPs- Inventory management practices; DC-Dynamic Capabilities; PPBI = Production Performance of Beverage Industry.

Hierarchical regression findings are in Table 4.19. Checking model fit is essential before interpreting results based on study hypotheses. The p-values of all three models show that they are fit. With scores of: (p-value =.000); (p-value =.000); (p-value =.000) for model 1, model 2, model 3 accordingly, it is obvious, that model 1,2, and 3 did pass

the model fit assessment. Model 1 regressed inventory management strategies on beverage manufacturing enterprises' production performance, as shown in table 4.14. Moderating variable dynamic capability was added to model 2 in the second step. Third-stage analysis adds an interaction term (IMPs x DC). The table shows that IMPs (Beta weight=.773; t-values=12.947 p-values=.000) significantly predicts beverage manufacturing company production performance, while dynamic capability (Beta weight=.506; t-values=3.188 p-values=.002) has a positive and significant effect. In the third model, the causal (Beta weight=.301; t-values=1.894; p-values=.061) and moderating (Beta weight=.384; t-values=1.853; p-values=.066) variables did not significantly predict the outcome variable, but the interaction term was significant, indicating full moderation of DC on the IMPs – production performance link. The third model's R2 value changed significantly (R2=.003), supporting the claim that DC moderates the link between IMPs and production performance. Simply expressed, the third model suggests that dynamic capability moderates the relationship between inventory management methods and beverage manufacturing production performance.

4.13 Discussions of Result

This study highlights relevant findings related to the research question and aims. Due to the lack of empirical support in literature on inventory management practices and production performance, this study contributes greatly to the literature, industry practitioners, and policy makers by assessing the conditions under which inventory management mechanisms can improve beverage industry production performance. To answer the research question, three relevant hypotheses were tested using survey data from staff and managers: 1) H1—positive and significant link between inventory management practices and production performance; 2) H2—positive and significant link between dynamic capability and production performance; and H3—dynamic

capabilities moderate the link. The findings, theoretical contribution, and practical and policy consequences are presented.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The findings summary, conclusion, and suggestions for the study are presented in Chapter 5. The objectives listed are covered in the summary of findings. The objectives covered include the adoption of inventory management practices by beverage manufacturing companies, the effect of inventory management practices on production performance of the beverage manufacturing companies, and the role of dynamic capability as a moderator between inventory management practices and production performance of the beverage manufacturing companies.

5.2 Summary of findings

The following are the summary of the findings of the study in line with the specific objectives set out by the study.

5.2.1 The Inventory Management Practices adopted by the Beverage Industry.

Findings showed that employing economic order quantity methods enables the factory to schedule the timely replenishment of its inventory. Findings also showed that the business orders an item of stock in the optimum quantity to save costs. Findings also showed that the business reduces inventory by creating an environment that makes its operations considerably simpler. Once more, receiving an order is a lengthy process for beverage manufacturing companies. The outcome showed that the company's policies and processes were systematically explained to both internal and external consumers. Findings also showed that, in order to improve timely delivery of goods, the manufacturing company makes sure there is a shift toward single-sourcing close suppliers. Additionally, the RFID technology has significantly increased the company's

quality, efficiency, and return on investment. Once more, few incentives have resulted from the use of radio frequency identification (RFID) systems. The outcome also showed that connecting with a company's suppliers helps lower the expense of running out of goods. Findings also showed that there are facilities for information flow and inventory accuracy for on-time delivery of goods. Findings also showed that the business makes sure that the lead time for on-time delivery of items is minimized by replenishing inventory.

5.2.2 The Impact of Inventory Management Practices on Production Performance in the Beverage Industry.

Economic order quantity was shown to be statistically significant and to be uniquely contributing to the explanation of the production performance of the beverage industry. Due to the constant inflow and outflow of product, this enables businesses to maintain cheap garage pricing within the warehouses. According to statistics, Just-in-Time is not statistically significant, and the variable is not uniquely able to describe the production performance of the beverage sector. According to the analysis, just-in-time is not a significant concept, which shows that beverage manufacturing companies do not actually implement the concept in their production and manufacturing processes. A novel addition is being made to the explanation of the production performance of the beverage sector by the statistically significant variable of barcode scanner system and radio frequency identification. A unique contribution is being made to the explanation of the production performance of the beverage industry by enterprise resource planning systems, a variable that is statistically significant. Vendor managed inventory has statistical significance, and it offers a distinctive perspective on how the beverage industry's production performance might be explained. Economic order quantity is the

factor that has the biggest impact on predicting how well the beverage business will produce.

5.2.3 Impact of Dynamic Capability on Production Performance in the Beverage Industry.

The result indicated that, adaptive capability is statistically not significant, and the variable is not making any unique contribution to the explaining of production performance of the beverage industry. Through adaptive capability, managers notice organization's performance shifts as they emerge, hence act diligently to pre-empt competitor's tactics and maintain the targets. Also, marketing capability is statistically significant, and the variable is making a unique contribution to the explaining of production performance of the beverage industry. The result further indicated that, alliancing capability is statistically significant, and the variable is making a unique contribution to the explaining of production performance of the beverage industry.

Managerial capability is not statistically significant, and the variable is not making any unique contribution to the explaining of production performance of the beverage industry. The implication is that, in today's competitive and dynamic business environment, many institutions struggle to envision how they would apply management capabilities in order to offer the best to the market and remain competitive. Technological capability development is not statistically significant, and the variable is not making any unique contribution to the explaining of production performance of the beverage industry. Marketing capability is the variable making the strongest contribution to the prediction of production performance of the beverage industry.

5.2.4 The Moderating Role of Dynamic Capabilities between Inventory Management Practices and Production Performance of the Beverage Industry.

The final and fourth objective of the study explored how dynamic capability moderates the relationship between inventory management techniques and beverage manufacturing company production performance. The third model suggests that dynamic capability moderates the relationship between inventory management and production performance. The hypothesis of this objective was that beverage manufacturing companies with well-synchronized and coordinated internal units and operations can achieve higher and more advanced production performance with better inventory management practices. Again, hierarchical regression analysis shows that well-integrated internal units and activities can help firms and manufacturing enterprises increase production performance through inventory management.

According to the chapter four hypothesis testing table, the preceding finding supports the third hypothesis. Thus, dynamic capability is crucial to beverage manufacturers' inventory management and production performance IMPs-PP.

5.3 Conclusion

Institutions should pay close attention to inventory management methods in order to ensure the best performance, best growth, and stability of businesses. This is especially important for manufacturing organizations. Inventory management strategies have been recognized as a crucial element in achieving the targets and objectives in order to accomplish these goals.

A issue or area of research that needs further attention is the relationship between inventory management strategies and production performance in developing countries. There is limited empirical data on whether inventory management techniques influence

production performance, despite the fact that literature points to these practices as a predictor of production performance in beverage manufacturing businesses and dynamic capability. As a result, the study provides an answer to the research question: Do inventory management strategies improve production efficiency for beverage manufacturing companies? The study also proposed a suitable level of dynamic capability would improve the relationship between production performance and inventory management procedures. These considerations led to the development of testable hypotheses based on a conceptual model that suggested that while inventory management procedures improve production performance, dynamic capability would further strengthen the relationship between these two factors.

The suggested research paradigm was put to the test using empirical data and the Hayes Process. Results show that: 1) firms that build enough inventory management to handle internal and external turbulences and bounce back to normalcy after incorporating dynamic capability are more likely to stay above industry average and increase performance; 2) a reasonable balance between dynamic capability strengthens the association between inventory management practices and production performance; and 3) empirical evidence was found to support the speculative claim that, reasona

5.4 Recommendations

The study's major conclusions, which imply that inventory management methods do predict production performance, demand that firm managers accelerate production performance using creative means in order to improve the firm's performance.

Additionally, the discovery that dynamic capability predicts production performance urges businesses to seriously consider dynamic capability issues because it enables them to be more adaptable and responsive to customer needs and expectations, trends, and technological advancements in the quest to improve industry performance.

The results showed that adding dynamic capabilities to manufacturing companies' processes raised their level of performance. Therefore, in order to boost performance, beverage manufacturing managers should carefully manage and invest in enhancing the performance of its dynamic capabilities.

According to the survey, just-in-time inventory management procedures are not a substantial part of inventory management practices. Therefore, it is advised that management strategically pay more attention to the variable in order to ensure the manufacturing industry's performance.

The hypothetical argument that dynamic capability moderates the relationship between inventory management practices and production performance has been empirically validated, and as a result, managers and businesses are encouraged to invest in both dynamic capability and current inventory management practices in order to reap the performance benefits that follow.

5.5 Suggestions for Future Research

Owing to the fact that the current study focused on an industry perspective, and leveraged data from beverage manufacturing industries within the confined of Greater Accra and Secondi Takoradi, future studies can test the current model in a different empirical context or setting.

Furthermore, the conceptualization of inventory management practices as a multidimensional construct may seems cumbersome to some managers and to determine what practices offers industries production performance and to what extent, as such, it is prudent that, future researchers look at inventory management practices and dynamic capability from different capabilities standpoints.

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APPENDIX

SURVEY QUESTIONNAIRE

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The aim of this questionnaire is to "***Assessing the impact of Inventory Management Practices on Production Performance in the Beverage industry. Moderating role of Dynamic Capabilities".*** This questionnaire is for academic purposes only and any information gathered will remain confidential. Where alternatives have been provided in this questionnaire, please tick the appropriate response. For any other question write your answer in the space provided. Your participation and cooperation in this study is highly appreciated and valued.

SECTION A: DEMOGRAPHICS (*Only tick one option under each question)*

1. **What is your gender?**
   a. Male ☐
   b. Female ☐

2. Marital Status
   a. Single ☐
   b. Married ☐
   c. Divorced ☐

3. **What is your highest level of Education?**
   a. Diploma ☐
   b. Degree ☐
   c. Masters ☐
   d. Others ☐

4. **How long have you been working with the beverage industry?**

   a. Below 2 years ☐
   b. 2-5 years ☐
   c. 5-8 years ☐
   d. Above 8 years ☐

5. **Indicate the types of beverage industry you are Operating**

   ……

   ……

6. *SECTION B: INVENTORY MANAGEMENT PRACTICES.*

With regard the inventory management practices of the beverage industry please **tick** the appropriate number to indicate the extent to which you agree or disagree with each statement. The item scales are five-point Likert type scales with 1 = strongly disagree, 2 = disagree, 3 = neutral 4= somehow disagree, 5 = somehow agree, 6= agree, 7 = strongly agree

Items	**Statements**							
	Inventory Management Practices of the Beverage Industry							
EOQ	***Economic Order Quantity (EOQ)***	**1**	**2**	**3**	**4**	**5**	**6**	**7**
EOQ1	The factory uses economic order quantity practices to estimate how much of an item to order.							
EOQ2	The factory orders the optimal ordering quantity for an item of stock that minimizes cost							
EOQ3	Economic order quantity practices enable the factory to plan for its inventory replenishment on timely basis							
EOQ4	Economic order quantity practice helps the factory in deciding when to order an item of stock							
EOQ5	The factory minimizes the storage cost by using economic order quantity practices.							
JUST	***Just-in-Time***	**1**	**2**	**3**	**4**	**5**	**6**	**7**
JUST1	Some items are only ordered based on a request or at the time of the demand							
JUST2	The company reduce inventory by providing a situation that makes its processes much simpler.							
JUST3	It take long time for beverage manufacturing companies to receive an order							
JUST4	It take long time for beverage manufacturing companies to deliver goods received to customers							
JUST5	Policies and procedures clearly stated and systematically communicated.							
JUST6	Some items are only ordered based on a request or at the time of the demand.							
BSS	***Barcode scanner system & Radio Frequency Identification (RFID)***	**1**	**2**	**3**	**4**	**5**	**6**	**7**
BSS1	The firm ensures that there is shared product design with the suppliers and customers to enhance timely delivery of goods							
BSS2	The firm ensures that there is movement towards single sourcing proximate suppliers to enhance timely delivery of goods							
BSS3	The organization has ensured that there is reduced machine setup times for the reduction of stock out costs							
BSS4	The RFID system has led to dramatic improvements in the							

	firms return on investments, quality and efficiency							
BSS5	The firm has ensured that there is total preventive maintenance that emphasizes that production create items that arrive when needed to reduce wastes							
BSS6	The implementation of RFID system has yielded minimum inventories							
BSS7	The implementation of RFID system has led to improved quality, least amount of resources and provided maximum motivation to supply chain solve problems as soon as they occur							
ERPS	***Enterprise Resource Planning (ERP) Systems***	**1**	**2**	**3**	**4**	**5**	**6**	**7**
ERPS1	The firm ensures that there is planning for inventory to improve decision making for the timely delivery of goods							
ERPS2	The connectivity with the suppliers of the firms enhances reduction of stock out costs							
ERPS3	Inventory accuracy facilitates flow of information for timely delivery of goods							
ERPS4	The firm ensures that there is planning of inventory that coordinates all resources and activities for the reduction of wastes							
ERPS5	The ERP systems assists in managing the connections with the outside stakeholders as well as enhancing reduction of stock out costs							
VMI	***Vendor Managed Inventory (VMI) Systems***	**1**	**2**	**3**	**4**	**5**	**6**	**7**
VMI1	The stock management system in the firm minimizes the total holding and ordering costs annually thus leading reduction of stock out costs							
VMI2	The firm ensures that there is optimal stock levels to reduce stock out costs							
VMI3	The firm ensures that the replenishment of inventory minimizes the lead time for the timely delivery of goods							
VMI4	The firm ensures that there is a working stock management system to reduce lead cycle time for effective reduction of wastes							
VMI5	The firm ensures that there is adequate optimal stock levels for the reduction of wastes							
VMI6	The stock management system in the firm minimizes the total holding and ordering costs annually thus leading to reduction of stock out costs.							

7. SECTION C*: GREEN DYNAMIC CAPABILITIES*

With regard to the ***Dynamic Capabilities*** please **tick** the appropriate number to indicate the extent to which you agree or disagree with each statement. The item scales are five-point Likert type scales with 1 = strongly disagree, 2 = disagree, 3 = neutral 4= somehow disagree, 5 = somehow agree, 6= agree, 7 = strongly agree

Items	**Statements**							
	Dynamic Capabilities	**1**	**2**	**3**	**4**	**5**	**6**	**7**
AC	***Adaptive Capability***							
AC1	We committing substantial resources to scan the environment to identify new opportunities.							
AC2	We committing substantial resources to scan the environment to identify new threats.							
AC3	Web committing substantial resources to scan the environment to identify recent technologies.							
AC4	We continually adjusting of strategies based on information we obtain from the market							
AC5	We continually adjusting of systems based on information we obtain from the market							
AC6	We always encourage our people to challenge outmoded traditions.							
AC7	We always have a risk management strategy.							
AC8	We are always able to respond to market disruption faster than our competitors.							
MC	***Marketing Capability***	**1**	**2**	**3**	**4**	**5**	**6**	**7**
MC1	We have an adequate budget for market research.							
MC2	We review prices to respond to market trends							
MC3	We continually assessing customer satisfaction							
MC4	We have a strategy for retaining our loyal customers.							
MC5	We engage on treating strong customer relationships as an asset.							
MC6	We have a sufficient budget for brand management							
MC7	We engage in teaching our employees brand management techniques.							
ALC	***Alliancing Capability***	**1**	**2**	**3**	**4**	**5**	**6**	**7**
ALC1	We continuously looking for new partnerships.							
ALC2	We have a written procedure for finding new partners.							
ALC3	Always having a manager responsible for managing intra industry partnerships.							
ALC4	We encourage senior managers to participate in the leadership of industry associations.							
ALC5	We always review the size of the alliance portfolio.							
ALC6	Partnering with peers to lobby for a favorable							

	regulatory framework.							
ALC7	Partnering with suppliers to stabilize raw material supply.							
MGC	***Managerial Capability***	**1**	**2**	**3**	**4**	**5**	**6**	**7**
MGC1	We engage new managers who have functional experience.							
MGC2	We involve employees in decision making							
MGC3	We encourage line managers to delegate decision-making power to employees							
MGC4	We have team building events to create cohesion between managers and staff.							
MGC5	Encouraging employees to innovate new ways of doing their work							
MGC6	We embark on sponsoring professional training for our employees.							
MGC7	We have a documented procedure for developing future leaders.							
TCD	***Technological Capability Development***	**1**	**2**	**3**	**4**	**5**	**6**	**7**
TCD1	We run new kinds of production operations or facilities							
TCD2	We use our engineering skills and resources in new technical areas.							
TCD3	We improve the efficiency and effectiveness of production department.							
TCD4	We master new technological equipment							

8.

9. *SECTION D: PRODUCTION PERFORMANCE OF BEVRAGE INDUSTRY*

With regard the production performance, please **tick** the appropriate number to indicate the extent to which you agree or disagree with each statement. The item scales are five-point Likert type scales with 1 = strongly disagree, 2 = disagree, 3 = neutral 4= somehow disagree, 5 = somehow agree, 6= agree, 7 = strongly agree

Items	**Statements**					
OPM	***Production Performance of Beverage Industry***	**1**	**2**	**3**	**4**	**5**
OPM1	We have superior quality of product compared to our competitors' through effective management of inventories.					
OPM2	Production workers are trained for quality control of inventories.					
OPM3	We have quality focused teams that meet regularly to discuss about quality issues regarding inventories.					
OPM4	Number of employees who can perform several different tasks (multi-skilled workforce) has increased					
OPM5	The times waiting for the part to be moved to the next operation have reduced					
OPM6	Transportation times from storage, to storage, or between work centres have reduced					
OPM7	Our unit manufacturing cost is lower than our competitors'					
OPM8	Production processes on production floors are monitored with statistical quality control techniques.					

Thank You