UNIVERSITY FOR DEVELOPMENT STUDIES

THE CONTRIBUTION OF INVENTORY MANAGEMENT TO PROFITABILITY OF SMES. A CASE STUDY OF TAMALE METROPOLIS

LYDIA KATERE

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BY

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UNIVERSITY FOR DEVELOPMENT STUDIES

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original work and that no part of this has been presented for another degree in this university or elsewhere.

Candidate's Name: Ms. Lydia Katere

Signature: ……

Date: …….

Supervisor's Declaration

I hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of the thesis laid down by the University of Cape Coast.

Supervisor's Name: Mr Isaac Christopher Otoo

Signature: ……

Date: ……..

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DEDICATION

To my Mum, Elizabeth Denteh

ABSTRACT

This study examined the the Contribution of Inventory Management to Profitability of SMEs in the Tamale Metropolis. The study adopted the descriptive and quantitative study designs and used the purposive sampling technique to select 72 small and medium enterprises in the Tamale Metropolis, who served as sample size for the study. Respondents constituted owners/managers of SMEs. Questionnaires were designed based on past empirical studies and data collection was aided by enumerator. The data collected were analysed using descriptive statistical tools (frequencies, percentages, mean scores) as well as inferential statistics (correlation coefficient, linear regression analysis) using SPSS for windows, version 26. The findings revealed that SMEs in the Tamale Metropolis have effectively adopted inventory management practices. Also, inventory management practices had a positive and significant relationship with the performance of SMEs in the Tamale Metropolis. Finally, there was a positive effect of SMEs competitive advantage on the performance of SMEs in the Tamale Metropolis. The study recommended that government organizations that support SMEs, such as the Ghana Chamber of Commerce and the GEA, encourage owners and managers of small and medium-sized businesses to adopt inventory innovations in order to create long-term stability and increase the firm's profitability.

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CHAPTER ONE

INTRODUCTION

It is commonly acknowledged that Small and Medium-Sized Enterprises (SMEs) play a key role in economic development in general and industrial development in particular at all stages of development. According to Storey (1994), small businesses account for the majority of businesses across all economies in the globe. According to the United Nations and Industrial Development Organization (UNIDO), SMEs are the backbone of the private sector, accounting for over 90% of all businesses globally and providing between 50% and 60% of all jobs. Unquestionably, the global economy is growing as a result of the success of small and medium-sized businesses. SMEs are still forming in practically every region of the world.

According to Zimmerer and Scarborough (2008), even nations with state-controlled economies like Croatia, Slovenia, China, Russia, Vietnam, and many others today offer ideal conditions for the establishment and expansion of small firms. According to Fida (2009), SMEs constitute a significant source of employment in the private sector in industrialized nations. In high income countries, SMEs account for more than 55% of the GDP and more than 65% of all employment. SMEs generate more than 60% of the GDP and more than 70% of all jobs in low-income nations, whereas in middle-income countries they make up roughly 70% of the GDP and 95% of all jobs. Thus, small-scale businesses are crucial for creating jobs, lowering poverty rates, fostering an entrepreneurial culture, and acting as a fundamental link in the economy thanks to their supply chains and trade intermediary roles (Oketch, 2000). A depressing fact that should temper one's enthusiasm about the emergence of SMEs as a solution to the nation's poverty and employment issues is that the International Labour Organization (2010) estimates that two-thirds of the firms were earning incomes equal to or below the minimum wage.

Similar to many emerging economies, Ghana's economy is dominated by SMEs, who are crucial to fostering growth and development. SMEs make up 92 percent of firms in Ghana and contribute roughly 85% of the employment in manufacturing (see Abor and Adjasi, 2007). Records show that over the last decade of the 20th century, the SME sector has represented a greater percentage of company activity than at any other time (Appah, 2011). Understanding the issues that negatively impact small businesses is a crucial first step in controlling and preventing the widespread failure of these small enterprises given their significance to a nation's economic growth and the role that they play in reducing poverty (Nyabwanga & Ojera, 2012). (ILO, 2010). According to Baron et al. (2010), sensible demand management that is rooted in efficient inventory management needs to be applied if organizations are to perform better.

Background of Study

In developing nations like Ghana, micro and small businesses (MSEs) are crucial from a strategic perspective. They support the creation of jobs, as well as increased national income, exports, and business development. Thus, one of the main areas of involvement in the Industrial Growth and Growth Strategy (IGDS) of the Ghanaian government is SME development. Therefore, it is anticipated that the performance of microenterprises based on efficiency, competence, and productivity will continue to play crucial roles in Ghana's development process. To encourage growth and efficiency in the SME sector and Ghana as a whole, economists and development practitioners are therefore making substantial progress in identifying critical areas of SME management that need to be strengthened.

According to SME literature, one of the most reliable ways to foster efficiency and competitive growth in the SME sector is by using formal, sustainable inventory management techniques (Stevenson, 2010). According to Stevenson (2010), organizations can utilize inventory

management as a framework to manage their inventory interests. It involves keeping track of inventory levels, predicting demand in the future, and choosing when and how to organize them. In order to maintain a sufficient supply of items and cut expenses, Deveshwar and Dhawal (2013) suggested that SMEs may use inventory management as a technique to organize, store, and replace inventories. Naliaka and Namusonge (2015) found that inventory management had an impact on the competitive advantage of manufacturing enterprises in their study of the country of Kenya. The same study also comes to the conclusion that the company may compete on the basis of timely and high-quality client order delivery. Critical management choices produce competitive advantage, which consists of an organization's capacity to set itself apart from its rivals (Li, Ragu-Nathan, & Subba Rao, 2006).

A significant portion of many organizations' overall budgets are allocated to investing in a small business' inventory; however, inventory control is one of the most underappreciated management functions (Stevenson, 2010). Due to ineffective inventory management or the inability to effectively regulate it, many small firms have an excessive amount of cash locked up in inventory accumulation over an extended period of time. Poor inventory control immediately causes a company's cash flow to suffer. As far as the researcher is aware, neither policy makers nor researchers have focused on inventory problems in SMEs in Ghana.

Inventory management procedures are increasingly acknowledged as a crucial issue that demands maximum emphasis, according to Dimitrios (2008). Due to the money spent on inventory, which has an impact on the profitability and competitiveness of the organization, direct materials typically account for up to 50% of the overall product cost in manufacturing organizations. However, historically, organizations have disregarded the potential savings from good inventory management, regarding it as a necessary evil rather than an asset that has to be

managed, claim Sander, Matthias, and Geoff (2010). Because of this, a lot of inventory management systems rely on arbitrary rules. According to R.M. Onyango (2013), inventory management is a crucial organizational pillar that demands considerable consideration.

Effective inventory management is said to be crucial to the smooth operation of a firm (Appah, 2011). Customers desire dynamism, and SME's must contend with competition to be viable. Only the company with the best logistics management will be able to beat out the competition in this market. Since inventory is the most crucial component of logistics, SMEs have had to implement a variety of inventory management strategies that best suit their businesses in order to achieve the best outcomes and control their inventory (Appah, 2011). The majority of SMEs in the manufacturing industry consistently misalign supply and demand, which results in excess inventory or stock outs. Manufacturing organizations utilize a variety of inventory management systems; however, these systems could hinder their productivity. The main focus of the inquiry has been on how widely these strategies are employed and how well they work in the field. There has been a significant gap between theoretical and actual inventory management practices used in the industrial industries, and this gap needs to be closed. By employing SMEs in the Tamale Metropolis, in the Northern Region of Ghana, as a case, this study aims to investigate the relationship between inventory management techniques and business financial performance.

Problem Statement

Numerous businesses struggle with uneven inventories, inaccurate estimating, inadequate customer service, and inadequate accounting processes, which have a negative impact on performance (Dimitrios, 2008). Similar issues with erratic deliveries, decreased effective consumer demand, and high manufacturing costs are encountered by other businesses, all of which have a negative impact on their performance (Stevenson, 2010). Inventory is the lifeblood of any

manufacturing organization, according to Dimitrios (2008). According to them, inventory management has become essential for every manager in charge of production in an organization because of the lack of materials to meet the sudden rise in customer demand, the decline in profit margin, the low return on equity, the waste of materials, theft caused by overstocking, and sleep in communication chains that exist in most industries. Inventory must be effectively handled rather than ignored because it is a limited resource, just like any other corporate resource. The price of purchasing materials (stocks) is particularly significant since, on the one hand, overstocking will tie up capital and increase the risk of becoming obsolete, while, on the other hand, understocking could result in shortages and production bottlenecks. Consequently, the problem is to ascertain how each of these elements affects the company's bottom line. The price of purchasing materials (stocks) is particularly significant since, on the one hand, overstocking will tie up capital and increase the risk of becoming obsolete, while, on the other hand, understocking could result in shortages and production bottlenecks. Determining how each of these elements impacts the company's bottom line is thus the difficult task. The ability to balance how much to buy, when and where to buy frequently without shortages, how to source, and how much to invest in inventory will allow business owners to optimize profit. This is the issue this study is trying to address.

For example, Kweku Agyei and Marfo-Yiadom (2006) in the Central area, Agyei-Mensah (2012) in the Ashanti region, and Appah (2011) in the Secondi Metropolis of the Western region have all undertaken study on the working capital management methods of SMEs in Ghana. However, there are few specific research studies that focus solely on inventory management and the financial performance of small to medium-sized businesses, particularly in the instance of Ghana's Northern area. A neglected field of research is to the inventory management techniques of small firms in Ghana, and in particular, the northern region, which is predominated by small-

scale businesses. With this in mind and the growing recognition of the potential contribution of the SME sector to the Ghanaian economy, the study is a modest attempt to investigate the effects of effective inventory management practices on the financial performance of sampled SMEs in the Northern region of Ghana. Its findings are anticipated to add to the body of knowledge on the practices of inventory management among SMEs. This study would benefit small businesses not just in the Northern region but also all owner/managers of small enterprises across the nation. Additionally, this will assist corporate stakeholders in developing and putting into effect rules and procedures that will improve inventory management. It will also be beneficial to academia and serve as the foundation for more study.

Purpose of the Study

The purpose of the study is to examine the contribution of inventory management to profitability of SMEs in the tamale metropolis

Research Objectives

Main Research Objective

To examine the contribution of inventory management to profitability of SMEs in the tamale metropolis

Specific Research Objectives

1. To identify the Inventory Management practices followed by MSEs in Manufacturing Sub-Sector?
2. To assess the effect of Inventory Management practiced by MSEs on performance
3. To investigate how the competitive advantage gained through inventory management affect MSEs' performance

Research Questions

1. What are the Inventory Management practices followed by MSEs in Manufacturing Sub-Sector?
2. What are the effects of Inventory Management practiced by MSEs on performance?
3. How does the competitive advantage gain through inventory management affect MSEs' performance?

Significance of the study

Researchers and policymakers in Ghana have not yet focused on SME inventory challenges. SMEs, particularly industrial businesses, have a big impact on the economy in a variety of ways. The micro-enterprise sector is Ghana's second-largest employer after the agricultural sector. Microbusinesses make up more than twice as much of the economy as the manufacturing sector. These businesses, however, deal with both financial and non-financial issues. According to certain surveys, a lot of small businesses fail for reasons other than money. Inadequate raw material and spare part inventories are typically a concern for micro and small manufacturing enterprises. These shortages frequently result in production schedule disruptions, equipment failures, and low-capacity utilization, all of which impede their ability to expand effectively. To address these issues, the MSE sector needs precise empirical data to inform the implementation of corrective governance procedures and policy directives.

The results of this study will be crucial in helping corporate executives and policy officials develop methods for improving inventory management within firms. The production of high-quality goods and services within an economy would result from improvements in the quality of inventory management. The results may offer helpful information that can be used in several research investigations that are relevant to this subject, making them useful to researchers as well.

The study is also important to the academic world since it gave the researcher the opportunity to develop practical skills by fusing classroom theory with actual workplace scenarios. Additionally, the findings of this study will serve as a guide for other researchers who wish to conduct comparable studies. So, it will pile up in the scholarly community's data bank.

Scope of the Study

The study's setting, geographic coverage, time frame, and research design all have an impact on its scope. In this context, the study is designed to evaluate the impact of MSEs on the performance of MSEs by focusing on MSEs. Geographically, the study is concentrated on MSEs in the Tamale Metropolis, which is in Ghana's Northern region.

Limitations

Due mostly to the COVID 19 pandemic's invasion, the researcher had trouble reaching some of the responders. Some of the respondents shied away from close interaction with people they did not know well enough out of fear of catching the virus. To overcome this obstacle, the researcher and the respondents agreed to take all necessary safety measures before beginning any interviews related to the topic of the investigation.

The second issue is how challenging it is to collect data and information, most of which is deemed confidential. By assuring that the exercise was entirely academic and that the results would only be utilized for academic purposes, this difficulty was overcome.

Definition of key terms

Profitability

Profitability for SMEs is a vague idea. There are numerous methods for determining profitability. The return on sales, return on assets, and return on equity ratios are the maximum measures of SME profitability used in this study. This restriction is appropriate for financial

management procedures for SMEs in Ghana and is required to condense the study's scope. Additionally, the study's definition of profitability as a comparison notion. A business is considered "unprofitable" if its annual average profit is less than the free-risk rate of interest. In chapters 2 you will find a detailed explanation of the justifications for the concept of profitability.

Small and Medium Enterprises (SMEs)

First, there is no agreed-upon definition of a SME. The definition is based entirely on the size of the labor force in some nations. In some other nations, the term includes financial factors like assets and/or turnover. According to the Ghana Statistical Service (GSS), small-scale enterprises are defined as companies with fewer than 10 employees, and medium-sized and large-sized enterprises are defined as companies with more than 10 employees. The Ghana Statistical Service's definition of a SME is used in this study.

Inventories and Inventory Management

Stockpiles of raw materials, supplies, components, work-in-progress, and finished goods that pop up at various points in a company's production and logistics channels are referred to as inventories, according to Ballon (2004). The stock of any resource or object used by an organization is known as its inventory. According to this study, inventory management is a technique used by businesses to arrange, store, and replace inventory in order to maintain a sufficient supply of products while also cutting costs.

Organization of the Study

There are five (5) chapters in this study. The backdrop of the study, the issue statement, the significance of the investigation, the research questions, the scope of the study, and the study limitations are highlighted in Chapter 1. The review of pertinent literature that is connected to the topic being studied is covered in chapter two. Here, essential ideas that connect to the study's

setting and subject matter have been operationalized successfully. The study's methodology is presented in chapter three. It demonstrates in detail the procedures used in order to carry out the study, including the research concept, study region, population, sample, and sampling technique, instrument, and data collection techniques. Additionally, it demonstrates the analysis of the data gathered as well as certain ethical issues. The study's findings are analyzed and discussed in chapter four. The fifth chapter includes a summary of the findings, conclusions, and recommendations.

CHAPTER TWO

LITERATURE REVIEW

Introduction

In accordance to the defined study objectives, this chapter reviews pertinent and related literature on the subject. The study's theoretical foundation, the Lean theory, is reviewed at the outset. Other important ideas, like inventory management strategies, MSE, financial performance, and competitiveness, have been reviewed. Additionally, a conceptual framework is provided.

Theoretical framework

The lean theory serves as the primary theoretical foundation for this investigation. The Lean philosophy is focused on inventory systems' cost optimization. The hypothesis states that choices about production, warehousing, and general supply chain issues can be sped up (Tempelmeier, 2011). The necessity to examine how inventory management affects the performance of the firm, which necessitates a conservative approach to inventory management, encouraged the adoption of Lean Theory in this study. The idea thus emphasizes the potential for diversity in operating systems used to track stock levels as well as variations in items that can call for different management. A development of just-in-time notions is lean theory. According to Kros, Falasca, and Nadler (2006), just-in-time refers to a pull-based system designed to coordinate business and production activities along the supply chain.

Green and Inman (2005) looked into how the lean paradigm affected financial performance. They claimed that the theory might get rid of buffer stock and lessen manufacturing waste. Eroglu and Hofer (2011) assert that leanness improves a company's profitability. They claim that the best method of inventory control is inventory leanness. The concept explains in detail how companies can make their ordering decisions more flexible, have less inventory on hand, and spend

less money on storing inventory. At the aggregate level, both the timing and the scope of adoption show the empirical strength of the lean explanation. The hypothesis claims that inventory, however, restricts a firm's capacity to react to changes in demand.

Using lean supply chain methods and systems, firms are able to successfully optimize inventory, according to academic studies. This results in greater asset utilization and customer satisfaction, which in turn boosts organizational growth, profitability, and market share (Green & Inman, 2005). Another study by Eroglu and Hofer (2011) discovered a connection between inventory control and productivity. They discovered that profit margins benefit from being lean. Eroglu and Hofer (2011) found that companies that are leaner than the industry average frequently see the advantages of leanness. Using an empirical leanness metric, they managed their inventory. Their research examined the connection between inventory performance and overall firm success, in contrast to the current study. The idea has drawn criticism for only being relevant in situations where a firm and its trading partners work closely together over an extended period of time and share information.

Inventory Management practices in organizations

Inventory management, according to Deveshwar and Dhawal (2013), is a procedure used by businesses to organize, store, and replace inventory in order to ensure a sufficient supply of goods while reducing costs. According to Choi (2012), effective inventory management is essential to the smooth operation of any firm. Having an inventory has a substantial cost, both in terms of cash that is locked up and in terms of running and managing the inventory itself. It is argued that the lead time, or the amount of time it takes from ordering to delivering new inventory, is typically long and that client demand is almost never fully known (Cinnamon et al., 2010). The

objective of inventory management, which includes replenishment time and volume, is to balance great customer service with acceptable cost. As a result, managers should consider how to do so.

For many small company owners, inventory is one of the most visible and tangible aspects of running a firm. Examples of inventory include unfinished goods, raw materials, and goods in production. Money is maintained in each category until the inventory is purchased and departs the company. Similar to this, stock items in a retail establishment only contribute to profits when customers purchase them and pay for them. The most precise definition of inventory is a stock of whatever needed to run a firm. These stocks make up a significant portion of a company's investment and need to be managed well in order to maximize profitability. In fact, a lot of small businesses cannot afford the kinds of losses brought on by bad inventory control.

Unless it is controlled, inventory is unreliable, ineffective, and expensive. Dickson defines inventories as the accumulation of raw materials, suppliers, components, work-in-process, and finished commodities at various stages in a company's production and logistical routes (2018). The commodities that the supplier has supplied to the buyer's warehouse as raw materials have not yet been transported to the manufacturing area for conversion (Cinnamon et al., 2010). Between the moment a product leaves the raw material storage area and the time it is deemed ready for sale and delivery to clients, there are WIP concerns. In this process, working capital must be taken into account in terms of reducing buffer stockpiles, doing away with the production process, and cutting the length of the complete production cycle. Raw materials and finished products must be maintained to a minimum in the manufacturing area. To support the length of time required for products to be cleared for sale, WIP must be carefully examined. Typically, quality assurance techniques handle this phase (Birt al., 2011; Cinnamon et al., 2010). Finished products are the inventory in the warehouse that is offered for sale and delivered to customers. They might have

spent a considerable amount of time in the warehouse or on the shelves. The business's owner or management should look at all of the options for getting rid of slow-moving things. Should the stock be repaired and sold at a lower discount? Or should it be repackaged? Sales and other revenue-generating activities can minimize or eliminate the need for finished items.

Inventory Management Practices and SME Performance

Asiima (2012) looked into how inventory management procedures affected how well organizations performed and found that the techniques in question weren't being used to their full potential. He used a descriptive survey and stratified random selection methods with a sample size of 100 respondents. Data pertinent to the study were gathered using a closed-ended questionnaire. It was discovered that Taso Mbarara has a sizable inventory that can match the demand. However, the massive stockpiles translate into significant expenses for trash disposal and storage, in some circumstances. It was discovered that overall organizational performance would potentially improve further if inventory management processes were correctly implemented and strictly adhered to. However, the study identifies an operational performance failure as well as a contextual difference.

Tungo (2014) looked into how inventory management techniques affected the National Microfinance Bank's bottom line in Dar es Salaam. He used "ideal role taking" to develop a broadly applicable disposition. Data was gathered from a total of 20 respondents who represented all administrative levels and divisions. The results showed the existence of inventory procedures with inadequate implementation due to a lack of supportive policies and a cost-cutting mentality. The study's emphasis on financial rather than operational performance accounts for the research gap.

Mensah (2015) found that inventory efficiency is equally essential in the healthcare industry when examining the impact of inventory management techniques on hospital service

delivery. The results show how supportive materials are more readily available, which enhances hospital performance. Further research found that the hospital used the VMI technique extensively to establish reliable and successful strategic supplier agreements. The study's conclusions indicate that inventory management techniques significantly aid in the execution of service delivery. These results were obtained using a descriptive survey design with a purposive and convenient sample size of 60 respondents. An online questionnaire was employed to gather primary data. Because it concentrates on the healthcare sector rather than the manufacturing sector, the study contains a contextual gap. Ngumi (2015) looked into how over 50 significant manufacturing companies' productivity was affected by their inventory management practices. She combined a stratified sampling method with a descriptive survey research methodology. A well-designed questionnaire was self-administered, and the results showed that major businesses continue to exploit productivity by putting cash management ahead of inventory concerns. The study found that inventory management techniques significantly contribute to business productivity, second only to employee algorithms. The study is sound, but it is unable to show how inventory management techniques impact operational efficiency.

Research on the connection between inventory and productivity in Kenyan parastatals was done by Gitau (2016). All 103 recognized parastatals as of December 2015 were examined using a descriptive research strategy and census sample. Based on data analysis, the study concluded that a unit increase in automatic replenishment results in 578 gains in organizational efficiency. The most well-known and extensively used method for ensuring stock integration and management was likewise found to be VMI.

However, the VMI discovered certain internal observation challenges due to a lack of implementation skills. The study recommended that staff undergo on-the-job training and in-

person instruction to develop their facilitation abilities. Contextual research has some drawbacks, such as emphasizing productivity over operational success. Kinyanjui (2016) attempted to connect inventory control with the success of the World Food Programme in Kenya. He used a questionnaire, a census method, and a descriptive study approach to focus on 19 World Food Programme (WFP) partners. The results show that WFP uses a range of inventory management techniques to lower inventory-related expenses and enhance onboard handling effectiveness. It was observed that there were many different practices being used, some of which were only performing passive roles. Then it was proposed that an evaluation be done to identify the most important and successful activities, and that those that are passive be eliminated to offer focused concentration. By concentrating on general performance rather than operational performance, the study fills a gap in contextual research.

Inventory Management Practices and Organizational Competitiveness

Nzuza (2015) asserts that material components make up the majority of an organization's assets. The majority of businesses spend a substantial amount of money on materials, so in order to effectively manage the stock, the company must have a strong material management system. The profitability of an organization might be negatively impacted by a subpar inventory management system. When it comes to the material management system set up to assess both the performance of the stated material and the overall performance of the organization, management has a very detrimental impact on the organization's performance.

Inventory planning models have typically been designed and implemented when successful inventory management decisions have been made, with a focus on the twin concerns of inventory size and timing (Tumuhairwe, 2012). The majority of the time, inventory management techniques aim to balance the costs of purchasing and holding products, enabling businesses to assess their

profitability. Businesses that fail to establish inventory management systems in accordance with the fundamental principles are mostly to blame for inventory fluctuation. Ogbo (2011) asserts that the limited information flow between leaf collection facilities and businesses leads to high operational costs. Since tea leaves are one of the factory's main assets and inventory is necessary for optimal operational efficiency, inventory management is crucial. To succeed in a cutthroat market, businesses must effectively plan and manage their product distribution and materials management systems.

A corporation can evaluate and maintain the ideal amount of inventory investment with the use of inventory control systems in order to achieve the required operational performance. The aim of inventory management, according to Sila (2006), is to meet consumer demand. Furthermore, according to Fawcett, Ogden, Magnan, and Cooper (2006), companies must prevent stock-outs while paying modest inventory costs in order to meet client demand. Variability in stocking levels is brought on by things like bad information sharing and forecasting mistakes. He found that businesses' failure to deploy inventory management systems is the main cause of inventory fluctuation.

In a study conducted in Kenya, Naliaka and Namusonge (2015) found that inventory management has an impact on the competitive advantage and performance of manufacturing firms. The investigation also comes to the conclusion that the business can compete on quality and that it delivers orders to customers on schedule. Competitive advantage is the ability of a business to stand out from its rivals and is the outcome of crucial management choices. Li and associates (2006). Businesses have opportunities to achieve a sustainable competitive advantage and strengthen their competitive position thanks to effective inventory management. By keeping

enough inventories in the right places, at the right times, and at the right costs to produce the necessary amounts of inventory, this suggests a reduction in the cost of inventory holding.

Having a competitive edge typically means that a company can have one or more of the following qualities as opposed to its competitors: lower costs, higher quality, higher dependability, and speedier delivery time, according to Mentzer JT and S, Zacharia ZG (2000). The performance of the organization as a whole will rise as a result of these competencies. The same author asserts that strong organizational performance, customer happiness and loyalty, and relationship effectiveness can all be produced via competitive advantage. In their target categories, brands with more devoted customers experience less competitive switching, which boosts sales and profits (Lin F, et. Al, 2002). Because of this, a business that manufactures higher-quality goods may charge a greater price, boosting its sales profit margin and return on investment. If a corporation can launch a product quickly and innovate a new one, it may be the first to market, which would increase its market share and revenues. As a result, a strong connection between competitive advantage and organizational performance can be suggested.

Inventory management techniques

Various inventory management strategies are used by different businesses. Each company's level of exposure and the importance they place on stock holding determine the strategy that is implemented. Some of the most often used methodologies include the perpetual inventory approach, Justin-time (JIT) techniques, ABC Analysis method, and VED Analysis. The researcher concentrates on the ABC and JIT analysis of the inventory management strategies for the sake of this study.

Specifically, the ABC test divides stocks into three classes: A-stock products have a medium value and volume; B-stock items have a low value but a high volume; and C-stock assets, such land, buildings, and cars, have a high value and are essential to the business. Inventory management can be expensive, time-consuming, and labor-intensive. However, not all items kept in stock require such thorough examination, particularly if they are low-value items that are carelessly used in the production process (Lysons, 2013). The ABC stock control method is based on the principle that a small number of items will typically speak to the bulk of the cash estimation of the whole stock used in the creation process, while a generally large number of items will likely make up a small portion of the cash estimation of stores (Lysons, 2013).

The cash value is calculated by multiplying the material cost of each item by its unit cost. Depending on how much was spent on a particular item, every stock item is assigned an A, B, or C sector. "An" or the things with the highest perceived value should be kept in strict control and be held accountable by the most seasoned employees, whilst "C" or the things with the lowest perceived value might be kept in simple physical control. Aziz & Abdel (2016) point out that the ABC inquiry arranges the things according to importance. Significance may result from revenue streams, lead times, stock shortages and associated expenses, deal volume, or profitability. Break focuses for classes A, B, C, etc. are chosen when the positioning element is selected. According to Mandal (2012), the ABC stock control strategy is completely predicated on the idea that a small percentage of the items will typically determine the majority of the overall stock cost used in the production process, while a significantly larger percentage of the items will come from a small percentage of the store's money cost. By using each item's unit fee to increase the texture of each item, the cash cost is discovered. According to this technique of stock management, high-value

devices are more tightly managed than low-effort items (Onwubolu & Dube, 2016). Depending on how much was spent on a certain item, each stock item is assigned to one of three groups: A, B, or C. While "C" or the base cost can be under simple physical oversight, "A" or the most amazing charge devices should be under the strict supervision and responsibility of the most experienced work force. According to Lyson (2013), ABC analysis is a well-established categorizing technique based on the Pareto principle for deciding which items need to take precedence in the management of a corporation's stock. Inventory management can be prioritized using ABC analysis. A, B, and C are the three instructions used to categorize inventories. The majority of managerial oversights and resources are put towards dealing with A items. The items that receive the least attention are C and B. (Lyson, 2013).

Just–In-Time (JIT)

A Toyota Automobile Industry employee discovered the Japanese idea of just-in-time (JIT) in the early 1970s (Taichiohno). JIT, according to Atseye, Ugwu, and Takon (2015), is an inventory strategy used by companies to increase productivity and decrease waste by obtaining supplies just as needed in the manufacturing process, hence reducing inventory costs. JIT as an inventory management strategy demands that manufacturers be able to precisely predict demand. It is an inventory management strategy in which suppliers deliver raw materials and other components as soon as they are needed in the production process. Adeyemo and Salami (2010) contend that maintaining inventory that isn't being used is a waste of resources and that a JIT strategy exposes this cost. Munyao, Omulo, Mwithiga, and Chepkulei (2015) claim that constant output, quick machine setup, and a high level of dedication on the part of factory staff are the essential elements that must be present for JIT to be an effective inventory management approach.

JIT issues include unanticipated changes in consumer preferences, unplanned supplier failure, and manufacturers' inability to meet unforeseen demand.

Using primary data gathered through a self-administered survey of 300 knowledgeable staff members, Dickson (2018) investigated the extent of relationship between Just in Time and a firm's achievement in terms of performance of a selected number of firms in the Nigerian environment. This research tested the models and hypotheses that were formulated. The bivariate correlation technique was used to test the three hypotheses, and the results showed a significant relationship between Just in Time and Total Quality Management (TQM), a positive relationship between Just in Time and human resources management, and a significant relationship between Just in Time and a firm's performance.

Adeyemo (2010) used primary data collected through administered questionnaires on firms to know whether they had adopted Just in Time or not, the kind of Just in Time Production system adopted, and the benefits accrued from its adoption to examine the extent to which Just in Time has assisted manufacturing firms in developing economies like Nigeria. The findings indicate that larger, more financially secure, or buoyant organizations adopt just-in-time more frequently than relatively smaller firms who do not yet have sufficient knowledge of the idea and the advantages associated with its adoption. The study recommended that successful implementation of Just in Time be benchmarked on some factors like management commitment, ability to respond quickly to market tastes, and needs for education and communication on the need for adoption of Just in Time based on its benefits. Some factors had been identified as working against its adoption. He added that because the world has become a global village, Nigerian businesses cannot afford to fall behind. He advised them to fully adopt just-in-time manufacturing in order to compete favorably with foreign suppliers and diversify their excess foreign inventory purchases in order to

develop or introduce new ideas and products. However, the study also suggests workshops and seminars to provide management of organizations that have not yet adopted Just in Time with the required information so that they can be well-informed and embrace the concept for the benefit of those businesses and the economy as a whole.

Mazanai (2012) used primary data from 82 questionnaires distributed in the food, wood and furniture, metals, and non-metals industries to evaluate the effects of just in time on productivity, product quality, and flexibility among production outfit, small and medium scale companies in South Africa. The study's findings, which were analyzed using the Spearman Correlation Coefficient technique, revealed that few small and medium-sized manufacturing firms were using just-in-time operations. It was further discovered that a number of factors, including a dearth of trustworthy suppliers, a lack of sufficient capital, and a lack of knowledge about the benefits of just-in-time adoption, were to blame. However, it was advised that small and medium-sized businesses be informed about Just in Time, how to implement it, and the advantages associated with doing so. Using primary data from 122 production outfits in Turkey in 2005, Eker, Eker, and Pala (2008) conducted an empirical analysis on the effects of Just in Time production and Total Quality Management (TQM).

There is a linear relationship between using the multidimensional performance index and those businesses that adopted Just in Time and Total Quality Management (TQM) as opposed to those that did not, according to an analysis of the data that was collected using multi-correlation and multinomial logistic regression. The contingent attribute variables directed along the achievement measurement and knowing forms of achievement measurement system were consequently suggested as some of the aspects defining the new production environment.

Keitany and Riwo-Abudho (2014) used Kenyan flour manufacturing firms as their case study to investigate the effects of lean production on organizational performance. Using descriptive statistics, primary data were gathered from a sample of 10 respondents chosen at random from the 42-target population. The study revealed a few issues with implementing the Lean production method to minimize waste. However, the study suggested that because the Lean production system is a completely integrated management philosophy, consideration for its continual improvement should be given to all functional areas of the company that support production activities. In essence, all organizational functional areas should be made aware of their part in the application and transformation of Lean, and this may be done through creating positive relationships between internal customers and suppliers. For the interest of the company, top-level management should support and encourage better leadership practices.

In order to learn more about the advantages the cement industry has gained from implementing Just in Time, Qureshi et al. (2013) empirically examined the factors involved in incorporating and adopting the practice in Pakistan's cement industry using primary data collected from 400 operations managers in the sector. The link between the parameters of the linear functions was investigated using factor analysis, and the results show that introducing Just in Time elements into their production process increases the competitiveness of the cement sector in Pakistan. Even though the research acknowledged that integrating Just in Time components into the production processes presented some challenges, the results suggested that product quality design, quality control, and stock management effectively, planning of production processes, and chain of product supply can help to solve those challenges.

Material Requirements Planning

A Material Requirements Planning (MRP) system compares current inventory levels to production capacity and the requirement to manufacture goods based on estimates. It is a production planning and decision-making tool. MRP reduces inventory while planning output in accordance with bills of materials. The process is automated and looks at the criteria over a certain amount of time. According to, Material Requirements Planning (MRP) helps organizations determine when and how much material needs to be purchased. When SMEs adopt the MRP idea, they have enough inventory to match output and the demand that is currently present in a normal operating environment. MRP systems are straightforward and can be carried out manually, however they typically take the shape of commercial software (Heizer, and Render, 2006). For MRP to work correctly, it needs accurate and reliable data from master production schedules, bills of materials, item lead times, and inventory records. By converting the bill of materials, inventory information, and the master production plan into two main outputs—scheduled order release and rescheduling notices—the MRP system primarily aims to make it easier to compute the necessary materials. Because it is pricey, the MRP system may be difficult for SMEs to utilize, which balances its advantages for the SME sector (Dumas, 2008).

Vendor managed inventory

Vendor managed inventory (VMI) is a supply chain system where the manufacturer or supplier controls the decisions made by the seller or retailer regarding their inventory. In supply terms, this indicates that the inventory of the downstream agent is managed by the upstream agency. This kind of collaboration is referred to as managed inventory, continuous replenishment program, or supplier-assisted inventory replenishment. VMI improves the organization's internal supply chain and helps synchronize the flow of products to customers (Keitany and Riwo-Abudho,

2014). VMI is taken into consideration as a remedy when there is a supply-demand imbalance. If businesses utilize VMI, there is a high level of information sharing because the vendor is in charge of managing client inventories. When a need or demand for a product materializes, an organization has historically placed an order with the producers. In contrast, VMI connects the client and the manufacturer using electronic data interchange. Suppliers may handle stock replenishment when clients monitor their inventory levels since they have access to their needs (Keitany and Riwo-Abudho, 2014). The VMI partnership lowers customers' storage and handling costs while keeping the supplier's costs constant. If the supplier can manage the warehousing responsibilities, it will be simpler to match supplies and demand for a more flexible production process with fewer buffers. Munyao, Omulo, Mwithiga, and Chepkulei (2015) concur that stock levels are more likely to rise since the supplier is in charge of the combined inventory system, and that a supplier-buyer collaboration does not always result in lower costs in the supplier's stock system. SME's face challenges implementing VMI due to a lack of specialization and skills in management and employment.

Performance of the Firm

Performance of the company serves as a benchmark or measure of effectiveness and efficiency in areas like cycle time, productivity, and regulatory compliance (Saleemi, 2016). A company must measure both the input and output sides of inventory management in order to improve firm performance (Onwubolu & Dube, 2016). Organizations' main objective is to lower the expenses of inventory management because doing so would improve their overall performance. When used appropriately, the just-in-time management method, the economic order quantity, and the Systematic Application and Production software of inventory management will all improve the operation of the company. How much inventory a company should have on hand at any given time

is a constant problem in inventory management. A surplus of inventory takes up physical space, adds to costs, and raises the likelihood of damage, spoilage, and loss (Mensah, 2015). Additionally, extensive inventories can make up for delayed and poor leadership, inaccurate forecasting, risky planning, and inadequate focus on processes and processes. In this regard, Womack et al. (1990) introduced the first lean manufacturing principle, which concerned a reduction in inventory level, even though the demand volatility may limit the execution of this principle (Kumar, 2014). On the other hand, having insufficient stock frequently disrupts production and raises the likelihood of poor customer service. If the required goods is not easily accessible, excellent customers may frequently become irate and take their business elsewhere (Mandal, 2012).

The impacts of inventory management on the performance of the firm have been demonstrated by empirical data in the relationship between inventory management and performance. The improvements in stock turnover (after JIT implementation) for a sample of 55 companies have shown that Huson and Nanda (2015) have resulted in a rise in income per share. Milgrom and Roberts (2013 specifically stated that information on prompt and informative demand for customers can improve corporate efficiency by reducing inventories. They have also emphasized that effective inventory management has helped businesses increase their market share, which is the portion of an industry's total sales that is produced by a specific firm or company. This is frequently calculated by dividing the company's total sales for the time by the total sales for the sector during the same period. This metric is employed to provide a basic understanding of a company's size in relation to its market and rivals.

Overview of micro and small enterprises

There is no agreed-upon definition of "micro and small enterprises," despite the terms being used interchangeably over the globe. Geographical location of SMEs and national legislation both

have an impact on the various definitions of SMEs (Muchaendepi et al, 2019). The primary elements utilized in the definitions, according to Muchaendepi et al. (2019), may comprise different combinations of the following: the number of employees, financial stability, sales value, relative size, initial capital expenditure, and industry classifications. Most definitions seem to place a strong emphasis on the amount of capital investment (fixed assets), the size of annual turnover (gross production), and the number of paid personnel. The European Commission states that the formal definition of small and medium firms is based on the number of employees and one of two financial criteria, such as total revenue or total assets on the balance sheet (see El-Madani, 2018). By this definition, small businesses are those with less than 50 employees, while micro firms are those with fewer than ten. In developed countries like the United States, the United Kingdom, and Canada, small and medium-sized businesses are identified by their annual revenue and number of salaried employees. For instance, in the United Kingdom, a small and medium-sized business is defined as one with less than 200 paid employees and an annual revenue of €2 million or less (El-Madani, 2018). According to the Research Institute for Management Sciences at the University of Delft in the Netherlands, a small-scale industry is characterized as a company with ten to ninety-nine employees in which the manager directly handles all management tasks without actively participating in production (cited El-Madani, 2018).

Small businesses in Ghana are defined differently by each group. Small scale businesses, as defined by the Ghana Statistical Service (2010), are those that employ less than 29 people. The remaining firms are categorized as medium- and large-sized ones. The Social Security National Insurance Trust (SSNIT) statistics supports this assertion, showing that 90% of companies have fewer than 20 employees (Abor & Quartey, 2010; Musah and Ibrahim, 2014). The National Board for Small Scale Industries (NBSSI) further divides SMEs into the following groups:

microbusinesses, small businesses, medium businesses, and large businesses. Small businesses have between six and 29 employees, medium businesses have between thirty and ninety employees, and large businesses have more than one hundred employees. According to the Ghana Statistical Service (GSS), businesses with fewer than 10 employees are classified as small-scale enterprises, while those with more than 10 employees are classified as medium-sized and large-scale enterprises. The Ghana Statistical Service's definition of a SME is used in this study.

The importance of small enterprises is recognized by many African nations, including Togo, Uganda, Ghana, Ivory Coast, Nigeria, Kenya, Malawi, Burkina Faso, and others. Small enterprises account for about one-third of industrial employment and a smaller portion of output, and they are essential to the economies of first-world nations like the United States of America and the United Kingdom. Third-world nations, whose SMEs predominate among economically active enterprises, are thought to have significantly greater rates of SME prosperity than first-world nations (Chebet and Kitheka, 2019). SME operations in Africa are essential for promoting economic expansion, job development, and the eradication of poverty.

Small and medium-sized businesses (SMEs) have long been recognized as a crucial aspect of job creation and economic growth, especially in nations with high unemployment rates like Ghana and Nigeria, where rates are believed to be around 40%. (Mensah, 2015). For instance, 90% of all formal firms in Ghana are small, medium, and micro enterprises (Abor & Quartey, 2010). SMEs not only create jobs but also absorb those who lose their jobs in the private and public sectors (Prempeh, 2015). Even if the construction of new microenterprises accounts for the majority of the SME sector's contribution to the creation of new jobs (75%) it still pales in comparison to Asian nations, where SMEs account for 80% of employment (Mabe et al., 2013). Even in less developed countries like Ghana, the SME sector contributes a far higher percentage of GDP and

jobs (Madani, 2018). In order to achieve faster economic growth, the Ghanaian government has chosen the small and medium-sized enterprise (SME) sector. However, due in part to the SME sector's high failure rate of 80%, this objective has not been achieved (Abor & Quartey, 2010). Since the development of SMEs is largely dependent on macroeconomic growth, it might be argued that recent weak microeconomic growth has impeded the full development of entrepreneurship and consequently SMEs (Mabe et al., 2013). Lack of managerial ability is another factor that contributes to SME failure.

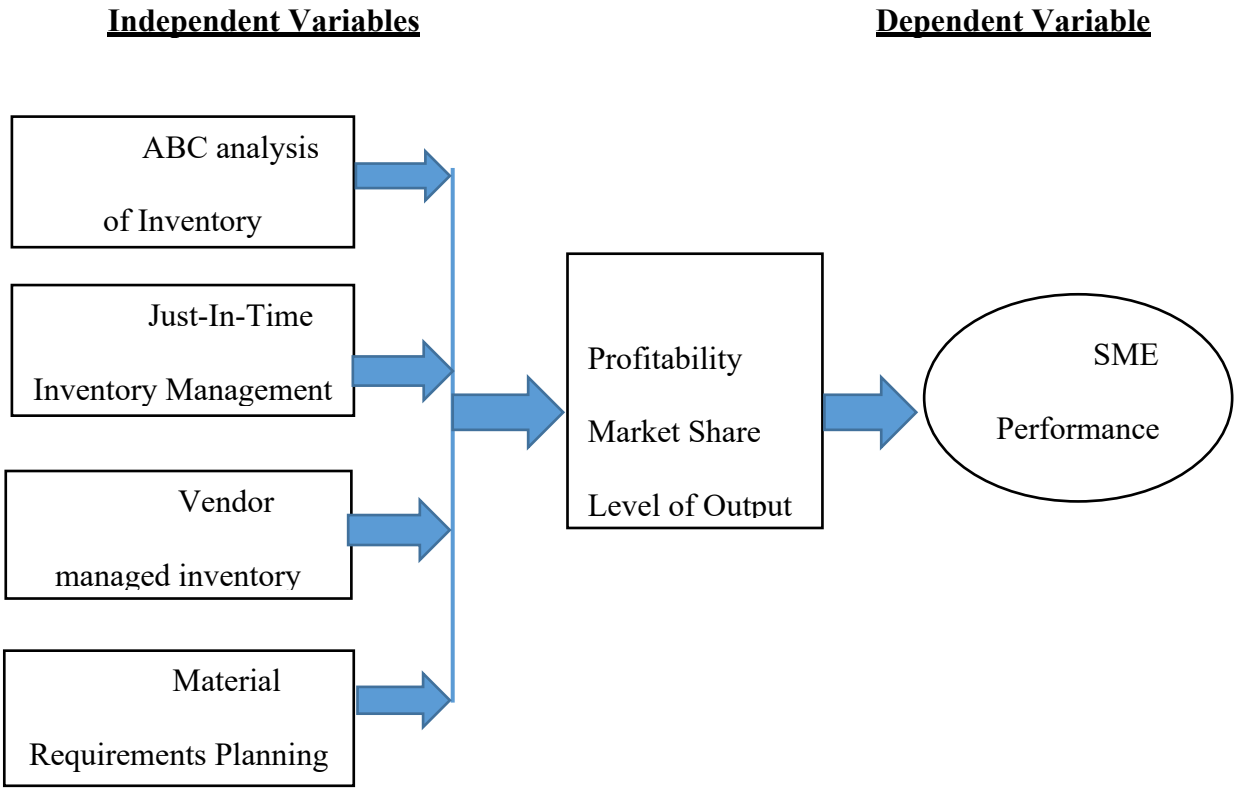
Overview of SME in Ghana

It is well known that SMEs play a crucial role in the socioeconomic growth of economies (Dickson, 2018). SME activities are present in Ghana's economy; in fact, it is well known that SMEs predominate there. As a result, several academics have studied different facets of SMEs' activities in Ghana. A few of the themes that have driven SME research in Ghana include the following: Mabe et al. (2013), constraints facing new and existing small and medium-scale enterprises (SMEs) in the Greater Accra Region of Ghana; Musah & Ibrahim (2014), a qualitative approach to examining the challenges of Ghanaian small and medium-scale enterprises; and Prempeh (2015), issues with financing SMEs in Ghana. These studies address SME challenges in Ghana. Again, studies that focus on accounting and financial management of SMEs in Ghana include Musah and Ibrahim's (2014) study of SME record-keeping and bottom line and Mahmoud's (2011) study of market orientation and company performance among SMEs in Ghana. Overall, a close assessment of the research on Ghanaian SME's demonstrates that the studies were carried out independently. To better understand how SME research in Ghana has developed through time, it is necessary to carefully evaluate and categorize the different contributions of SME research on Ghana.

Conceptual Framework

A conceptual framework is a collection of ideas that have been carefully structured to serve as a framework, a tool, and a justification for the interpretation and integration of data (Njeru, 2015). The Just-In-Time Inventory Management, ABC analysis, vendor managed, and material needs planning inventory management methods have been selected as the study's major dimensions to represent the firms' overall inventory management practices.

Figure 1: Conceptual Framework of the Study



Source: Field Survey, 2022

CHAPTER THREE

RESEARCH METHODS

Introduction

The broad strategy and the particular methods used to achieve the goals of this research are presented in this chapter. The many scientific approaches and procedures used to derive the empirical findings are presented. The research design, study population, sample size, method of selection, data collection, management, analysis, and presentation of research findings, as well as ethical issues and study limits, are all covered in this chapter. The various procedures that were taken to conduct this survey are outlined, and the justification for those steps is explored. In doing so, the appropriate research methods and procedures have been chosen and used.

Research design

According to Creswell (2009), research design entails a comprehensive explanation of the steps and strategies for the study, covering the choice between broad assumptions and more specific techniques for data collecting and analysis. The research design enables the researcher to create data sorting that is appropriate for the topic under consideration. According to Creswell (2009), the type of research topic a researcher wishes to address, the research objectives, the researcher's own experiences, and the demographic of the study all influence the choice of research design.

Descriptive research design, experimental research design, exploratory research design, explanatory research design, and diagnostics research design are several types of research designs (Hair et al., 2007). Since the primary goal of this study is to analyze the impact of inventory management methods on the performance of SMEs in the Tamale Metropolis of Northern Ghana,

the researcher employed a descriptive research design in this investigation. The researcher will be able to characterize the various inventory management strategies used by SMEs thanks to descriptive research. In a descriptive design, the researcher's only goal is to describe the circumstance or case that is the subject of their investigation. It describes a population's features. It gathers information that is used to respond to a variety of what, when, and how inquiries about a population or group. Instead of providing answers to queries regarding "how," "when," or "why," a phenomenon occurred, descriptive research designs focus on "what" questions. It explains a phenomenon in its current state and the situation at the time of the investigation (Hair et al., 2007).

Target participants are interviewed or observed in a natural setting, data can be used to determine the prevalence of specific problems and the need for new services to address these problems, and finally, descriptive research design may identify areas in need of further research and relationships between variables that need further study. Descriptive research design is constrained by the following factors: the choice and wording of survey questions may affect the descriptive findings; descriptive studies cannot be used to determine cause and effect relationships; and finally, respondents may not be truthful or may provide socially acceptable responses.

There are two primary research methodologies: quantitative and qualitative. The objective of the qualitative research approach, a type of research methodology used for market research, is to gather information from target consumers through open-ended questions and conversations (Creswell,2009). A quantitative research approach involves gathering and analyzing numerical data to forecast cause-and-effect correlations between the variables under investigation.

However, the quantitative research methodology was consciously used in this work. According to Bhatti and Sundram (2015), a quantitative study is a technique for gathering data

through the use of statistical tools and methodologies, and the results of the analysis are expressed as numerical values that help to further explain a suggested research problem solution. In quantitative research, characteristics of an observable phenomena in a field are either identified or potential correlations between two or more variables are investigated. The ultimate goal of a descriptive study is to pinpoint causal connections and draw conclusions from them (Bhatti &Sundram ,2015).

The quantitative approach also counts variations to measure variables or establish relationships between events. Quantitative study focuses entirely on the factors that influence cost accounting data practices in management and provides information about the existing situation. Data quantification is the primary goal of quantitative research, which also aims to generalize findings by evaluating the opinions and responses of a sample population (Boateng, 2014). However, there are certain drawbacks to the quantitative research methodology. One of its main flaws is the inaccurate depiction of the population target, which might result in incorrect probability distribution calculations. Other drawbacks of quantitative research include restricted resources for data gathering, an uncontrolled environment, a costly methodology, and a lengthy process (Creswell, 2009).

Study Area

The Sagnarigu District to the north, Mion District to the east, Tolon District to the west, Central Gonja to the south west, and East Gonja to the south are the boundaries of the Tamale Metropolis, which is situated in the center of the Northern Region. The Metropolis is located between latitudes 9o16 and 9o34 North and 0"36 and 0"57 West on a geographical scale.

The estimated total area of the Metropolis's land is 550 km2. (MoFEP, 2014). The Metropolis has a total population of 672,000 as of the population and housing census of 2021, an increase of 4.67 percent from the census of 2020. (GSS, 2021).

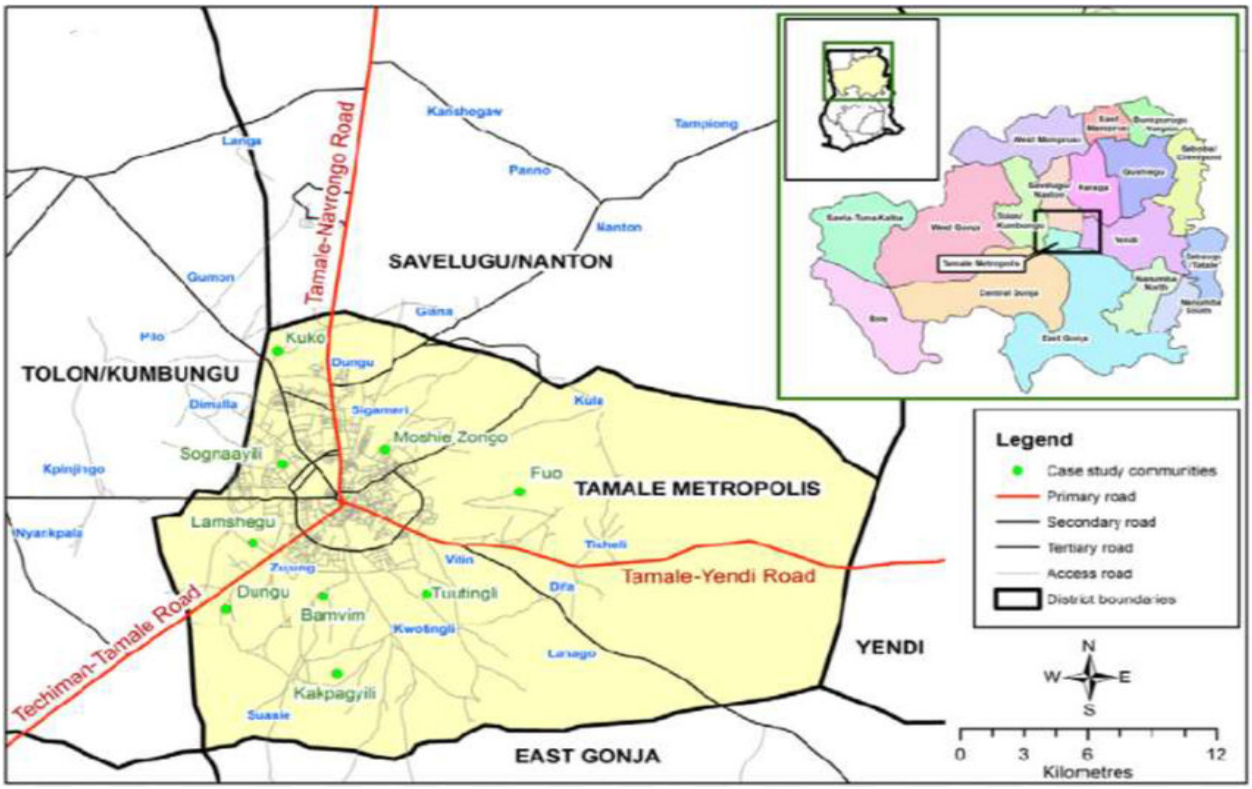


Figure 3.1: A map of Northern Region showing Tamale Metropolis

Source: Science Direct (2021)

Due to its comparatively underprivileged population, the Tamale Metropilis contains a number of small enterprises that are working to flourish (Odi & CEPA report, 2005). About 83.4% and 11.5% of the region's total population are employed in the private sector, respectively, while only 4.3 percent are employed in the formal sector (Government of Ghana Portal). About 69.3 percent of business owners in this unregulated sector lack a formal education (Alhassan et al,. 2016). Many enterprises in this region are also unregistered; a survey of 199 businesses revealed that only 3% of women-owned businesses were registered (Alhassan et al,. 2016). All told, 277

small and medium-sized businesses abide by the Tamale Metropolitan Assembly's criteria. Of the registered SMEs, 155 have been in business for more than five years.

Target population

According to the records of the National Board for Small Scale Industries, specifically the Business Advisory Center in Tamale, 820 SMEs operating in the Tamale Metropolis of Northern are included in this study as being legally registered and actively working (BAC, 2020). Only 277 of them correspond to the Tamale Metropolitan Assembly's criteria out of this total (BAC, 2020). Since these SMEs are registered and follow the TMA's set Standards, they are the focus of this study.

Sampling and Sampling Procedure

The sample size of 111 was chosen for the study using a multistage sampling procedure. Purposive sampling will be utilized to choose the participants at the SME sector level because the study is focused on a specific group of SMEs, namely those that have been registered with the Metropolis for five years or longer. The SMEs will then be split up into uniform population groups in the second phase using a stratified sample technique. In order to get the necessary respondents in each stratum, respondents will be classified into industries such as agriculture and agro-processing, artisans, manufacturing, and services.

There are 277 small and medium-sized businesses that have been legally registered and abide by Tamale Metropolitan Assembly criteria. There are many SMEs, but the majority of these companies are not registered, therefore the focus was on those that are registered with the Tamale Metropolis and have been in operation for more than five years are included in the population of this study (TMA, 2020). Ninety (90) SMEs out of those registered have been in business for more than five years. The sample size that will be used for the study is determined using the formula

postulated by Yamane (1967). According to him, the sample size for any study can be determined using the relation; $n = \frac{N}{1+Ne^2}$ Where the parameters;

$\boldsymbol{n}$, represents the sample size,

N represents the SMEs total population

e is the margin of error (usually 0.05).

Substituting these values into the formula yields a sample size of; $n = \frac{90}{1+90(0.05)^2} = 72$.

Therefore, the sample size is equal to 72

Data Collection Instruments

The primary tool for gathering data for the study was a questionnaire. The SMEs will be given a set of both closed-ended and open-ended questions (respondents). There will be five components in the survey for SMEs' owners. Section A discusses the respondents' demographic background. Section B discusses inventory management practices and how they affect SMEs' profitability and performance. Section C discusses how inventory management practices affect SMEs' finances. Section D discusses inventory management and general accounting techniques that SMEs use to overcome financial obstacles and remain competitive with rivals. Section E discusses the factors that contribute to SMEs' success in the Metropolis.

Data Collection Procedure

Interviews and the distribution of individual questionnaires were the data gathering methods used. To make sure they are suitable tools for the study's goals, the questionnaire and interview guide will be pretested. In order to gather information for the study, the researcher used structured and semi-structured questionnaires to gather information on, among other things, the demographic characteristics of the respondents, the nature and characteristics of the business, the longevity of the business, the source of capital for the business, the sales per month, the profits at

the end of the year, the minimum and maximum stock levels, the working capital, the sources of market information, and the use of IT. Based on the gaps in the reviewed literature and the investigation's purpose, the variables used in this study were chosen.

Model Specification

To ascertain the impact of inventory management on the profitability and performance of SMEs in TMA, the study used descriptive statistics. Two levels of analysis were completed. To start, descriptive data were utilized to assess how well the chosen SMEs in TMA managed their stock and inventory. Second, to determine the impact of inventory management on the profitability of SMEs in TMA, the data obtained was examined using linear regression. By showing the values of the independent variable (X) and its dependent variable (y) on a scatter diagram, which may not fall on a straight line, this aims to understand what relationships exist between the two variables. If a method for establishing the best straight line fit for the relationships on the scatter diagram isn't developed utilizing the ordinary least square method. The linear regressions will take the following form:

$P = \beta o + \beta 1 IVM$ ……. (1)

Where; P = Performance of SMEs (dependent variable)

IVM=Inventory management practices

Ui= is the error term capturing other explanatory variables not explicitly included in the model t = denotes time.

Reliability and Validity

It was appropriate to check the questionnaire's adequacy and applicability after it was designed before moving forward with the primary data collecting. According to Hair et al. (2006), the final version of the survey should be pretested to ensure that there are no issues with the

questions' clarity, the instructions' clarity, the determination of the proper levels of independent variables, the reliability, and the survey's face validity. To do this, the researcher randomly chose 10 respondents to participate in a pilot test of the questionnaire. Among those chosen for the study were the ten (10) respondents who would be put to the exam. However, they will have similar traits in common. The purpose of the pre-testing was to identify any items that would not produce data that could be used, in addition to making sure that all the questions and instructions were understood. The researcher will enlist the help of professionals who will make sure the questionnaire rationally reflects what it was designed to measure. The questionnaire was subsequently circulated in the field after being fixed. In order to make sure that the data and model used are reliable for predicting and for policy purposes, pre- and post-diagnostic tests will be carried out.

Data Analysis and Processing

To guarantee that the data acquired are correct, compatible with other information gathered, uniformly recorded, and well-arranged, the raw data was carefully examined to look for errors and omissions. The information gathered will next be coded by labeling responses with numbers or other symbols in order to group them into a finite number of categories or groups.

The information was organized into groups and sequences based on shared traits. The information was then transformed into a more readable manner by entering it into a computer (excel sheet). Tables, plain text, frequency distributions, percentage distributions, and other formats were used for the data output and interpretation. Data analysis techniques using statistics are employed. The overall trend of replies was determined by the study using statistical mean.

Ethical Issues

According to Neuman, the simplest definition of ethics is the distinction between what is moral and what is immoral (2007). Every research undertaking or study must take ethical issues into account.This research duly prioritized a number of ethical considerations which included among others;

1. Confidentiality is ensured. The researcher will reassure the participants and interviewees that great care is taken to treat the data in question with the utmost secrecy and anonymity. The researcher refrained from using any audio or video recording equipment in order to further reassure them. This is important in light of a recent act by a journalist from Ghana who recorded the voices of public figures, frequently without their knowledge, in order to replay them in the electronic media.
2. Academic integrity will also be looked at throughout the investigation. The researcher is well aware of the procedures involved in obtaining information from a writer, including the need to properly acknowledge the source and the fact that failure to do so constitutes academic dishonesty that is illegal.
3. The researcher is also aware of the repercussions of disclosing misleading information.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter presents the findings and analysis of the information gathered during the distribution of the questionnaire to the respondents. Both the data gathered and what transpired at each stage of the data collection procedure are described. In order to give readers a rapid visual sense and understanding of the material, graphs and tables were used to display it in the study. This chapter also reviews the study's findings by emphasizing their main conclusions and contrasting them with those of other studies to determine the degree to which they are similar to or different from those of other researchers who have studied the same topic. On the basis of well-established and well-researched facts and existing literature on the issue, the chapter also presents potential explanations for some of the study's findings as well as their potential implications and impacts. This is intended to highlight the significance and value of the study in order to aid decision-makers and other readers in better understanding, appreciating, and effectively using the study's findings to guide future decisions and policies. In order to do these, chapter two and chapter four, respectively, make references to the reviewed literature and the study's findings.

Response Rate

A total of 72 questionnaires were distributed to the study’s respondents. Out of these, all respondents representing 100% were available and completed it.

Background Characteristics of Respondents

This section presents and analyzes the respondents' demographic characteristics from the survey. In addition to the conclusions, the part also contains helpful data that enhances policy analysis.

Table 1:Sex of respondents from the survey

	Frequency	Percent
Gender		
Male	42	58.3
Female	30	41.7
Age		
18-25	24	33.33
26-39	39	54.17
40+	9	12.5
Educational qualification		
Basic	5	6.9
Secondary	2	2.8
Diploma	18	25
Bachelors	18	25
Master's degree	27	37.5
None	2	2.8

Source: Field Survey, 2022

Respondents' Gender

The design of the study was intended to elicit data about the respondents' gender. Details are shown in Table 1. Male respondents make up 58.3 percent of all research respondents, as seen in

table 1, while female respondents make up 41.7 percent. The data shows that there are 16.6 percent more male respondents than female respondents.

Age of respondents

The next step in the study was to determine the respondents' ages. Table 1 displays the outcomes. According to the study, 54.17 percent of respondents were between the ages of 26 and 39, 33.33 percent were between the ages of 18 and 25, and just 12.5% were beyond the age of 40. It is clear that 26 to 39 years old is the typical age range.

Educational Qualification of Respondents

The study also aimed to determine the respondents' level of education. Detail is displayed in Table 1. Table 1's result indicates that 37.5% of respondents held a master's degree, and 25% were holders of either a diploma or a bachelor's degree. 6.9% of the respondents went through basic level as well. 2.8% of the respondents went to secondary school as well. According to the data, a sizable portion of the respondents had completed some type of formal education, which provides a foundation for being able to perform basic mathematics.

Inventory Management Practices followed by SMEs in the Tamale Metropolis

This study's initial objective was to assess the techniques SMEs in the Tamale Metropolis utilized to manage their inventories. The descriptive statistics for each study indicator were constructed with the intention of reaching this goal. The data for each of the study indicators were

explicitly processed into means, with 1.00 to 2.90 indicating low levels and 3.00 to 5.00 indicating high levels, using a mean scale of 1.00 to 5.00. (adopted by Koomson, 2017; Mohammed, 2017; Scott, 2017; Tweneboah-Koduah, 2017; Ampadu, 2017). Seven (7) techniques were rated on a Likert-like scale with 1 denoting "strongly disagree," 2 "disagree," 3 "undecided," 4 "agree," and 5 denoting "strongly agree." According to how much respondents agreed or disagreed with the comments presented under "Inventory management procedures" on the questionnaire.

According to the different metrics that assess it, Table 2 displayed the ranking averages of inventory management practices used by SMEs in the Tamale Metropolis.

Table 2: Inventory Management Practices by SMEs in Manufacturing Sub Sector

	N	Mean	SD	Std. Error
The firm I work for uses computers to assist stock control by calculating the optimum number of stocks to hold in order to satisfy the users' requirements	72	3.4	1.433	.051
The firm I work for uses computers to assist stock control by calculating the optimum number of stocks to dispatch in order to satisfy the users' requirements	72	3.06	1.648	.076
The firm I work for uses bar coding in counting stock or inventory	72	3.51	2.256	.148
The firm I work for uses Just-In-Time inventory strategy to reduce inventory and its associated carrying cost	72	3.40	1.083	.128
The firm I work for adopts Materials Requirements Planning systems to reduce inventory and its associated carrying costs	72	3.44	1.033	.122

The firm I work for uses Enterprise Resource Planning to reduce inventory and its associated carrying costs	72	3.32	2.454	.289
The firm I work for maintains good working relationship with its suppliers	72	3.40	1.122	.132
The firm I work for communicates effectively and properly with its suppliers	72	3.14	4.909	.107
The firm I work for embrace the principle of early supplier involvement in its design and this reduces the chances to defective items and the risk of obsolescence	72	3.28	2.876	.103
The firm I work for adopts the Vendor Managed Inventory where the supplier has a responsibility for replenishing stock	72	3.03	5.503	.059
Just-in-time ordering has many advantages such as the savings in inventory carrying, handling and storage costs	72	3.24	1.911	.107
Although a safety inventory will increase inventory-carrying costs, it will minimize the potential costs caused by shortages	72	2.33	1.126	.133
An ABC inventory analysis is a surprisingly accurate, although simplistic, approach to managing inventory	72	3.10	6.291	.741
The implementation cost of ERP systems like SAP is very high, and thus it is difficult to justify the costs and benefits of these systems to SMEs.	72	2.29	1.027	.121
Just-in-time ordering will cause inventory-out situations in organizations	72	2.61	3.740	.441

ERP system inherited a number of shortcomings associated with the MRP system, including unrealistic lead-time determination for items	72	2.10	.808	.095
Mean				

Source: Field Survey, 2022.

Referring to table 2 above, the study findings reveal that, with a mean score of 3.4 and a standard deviation of 1.433, a cumulative majority of respondents agree that their company uses computers to assist stock control by calculating the ideal number of stocks to hold in order to satisfy users' requirements. With a mean score of 3.06 and a standard deviation of 1.648, this further reveals that the respondent company uses computers to assist stock control by estimating the ideal number of goods to send in order to meet the users' requirements. With a mean score of 3.51 and a standard deviation of 2.256, respondents also concurred that their company employs bar coding for stock or inventory counting.

With a mean score of 3.40 and a standard deviation of 1.083, the study's findings also demonstrate that the majority of respondents employed a just-in-time inventory management system to manage their inventories. With a mean score of 3.44 and a standard deviation of 1.033, respondents concur that the company they work for uses Materials Requirements Planning systems to lower inventory and its related carrying costs. With a mean score of 3.03 and a standard deviation of 5.503, respondents once more concur that the company they work for uses vendor management inventory, where the supplier is responsible for stock replenishment. As a result, suppliers were crucial in restocking stock and should not be overlooked in inventory management procedures.

Additionally, respondents said that with a mean score of 2.29 and a standard deviation of 1.027, SMEs in the Tamale Metropolis do not use ERP to manage their inventories. With a mean score of 2.61 and a standard deviation of 3.74, respondents also disagree with the claim that "just-in-time ordering will result in inventory-out situations in businesses." With a mean score of 2.10 and a standard deviation of 0.808, respondents similarly disagreed with the claim that "ERP system inherited a number of flaws associated with the MRP system, including unrealistic lead-time determination for products."

The research's findings showed that SMEs in the TMA employ inventory management practices to minimize costs and increase profit. This research backs (Keitany and Riwo-Abudho, 2014). The Vendor Management Inventory (VMI) partnership reduces storage and handling costs for customers while maintaining stable supplier costs. The findings of this study once more demonstrated that the organization employed a just-in-time (JIT) inventory technique to reduce inventory and the costs related to carrying it. This finding is also in line with Adeyemi (2010), who used primary data gathered through the distribution of questionnaires to companies to examine the extent to which Just in Time has aided manufacturing firms in developing economies like Nigeria and came to the conclusion that larger and financially robust or buoyant firms adopt Just in Time more than relatively smaller firms. The results of this study contrast with Mazanai's (2012) conclusion that most small and medium-sized manufacturing firms were not implementing Just in Time. It was also found that a number of reasons, including among others, were to blame for SMEs' failure to implement Just in Time. The results of this study also indicated that Comp. TECH is an important element that defines the success of SMEs in Tamale Metropolis. This conclusion is consistent with a previous study by K. Lobos (2021), which found that computer technology has a substantial role in the success of SMEs.

The second objective was to ascertain how inventory management techniques affected the performance of SMEs in the Tamale Metropolis. Inferential statistics, specifically regression analysis, was utilized for this inquiry to assess the impact of inventory management methods on the performance of SMEs after using descriptive statistics to first analyze the performance of SMEs. Tables 4 and 6 provided information regarding the regression analysis, including information on the relationship between the dependent variable (performance of SMEs) and independent variable (inventory management practices), denoted as (R); information on the percentage of variation in the dependent variable explained by the independent variable, denoted as (R- Square); and information on the percentage of variation in the dependent variable explained by the independent variable as a result of an increase in the independent variable.

Table 3: Performance Indicators Adopted by SMEs in the Tamale Metropolis

	N	Mean	SD	Std. Error
Return on Assets	72	3.50	.628	.074
Return on Investment	72	3.57	.646	.076
Sales Volume	72	3.50	.628	.074
Net Profit margin	72	4.26	.872	.103
Return on working capital	72	3.61	.742	.087
Current ratio	72	3.56	.669	.079
Quick ratio	72	3.58	.727	.086

Source: Field Survey, 2022.

According to Table 3 above, SMEs in Tamale generally implemented the aforementioned performance measures, with all of the indicators having a mean score greater than the suggested mean score of 3.0 as stated by Ampadu, 2017. SMEs in the Tamale Metropolis used Return on Assets to measure their performance, with a mean score of 3.50 and a standard deviation of 0.628, according to the study's findings. Additionally, with a mean score of 3.57 and a standard deviation of 0.646, respondents used Return on Investment to gauge their performance. By evaluating their sales volume and assigning themselves a mean score of 3.50 and a standard deviation of 0.628, respondents evaluated their performance. With a mean score of 4.26 and a standard deviation of 0.872, respondents used Net Profit Margin to gauge their success. Additionally, with a mean score of 3.61 and a standard deviation of 0.742, respondents used Return on Working Capital to gauge their success. With a mean score of 3.56 and a standard deviation of 0.669, respondents also used the current ratio to gauge their success. The respondents' performance was measured by Quick Ratio, with a mean score of 3.58 and a standard deviation of 0.727. This suggests that Tamale's SMEs have started using performance indicators to gauge or access their own performance. Return on working capital is a frequently used indicator.

Regression Analysis

1. **Model Summary**

Overall, there is a 0.331 connection between the independent components and the dependent variable (Performance) (Inventory management practices). The predictors in the model may account for 10.9 percent of the variations in the performance of SMEs in the Tamale Metropolis, according to the coefficient of determination (R square = 0.109). The consequence was that SMEs in the Tamale Metropolis would perform better by 33.1% if inventory management procedures were adopted more widely. As a result, Tamale's SMEs need continuously use

inventory management procedures in order to boost performance. Table 4 below displays the results;

Table 4: Effects of Inventory Management Practices on Performance of SMEs

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.331[a]	.109	.097	.41065

a. Predictors: (Constant), Inventory Management Practices

Source: Field Survey, 2022

2. Analysis of Variance

The total impacts of the predictors on the performance of SMEs are shown in Table 5. The findings show that the overall forecast of the components under investigation, including the inventory management techniques, is significant at the 5% level of significance (p=0.05). The results so imply that performance is impacted by inventory management strategies.

Table 5: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.451	1	1.451	8.604	.005[b]
	Residual	11.804	70	.169		
	Total	13.255	71			

a. Dependent Variable: Performance

b. Predictors: (Constant), Inventory Management Practices (All together)

Source: Field Survey, 2022

3. Regression Coefficients of the Variables

The regression co-efficiency for the predictor variables is displayed in Table 6 below. The results demonstrate that inventory management techniques have a significant impact on SMEs' performance in the Tamale Metropolis (p=0.005, =0.203).

Table 6: Coefficients of Variables

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		Std. Error	Beta		
(Constant)	.184	.168		19.008	000
Inventory Mgt Practices	203	.069	.331	2.933	.005

a. Dependent Variable: Performance of SMEs

The results of this study show, in summary, that there is a strong positive correlation between the performance of SMEs in the Tamale Metropolitan Assembly and practices used in

inventory management. This suggests that improving inventory management procedures would improve the performance of SMEs in Tamale. Similar to Ampadu (2017), this study supports his conclusion that there is a substantial correlation between inventory management methods and the success of SMEs in the Cape Coast Metropolis. Contrary to the study's findings, Hamza, Zubeiru, and Antwi (2015) came to the conclusion that SMEs in Ghana's Northern Region had inadequate inventory management procedures since they didn't seem to have incorporated them into their business operations.

The findings of this study are in line with those of Huson and Nanda (2015), who came to the same conclusion that effective inventory management has increased firms' market shares, which are calculated as the proportion of an industry's total sales that are produced by a particular firm or business. According to the research's findings, successful inventory management is essential for the success of the retail industry. According to Choi's (2012) study, effective inventory management is essential to the smooth operation of any firm. Having an inventory has a substantial cost, both in terms of cash that is locked up and in terms of running and managing the inventory itself. The research's findings did, however, show that organizations should manage their inventory to maximize both services and revenue. These results were consistent with those of Asiima (2012), who looked into how inventory management procedures affected organizational performance and found that the techniques in issue were underutilized. This study's findings also led to the conclusion that effective inventory management has somewhat boosted sales turnover. This is in line with JS Boles' (2012) findings, which showed that effective inventory management raises sales turnover.

The Effect of the Competitive Advantage gained through inventory management on SMEs' performance

The third goal was to ascertain how competitive advantage attained through the adoption of inventory management procedures affected the performance of SMEs in the Tamale Metropolis. Inferential statistics, specifically regression analysis, were employed to examine the impact of the competitive advantage on the performance of SMEs after descriptive statistics had initially been used to study the various competitive advantages. In terms of the regression analysis, Tables 8 and 10 provided information about the relationship between the dependent variable (performance of SMEs) and the independent variable (competitive advantage), denoted as (R); information about the percentage of variation in the dependent variable explained by the independent variable, denoted as (R- Square); information about the percentage of variation in the dependent variable explained by the independent variable.

Table 7: Competitive Advantage gained through Inventory Management Practices

	N	Mean	SD	Std. Error
Effective use of inventory has relatively increased sales turnover	72	2.08	.915	.108
Product availability has relatively enhanced customer loyalty	72	2.17	.964	.114
Effective use of inventory system has relatively ensured timely Services	72	2.53	1.074	.127

Effective use of inventory systems has relatively enabled the firm in meeting customer demand, and has encourages customer Patronage	72	2.32	.990	.117

Source: Field Survey, 2022

One of the objectives reveals that the performance of SMEs in Tamale is significantly impacted by inventory management techniques. This implies that SMEs that use inventory management procedures have a competitive edge over other businesses in the market. The many competitive benefits that SMEs acquire by using inventory management strategies are detailed in Table 7 above. With a mean score of 2.08 and an SD of 0.915, respondents said that inventory management procedures do not improve sales turnover. A mean score of 2.17 and a standard deviation of 0.964 among respondents also revealed that customer loyalty was not significantly increased by product availability. With a mean score of 2.53 and a standard deviation of 1.074, respondents claimed that timely services were hardly guaranteed by effective usage of the inventory management system. Finally, respondents claimed that efficient inventory management has not helped the business substantially meet consumer demand or boost customer loyalty. A corporation does not become competitive in the market by using excellent inventory management procedures, the study concludes.

Kamau & Kagiri (2015), in contrast to this study, came to the conclusion that inventory management practices are essential to an organization's capacity to compete.

Regression

1. Model Summary

Overall, there is a 0.416 relationship between the independent components and the dependent variable (Performance) (Competitive Advantage). The predictors in the model may

account for 17.3% of the variations in the performance of SMEs in the Tamale Metropolis, according to the coefficient of determination (R square = 0.173). The inference was that SMEs in the Tamale Metropolis will perform better by 41.6 percent for every 1 percent increase in a firm's competitiveness. The results are shown in table 8 below;

Table 8: Effect of Firm's Competitive Advantage on Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.416[a]	.173	.161	.39568

a. Predictors: (Constant), C

Source: Field Survey, 2022

2. Analysis of Variance

Table 9 displays the predictors' overall effects on performance of SMEs. The results indicate that, at the 5% level of significance, the overall forecast of the components under examination, including the firm's competitive advantage is significant (p=0.00). The findings thus suggest that the firms competitive advantage affect performance.

Table 9: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.296	1	2.296	14.665	.000b
	Residual	10.959	70	.157		
	Total	13.255	71			

a. Dependent Variable: Performance of SMEs

b. Predictors: (Constant), Competitive Advantage

Source: Field Survey

3. Regression Coefficients of the Variables

The regression co-efficiency for the predictor variables is displayed in Table 10 below. The results demonstrate that firm competitive advantage has a significant effect on SMEs' performance in the Tamale Metropolis (p=0.00, =0.259).

Table 10: Coefficient of Research Variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.065	.161		19.048	.000
	C	.259	.068	.416	3.830	.000

a. Dependent Variable: Performance of SMEs

Source: Field Survey, 2022

According to the study's findings, there is a significant relationship between a firm's competitiveness and performance in Tamale. A study by Nguyen, Hoang, Nguyen, and Truong (2021) that discovered a connection between competitive advantage and the financial performance of SMEs in Vietnam is supported by the findings of this research.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATION

Introduction

The overview of the study, together with the key conclusions drawn from it, were presented in this chapter. In this chapter, conclusions were reached and suggestions based on the data were offered.

Summary of Key Findings

The study's primary goal was to determine how inventory management techniques affected the performance of SMEs in Tamale Metropolis. To examine how inventory management affects the performance of the firm, the study used the lean theory as its primary theoretical framework. The studies were quantitative in nature since it was decided that the quantitative research approach was the most suited. The researcher also used an inferential statistic and a descriptive research strategy for the analysis. 72 respondents were given questionnaires, which were successfully used as the main tool for data gathering.

The researchers utilized a linear regression technique to look at how competitive advantage and inventory management strategies affected the performance of SMEs. This was accomplished using the linear regression method in SPSS version 26 (Statistical Package for the Social Sciences). The efficiency of inventory management strategies in SMEs in the Tamale Metropolis was assessed using descriptive statistics like mean and standard deviation. The key findings of the study are summarized based on the study's objectives as follows:

The first goal was to evaluate the efficiency of the inventory management techniques used by SMEs in the Tamale Metropolis. The research was conducted using a scale that classified a

mean score as low when it is less than 2.9 and high when it is greater than 3.0. With an overall mean score of 3.04 and a standard deviation of 2.45, it was discovered that SMEs in the Tamale Metropolis have successfully embraced some inventory management methods. A cumulative majority of respondents—with a mean score of 3.4 and a standard deviation of 1.433—agreed that their company employs computers to assist stock control by figuring out the ideal number of stocks to hold in order to please users. With a mean score of 3.06 and a standard deviation of 1.648, this further reveals that the respondent company uses computers to assist stock control by estimating the ideal number of goods to send in order to meet the users' requirements. With a mean score of 3.51 and a standard deviation of 2.256, respondents also concurred that their company employs bar coding for stock or inventory counting. With a mean score of 3.40 and a standard deviation of 1.083, the majority of respondents also concur that they employed a just-in-time inventory management system to manage their stocks. With a mean score of 3.44 and a standard deviation of 1.033, respondents concur that the company they work for uses Materials Requirements Planning systems to lower inventory and its related carrying costs. With a mean score of 3.03 and a standard deviation of 5.503, respondents once more concur that the company they work for uses vendor management inventory, where the supplier is responsible for stock replenishment. Suppliers therefore played a crucial role in restocking stock and should not be overlooked in inventory management practices. With a mean score of 2.29 and a standard deviation of 1.027, respondents also claimed that SMEs in the Tamale Metropolis do not utilize ERP to manage their inventories. With a mean rating of 2.61 and a standard deviation of 3.74, respondents also rejected the claim that "just-in-time ordering will result in inventory-out situations in businesses." The majority of respondents, with a mean score of 2.10 and a standard deviation of 0.808, disagreed

with the claim that the ERP system "inherited a number of flaws associated with the MRP system, including unrealistic lead-time determination for goods."

Additionally, Objective 2's second goal was to investigate how the Tamale Metropolis' SMEs performed in relation to inventory management techniques. It was discovered that the performance of SMEs in the Tamale Metropolis is greatly impacted favorably by inventory management strategies. Regression coefficient (R) of 0.331, R2 of 0.109, and p=0.005 show this to be the case.

Last but not least, it was found that a firm's competitive advantage has a significant positive impact on SMEs performance in the Tamale Metropolis (R= 0.416, R2=0.173, and P=0) with regard to objective three, which examined the effect of competitive advantage gained through inventory management on SMEs performance.

Conclusion

Examining how inventory management techniques affect the performance of SMEs in Tamale Metropolis is the aim of this study. The research results support the following key conclusions:

The first goal was to assess the degree to which SMEs in the Tamale Metropolis followed appropriate inventory management practices. It is clear that SMEs in the Tamale Metropolis have successfully incorporated inventory management techniques.

The second goal was to ascertain how the performance of SMEs in the Tamale Metropolis was impacted by inventory management techniques. Conclusion: Inventory management methods and SME performance in the Tamale Metropolis are significantly positively correlated. To put it another way, inventory management practices help SMEs in the Tamale Metropolis achieve their

corporate goals and objectives. This implies that SMEs in the Tamale Metropolis perform better when inventory management practices are improved.

According to the third research goal, a firm's competitive edge significantly improves the performance of SMEs in the Tamale Metropolis. This suggests that improving inventory management techniques leads to better performance for SMEs in the Tamale Metropolis.

Recommendation

Based on the study's findings, the following suggestions are made;

In relation to Objective 2, it is recommended that government agencies that assist small and medium-sized enterprises (SMEs), such as the Ghana Chamber of Commerce and the GEA, encourage their owners and managers to implement inventory innovations in order to foster long-term stability and boost their company's profitability.

Additionally, SMEs should adopt effective inventory management techniques as a tactic to boost their financial performance and to gain competitive advantage over other competitors. This will also help improve their performance as concluded in the third objective that SMEs competitiveness has a positive effect on their performance.

Suggestion for Future Research

The study suggests that additional research be done to determine how various inventory management techniques impact organizational effectiveness.

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APPENDIX A

UNIVERSITY OF CAPECOAST

COLLEGE OF DISTANCE EDUCATION

QUESTIONAIRE FOR SMEs in TMA

This questionnaire is designed to gather information for a research project in partial fulfilment of the requirement for Master of Business Administration degree from the University of Cape Coast (UCC). Your participation is necessary and your responses will be treated confidential and for academic purpose only.

Please tick [√] the appropriate response where options are provided and write your response where spaces are provided.

SECTION A: BACKGROUND INFORMATION

1. Gender: a. Male [ ] b. Female [ ]
2. Age [years]: ……..
3. What is your highest educational qualification achieved?

a. Basic [ ] b. Secondary/Technical [ ] c. Diploma [ ] d. Bachelors [ ] e. Master's Degree [ ] f. None [ ] g. Other(s) [ ]

SECTION B: INVENTORY MANAGEMENT PRACTICES OF SMEs IN TAMALE METROPOLIS

Each of the following statements relates to the inventory management practices adopted by small and medium enterprises (SMEs) in Tamale Metropolis. Please indicate your level of agreement to each of the following statements anchored on the scale: Note: 5= Strongly Agree, 4= Agree, 3=Undecided, 2=Strongly Disagreed, 1=Disagreed

Practices	Scale				
1. The firm I work for uses computers to assist stock control by calculating the optimum number of stocks to hold in order to satisfy the users' requirements	1	2	3	4	5
2. The firm I work for uses computers to assist stock control by calculating the optimum number of stocks to dispatch in order to satisfy the users' requirements	1	2	3	4	5
3. The firm I work for uses bar coding in counting stock or inventory	1	2	3	4	5
4. The firm I work for uses Just-In-Time inventory strategy to reduce inventory and its associated carrying cost	1	2	3	4	5
5. The firm I work for adopts Materials Requirements Planning systems to reduce inventory and its associated carrying costs	1	2	3	4	5
6. The firm I work for uses Enterprise Resource Planning to reduce inventory and its associated carrying costs.	1	2	3	4	5
7. The firm I work for maintains good working relationship with its suppliers	1	2	3	4	5
8. The firm I work for communicates effectively and properly with its suppliers	1	2	3	4	5
9. The firm I work for embrace the principle of early supplier involvement in its design and this reduces the chances to defective items and the risk of obsolescence	1	2	3	4	5

10. The firm I work for adopts the Vendor Managed Inventory where the supplier has a responsibility for replenishing stock	1	2	3	4	5
11. Just-in-time ordering has many advantages such as the savings in inventory carrying, handling and storage costs	1	2	3	4	5
12. Although a safety inventory will increase inventory-carrying costs, it will minimize the potential costs caused by shortages.	1	2	3	4	5
13. An ABC inventory analysis is a surprisingly accurate, although simplistic, approach to managing inventory	1	2	3	4	5
14. The implementation cost of ERP systems like SAP is very high, and thus it is difficult to justify the costs and benefits of these systems to SMEs.	1	2	3	4	5
15. Just-in-time ordering will cause inventory-out situations in organizations.	1	2	3	4	5
16. ERP system inherited a number of shortcomings associated with the MRP system, including unrealistic lead-time determination for items.	1	2	3	4	5

SECTION C: INVENTORY MANAGEMENT PRACTICES AND PERFORMANCE OF SMALL AND MEDIUM-SCALE ENTERPRISES

Each of the following indicators relate to the performance of small and medium-scale enterprises in the Tamale Metropolis. Please indicate your level of performance (*over the past five years*) regarding each of the following performance indicators anchored on the scale: 1: *Much Worse*; 2: *Worse*; 3: *Moderate*; 4: *Better*; 5: *Much Better*"

Performance Indicators	Scale				
1. Return on Assets	1	2	3	4	5
2. Return on Investment	1	2	3	4	5
3. Sales Volume	1	2	3	4	5
4. Net Profit margin	1	2	3	4	5
5. Return on working capital	1	2	3	4	5
6. Current ratio	1	2	3	4	5
7. Quick ratio	1	2	3	4	5

SECTION D: IMPACTS OF INVENTORY MANAGEMENT PRACTICES ON SMES FINANCES

Each of the following statements relates to the impact of inventory management practices on the finances of SMEs in the Tamale Metropolis. Please indicate your level of agreement to each of the statements anchored on the scale: Note: 1= Strongly Agree, 2= Agree, 3=Undecided, 4=Strongly Disagreed, 5=Disagreed

Impact	Scale				
1. Effective inventory system has enhanced the creation of new outlet.	1	2	3	4	5
2. Organizations manage inventory to optimize service and profit.	1	2	3	4	5
3.Effective inventory management is critical to retailing success	1	2	3	4	5
4. Inventory valuation methods can have a significant effect on financial statements	1	2	3	4	5
5. Companies will obtain cost improvements by enhancing the efficiency of their inventory management systems.	1	2	3	4	5
6. Inventory management systems have led to proper monitoring of stocks in the firm	1	2	3	4	5
7. Inventory management systems have led to increase in market share	1	2	3	4	5
8. Effective inventory management systems have led to maintaining the right quantity of inventory for optimal productivity	1	2	3	4	5
9. Prudent management of inventory aids my organization to meet its debt obligations	1	2	3	4	5
10. Effective management of inventory have influenced my credit rating by banks and other financial institutions, to get credit facility at a favorable rate.	1	2	3	4	5
11. Good management practices of inventory has a positive influence on the working capital of my organization.	1	2	3	4	5

SECTION E: INVENTORY MANAGEMENT AND COMPETITIVENESS OF THE FIRM AMONG OTHER COMPETITORS

Each of the following statements relates to the inventory management practices and competitiveness of firms in the Tamale Metropolis among other competitors. Please indicate your level of agreement to each of the following statements anchored on the scale: Note: 1= Strongly Agree, 2= Agree, 3=Undecided, 4=Strongly Disagreed, 5=Disagreed

INDICATORS	Scale				
1. Effective use of inventory has relatively increased sales turnover	1	2	3	4	5
2. Product availability has relatively enhanced customer loyalty	1	2	3	4	5
3. Effective use of inventory system has relatively ensured timely Services	1	2	3	4	5
4. Effective use of inventory systems have relatively enabled the firm in meeting customer demand, and has encourages customer Patronage	1	2	3	4	5