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THE USE OF ENTERPRISE RESOURCE PLANNING FOR EFFECTIVE WAREHOUSE OPERATIONS MANAGEMENT IN COCOA MARKETING COMPANY (CMC), GHANA; THE MEDIATING ROLE OF USER SATISFACTION

BY

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NOVEMBER, 2023

DECLARATION

I hereby declare that this thesis except for the references mentioned is the result of my own research for the Master of Science in Logistics and Supply Chain Management and thus, it doesnot contain any material that has been previously presented by another person or material thathas been accepted for the award of any other degree from the University.

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ABSTRACT

Businesses must outgrow paper-based systems as they expand in order to maximize efficiency and accuracy in product selecting, packing, and shipping. This study's aim is to contribute to the growing body of knowledge on the use of Enterprise Resource Planning (ERP) for a successful Warehouse Management System in the Warehousing and Ports Operations (WPO) division of Cocoa Marketing Company (CMC). It will assist management in assessing how the module would affect their warehouse operations to raise organizational productivity and profitability. The quantitative research method was used in this study to gatherand examine data. The study also employed the purposive sample method to distribute 80 questionnaires to respondents, the majority of whom were workers at the Tema branch of the Cocoa Marketing Company (CMC) in Ghana. To perform thorough analysis, the data was entered into an excel spreadsheet and coded before being imported into SPSS version 23.0. Thestudy's found out that enterprise resource planning practices positively influence warehouse operation management. ERP practices had positive influence on user satisfaction. User satisfaction had a non-significant influence on warehouse operation management. User satisfaction did not mediate the nexus between ERP practices and warehouse operation management. It is recommended that Cocoa Marketing Company(CMC) management should regularly arrange well-tailored training programs for staff at different levels of the organization's hierarchy to give them up-to-date knowledge and skills touse the system effectively and efficiently to produce quality information for decision-making,which will increase return on investment.

DEDICATION

This piece of work is dedicated to my hardworking parents Madam Eugenia Adu-Kyerewaaand the late Mr. Opoku Asante.

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LIST OF ABBREVIATION/ACRONYMS

CMC GH – Cocoa Marketing Company, Ghana.

ERP – Enterprise Resource Planning

SCM – Supply Chain Management

WMS – Warehouse Management System

WOM – Warehouse Operations Management

SQ – System Quality

IQ – Information Quality

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Every company in any industry and those in the Supply chain management sector seeks to provide the best service through efficient means to increase output in real-time, reduce cost, minimize waste and make a profit, which is the main objective of entrepreneurs and investors. With significant effects on a firm's business performance and customer satisfaction, effective warehouse operations management (WOM) is critical for conducting the contemporary Supply Chain Management (SCM) performance assessment (Suvittawat, 2016). Warehouse Management Systems (WMS) regulate the flow and inventory through distribution centres. This study will posit the use of Enterprise Resource Planning (ERP) for effective warehouse operations management (WOM) in Cocoa Marketing Company (CMC) - Ghana. Warehouse Management System (WMS) as a whole directs the fulfilment of operations by bringing efficiency and cost gain to the firm's processes, (Warehouse Management Systems: A Complete Guide, 2020). Accordingly, a good WMS offers the onus opportunity to any firm to control its warehouse operations through receiving, inventory process, and out shipping. As a software application, WMS offers the company real-time visibility into inventory levels and locations. Other functionalities include directed packing, labour tracking, kitting, and product traceability (Warehouse Management Systems: A Complete Guide, 2020). In the observations of (Au Yong, 2014), WMS implementation is critical for reducing operational costs, improving management effectiveness, and increasing the company's competitiveness on a strategic level. Information technology service providers have

started offering specialized solutions to increase efficiency after appreciating the important role SMEs play in the nation (Khan, 2013).

According to studies by Tong et al. (2017), the adoption of conventional warehousing operation practices is about 3–4 times less effective than incorporating ERP into the operations of the warehouse, although errors in inputting figures on the part of the staff could be detrimental. This study effectively illustrates the understudied firm's integration of its WOM and ERP in practice. According to the study by Tong et al. (2017), this is feasible because integration successfully resolves the data entry differences brought on by manual processes. It not only cuts cost and prevents recurrent development, but also makes data transition safe, stable, and trustworthy. Through the combination of the two, the ERP software can explicitly transform the warehousing unit functions of CMC's operations into a fully automated storage facility for the storage of goods as well as for the actual transfer of warehouse control data.

1.2 Problem Statement

According to Malik & Khan (2021) there has been significant advancement in ERP recently, however, there are some limitations that are associated with some developing countries with the implementation of ERP. These include infrastructure, current economic conditions and governmental laws which have a significant impact on IT adoption and ERP implementation. In addition, developing countries clearly have a challenge when it comes to the Internet and intranet, telecommunications and public database systems. Some scholars have posited that there are inherent limitations in warehouse operations such as undue delays, disorganization since there are no apt collaborations, hence, time wastage in operations. The use of ERP serves as a starting point

in addressing the effects of information asymmetry that occurs in warehouse operations management in CMC.

The study realizes the need for this research since lapses in information flow is a major challenge to effective warehouse operations management (WOM). The use of an ERP system ensures the collaboration between an organization's departments and proper understanding of the system is essential. Although employees are adaptive, it is not always possible to adopt a change as major as an ERP system. Shih et al. (2022) noted that it is still not apparent how an organization's strategic resources would be impacted by the implementation of ERP, which will finally result in a competitive advantage and increase productivity.

Enterprise resource planning (ERP) solutions are designed to streamline all business operations, encourage coordination among all respective departments, and foster cooperation between all of the major functional departments. But many businesses in the warehouse and marketing sector typically lack intelligent operational divisions (Abdelghaffar & Abdelazim, 2010). Some shareholders of Small and Medium Enterprises (SME) owners believe that the deployment of Enterprise Resource Planning (ERP) is unnecessary. Along with this, there is a disparity between the nation's potential consumers of enterprise resource planning (ERP) practices such as information and service quality. Also, there is scarce study on the mediating role of user satisfaction on the relationship between ERP practices and warehouse operations management. This has been identified as a gap. Hence, this study tends to fill the gap by investigating the effect of enterprise resource planning on warehouse operational management through the mediating role user satisfaction at Cocoa Marketing Company (CMC), Ghana.

1.3 Research Objectives

1.3.1 General Objective

On a broad level, this study is to investigate the effect of enterprise resource planning on warehouse operational management through the mediating role user satisfaction at Cocoa Marketing Company (CMC), Ghana.

1.3.2 Specific Objectives

In brevity the study will seek:

i. To assess the relationship between enterprise resource planning and warehouse operations management.
ii. To evaluate the effect of enterprise resource planning on user satisfaction.
iii. To investigate the effect of user satisfaction on warehouse operations management.
iv. To assess the mediating role of user satisfaction on the nexus between resource planning and warehouse operations management.

1.4 Research Question

This study gears toward the use of ERP for effective warehouse management operations in CMC–Ghana. In this regard, an attempt has been made to analyse and discover solutions to the following questions.

i. What is the effect of enterprise resource planning on warehouse operations management?
ii. What is the effect of enterprise resource planning on user satisfaction?
iii. What is the effect of user satisfaction on warehouse operations management?

iv. What is the mediating role of user satisfaction on the nexus between resource planning and warehouse operations management?

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1.5 Significance of the Study

Though the existing literature (Kwateng, Manso and Osei-Mensah, 2014; Awuah Gyawu and Adzimah, 2015; Appiah, Teye and Asare, 2018; Dza and Kyeremeh, 2018; Affum, 2022) contains findings of the use of IT technologies in the efficient management of warehouses in Ghana, little to none specifically addresses the importance or otherwise of the Enterprise Resource Planning module. In essence, this study seeks to address the existing gap by reflecting on the evidence available against the realities of Cocoa Marketing Company Ghana which uses the module as part of its warehouse management operations. Significantly, it will help the management of the focus organization to evaluate the impact of the module on their inventory and warehouse operations in order to improve the profitability, productivity, and image of the organization

1.6 Scope and Limitations of the Study

The researcher will examine the use of ERP in the warehouse operations management at Cocoa Marketing Company of Ghana. To make data collection effective, it was also limited in scope to Cocoa Marketing Company and did not consider other industries such as the manufacturing industry, financial sector and others. The key confines of this study will be: The researcher will concentrate on only the firm understudy CMC- Ghana, the study will examine the Warehouse operations management of only Tema branch of CMC- Ghana. Regardless of this study's scope and limitations, the study's value will not be moderated. The study will contribute significantly to

the present domain of research, notably in the field of Enterprise Resource Planning (ERP) in Warehouse operations management, which is yet to be fully subjugated.

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1.7 Research Methodology

The study by purpose has set out to investigate how ERP is incorporated into the operations of Cocoa Marketing Company, Ghana. This study will use a quantitative research method in collecting data about the subject under study. The study will gather primary and secondary data which would be collected through the administration of questionnaires and previous literatures that are available on the topic under study respectively. Questionnaires will be administered to employees of Cocoa Marketing Company at the Tema branch. Administration of the questionnaires would be executed depending on the convenience sampling technique as it gives chance to the researcher to conveniently collect data that is precise. The integrity of the data would be tested to be sure it can be trusted and useful for further analysis. Data will be carefully and methodically examined using the SPSS 20.0 software as it is widely accepted and trusted for quantitative analysis.

1.8 Organization of Study

This study consists of five chapters and each chapter features sub-headlines that outline the study. The first chapter (introduction) is made up of the background statement, objectives, research questions, problem statement, the significance of the study, and the scope of the study. Chapter two discusses the theoretical framework used for the study. It also includes a review of related literature and the operational definition of terms. Chapter three provides the necessary details on the methodology used for the study. It includes information on the target population, the sampling

methods and the research design. Chapter four analyses the data and provides a discussion on it. Chapter five discusses the findings, summarizes the study, talks about limitations to the study, makes suggestions and gives conclusion to the study.

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CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The study conducts a review of the existing literature and identifies pertinent gaps in the research on the use of ERP's system quality and information quality, the mediating role of user satisfaction and its effects on warehouse operations management. This study evaluates the Cocoa Marketing Company's (CMC) terminal warehouse with a focus on its warehouse operations, a review of both theoretical and practical studies in warehouse operations management is conducted to contribute to the researcher's understanding of the variables being studied. According to Addo-Tenkorang et al. (2011), Enterprise resource planning (ERP) systems are comprehensive, integrated systems that manage all facets of a manufacturing or distribution organization, coordinating accounting's primary tasks with those of financial management, human resources, supply chain management, and manufacturing or distribution (Jacob & Ramachandran, 2021). According to Suganthalakshmi et al. (2011), an integrated software package known as an ERP is made up of a standard set of functional modules (such as those for production, sales, human resources, finance, and other areas) that were created or integrated by the supplier but are flexible enough to be tailored to the unique requirements of each client.

2.1 Conceptual Review

The section reviews on conceptual definitions of;

2.1.1 ERP in Supply Chain (SC)

The Enterprise Resource Planning (ERP) system, a collection of interconnected modules that oversee all of the organization's primary business operations, is used to plan resources. According to Sammon and Adam (2007) definition of ERP, it is a comprehensive software system created to automate and combine key organizational functional areas. The system's major goal is to seamlessly integrate business processes within and across the organization's technical and functional boundaries through enhanced workflow and access to current real-time information. Supply Chain Management (SCM) is a strategy that seeks to lower costs, improve production and distribution system integration, and raise customer satisfaction in order to gain a stronger competitive position (Ince et al., 2013). Supply chain is a network of suppliers, manufacturers, distributors and customers, according to Näslund and Hulthen (2012), there are three different types of flows that calls for coordination and cooperation. Material flow refers to the actual physical transportation of goods from suppliers to customers as well as, in the case of reverse logistics, from customers to suppliers. The second is information flow, which stands for order tracking and order transmission. The physical flow of products is usually linked with the information flow. The third flow, the financial flow, represents the ownership agreements, payments, and credit terms (Aziz, et al., 2018). The supply chain participants must cooperate at the highest level for this flow to occur (Subramanian et al., 2013).

Lowering production cost and cycle of a product, increasing order deliveries that arrive on time, raising quality, lowering inventory, and improving inventory management are all advantages of using SCM. Service quality, quicker responsiveness to client needs, accurate, timely, and consistent information sharing, and exchange are also SCM benefits (Aziz, et al., 2018). However, there are some hindrances that may obstruct the realization of the full benefits of SCM, these

include a lack of integration, poor managerial support, issues with information accessibility, and inadequate information systems (Aziz, et al., 2018).

System quality, information quality, system utilization, user satisfaction, individual effect, and organizational impact are the six primary categories that DeLone and McLean (2016) utilize to group the variables that could influence the performance of the ERP system. According to studies by Tong et al. (2017), the adoption of conventional warehousing management practices is about 3–4 times less effective than incorporating ERP into the operations of the warehouse, the integration also reduces the possibility of mistakes in warehouse operations. According to Shatat & Udin (2012), to help businesses compete in both domestic and international markets, it is also necessary to raise quality standards and improve customer services. To maintain a competitive edge in the global economy, businesses are also working hard to reduces, boost revenue and expand their market share. These formidable obstacles include controlling supplies, distributors, services, clients, sales, workflow, and materials.

Corporate management has transitioned into a networking competitive era, which transfers the competition from a local to a global company environment and from one supply chain fighting against another. (Shatat & Udin, 2012). In recent times, competition is measured in terms of supply chain performance which is also a result from individual company performance and thus, there is more pressure on business to satisfy customer needs. As Shatat and Udin (2012) has noted that, due to the intense domestic and international rivalry that exists today, businesses are looking for reliable technology that will help them better manage their operations and cut costs, improve services, revenue, workflow and processes

2.1.2 System Quality (SQ)

The main characteristic sought by all businesses is the integration of system quality in all operations. The measurement of system quality through some characteristics such as usability, adaptability, reliability, response time, ease of use, and ease of learning the system. Users use these characteristics to gauge the effectiveness of the specific system being used. Firms in the sector must have passed requirements to ensure the adoption and implementation of quality systems to have a robust warehouse operational system. The adoption of quality systems has increased throughout the warehousing sector, the goods housing sector involves not only the quality of items to be retained but also the complete management strategy to satisfy a defined purpose offered to clients, making system quality assurance different from that in the manufacturing or other service industries (Rumane, 2011).

Every service based on technology is built on systems. A system is considered as a collection of elements or components that are organized for a common purpose. These elements or components could be hardware or software systems or a combination of both. Purwanto et al. (2020), has defined system quality as the measure of the system's information processing performance from a combination of the engineering-oriented evaluation and user-oriented perspectives. This definition acknowledges the engineering design or mechanisms used in designing the system and how that aids the system to perform at the highest level as desired. It also inevitably considers the user's perception about the system. This means the engineering- oriented evaluation could be excellent but so far as the user thinks otherwise, the system may end up not be utilised to its full potential.

Some researchers assert that quality of products and services is the single most important determinant of a business' long-term success and existence. Scholars have identified multiple dimensions to the quality of a system. Nelson et al. (2005), identified four dominant views of

quality. Quality is defined as excellence, value, compliance to requirements, and living up to expectations. The excellence perspective contends that there is an objective standard by which quality is judged. The value perspective clarifies this idea by arguing that the standards of excellence should be weighed against the expenses involved in meeting them. The compliance view systematizes these concepts further and proposes that quality be measured in terms of a reliable and quantifiable value delivery in relation to a certain design ideal. Last but not least, the idea that quality is defined by compliance to customer expectations that may relate to excellence, value, and other qualities that are important to customers in forming their perceptions of quality, argues that quality is defined by conformance to these expectations.

System success is frequently determined by the relationship between end-user satisfaction and their positive view of the system in warehouse operations management. Users' perceptions of usefulness are an important aspect in determining end-user happiness, which helps to maximize the use of the systems. The implementation of quality system is influenced by user interaction, the term "system quality at all levels of operations" in this literature focuses on end users in terms of problem-solving assistance for customers and employees, job discretion for parties involved in ensuring that all duties are performed with the utmost good faith, management discoverability and cross-functionality, prerogatives, and relevant decision - making process (Wickramasinghe, 2012). Quality system adoption in warehouse operations management involves a variety of larger behavioral elements in addition to technological considerations. To prepare their employees for the new challenges presented by learning the sustainable success of the systems launched, or its upgrades to make better use of technology and bring in benefits as they accrue to the employee personally, the client of the firm, and ultimately to the firm as an institution, management must recognize the system adoption from the user's point of view (Pham et al., 2019).

2.1.3 Information Quality (IQ).

Information quality is an evaluation of the worth of the demands that have been established via the organization and processing of data to produce relevant information for users. The users may not always find the information to be valuable (persons who input the data first-hand and those middle and senior managers for whom it is kept, for further decision making). The information must be chosen and assessed based on the requirements of users at various levels. Information quality, according to Obeidat et al. (2016), is collated data that satisfies these requirements for warehouse operations management: accuracy, completeness, timeliness, and relevance. An integrated form of high-quality information must travel from the very first department that receives data to the top hierarchy for managerial decision-making. The goal of improving everyday procedures, warehouse operations, and performance is the significance of information quality in an organization's warehouse. The importance of information quality can be summed up by the fact that it must consistently satisfy the fundamental needs of all end users (Chen et al 2010). When it comes to warehouse operations management, the quality of information is multidimensional and expresses how well-suited information is for both short- and long-term decision-making. Information can be captured and displayed in the management of warehouse operations in a variety of ways, including on paper, online or in real-time. Such as voice response, mobile terminals, and scanners. The operating system in the warehouse becomes increasingly complex as the rate at which data is converted into high-quality information rises. However, the increased accuracy and fewer stock-outs must economically justify the control system's level of sophistication to balance the additional expenses of the cost system.

Information in its simplest form is organized data that helps to make right decisions. Information in itself comes in four types: factual information that deals with facts, analytical information that

deals with the interpretation of facts, subjective information which is information considered from only one point of view, and objective information which is information understood from multiple viewpoints.

Researchers have defined information quality in different context. In the intrinsic view, information quality is defined as a measure of agreement the data values presented by an information system and the actual values the data represents in in the real world (Fisher et al., 2012). In the contextual view, information quality is defined as the degree to which the information is helpful in completing a task. This view does not consider the information in isolation as the intrinsic view but considers the user of the information, the task being completed, and the applications being used. Other scholars have considered a third view which is the representational dimension which describes the degree to which information presentation effectively facilitates interpretation and understanding.

In summary, information quality is determined by the following key attributes: accuracy which represents correctness of information, completeness which ensures all aspects and forms of information are represented, currency which ensures information is up to date and reflects the current state of data, and lastly format which depicts how the information is presented to make it more understandable and interpretable to aid the completion of a task (Nelson et al, 2005). Fisher (2010) reports that the U.S government started paying particular attention to information quality since 2001 world trade centre attack because it is believed that bad information was partially responsible for the success of the attack.

2.1.4 User Satisfaction (US).

Technology has been a major game changer in the 21st century for businesses, organizations and individuals in their daily activities. Technology has brought major improvement in the quality of

life across the globe. Roco and Bainbridge (2013), has emphasized the role of technology in improving human potentials and capabilities and overall quality of life.

The adoption and use of technology have become inevitable especially in the 21st century for several reasons. Some of the reasons include; simplifying tasks, eliminating human errors, improving efficiency and effectiveness, reduce cost, among others. The continual usage of any product, system, or service intended to aid human activities across business and personal lines is heavily dependent on how users are satisfied with the usage of such products, systems, and services (Alawneh et al., 2013). It is however difficult to guarantee user satisfaction and hence continuous patronage of the product, system or service.

Customer satisfaction is the state of pleasure or disappointment formed by the comparison of the perceived effect of a product or service with the expected value (Chen et al, 2020). Kalankesh et al., (2020) also considers user satisfaction as the measure of information system effectiveness success. In both definitions, the actual pleasure or disappointment, effectiveness or the lack of it is expressed by the user regardless of what the creator feels about it. This leaves the user in full control to determine whether or not they have derived satisfaction from the product, system, or service. In the light of these, it is imperative to dive a bit deeper to as it were, try to understand what factors influence user satisfaction. Sprockets (2019) has identified perceived quality, perceived value, and perceived service as key ingredients for user satisfaction.

Kalankesh et al., (2020) also mentioned other factors including accessibility, empathy, language, response time, convenience, choices, simplicity, quality, reasonable prices, appreciation, loyalty programs, and community addition depending on the product, system, or service. Many more writers have agreed to the varied influencers of user satisfaction. Majority of the factors are based

on the users' own experience of a product, system or service that they have used before. If it is a new product, system, or service however, the users' perception makes the difference.

Erol et al., (2010) defines an organization as a complex system consisting of people, processes, and technology (information systems and tools). The people use technology (information systems), following certain processes and procedures to achieve organizational goals more effectively and conveniently. Organizations of all levels and sectors of operation have over the recent years implemented quality systems for standardized information to enhance business processes. Substantial amounts of money are invested in the development, deployment, operation, and maintenance of such systems. In spite of these huge investments, a large number of these systems have failed. One of the metrics for measuring the success of systems is user satisfaction. Mekadmi and Louati, (2018), defined user satisfaction as the opinion of the user about a specific computer system or application, which they use in the context of his or her work environment. This definition is also attributed to Doll and Torkzadeh (1988).

Systems are employed by companies to enhance speed of decision-making, improve the control of costs and operations, and improve distribution of information throughout the organization. Dezdar, (2012), however cited other researches that indicate an overall 31% rate of failure for most systems. The criteria or metrics for measuring the success of any system has different components. User satisfaction is identified by many researchers as a foundation for the success of systems and its key role as a mediator between ease of use and capacities (Maldonado & Sierra, 2013). Age, gender, education, IT experience, are some of the identified factors that influence user satisfaction (Dezdar, 2012). This is affirmed by Mitakos et al., (2010). According to Mitakos et al. (2010), age, gender, education, computer experience, department, and position all affect the user satisfaction. Dezder (2012) and Mitakos et al., (2010) concluded that, younger system users tend to be more

satisfied than their older counterparts regardless of the other factors. They both agreed that, there is no relationship between user satisfaction and gender. People with higher educational background were found to be more satisfied using systems than people with lower educational background. People with higher computer skills or training were found to also have more satisfaction with system usage than those with less computer skills. Mitakos et.al. (2010) added that, a persons' department (line of work) also influences their satisfaction level in using various systems but states that, there is no relationship however between user satisfaction and a person's position in the organizational hierarchy. Mitakos et.al. (2010) identified that, the content, accuracy, data format, ease of use, and timeliness are the measurable factors. So, a user will generally be satisfied if he or she believes that the content of the system is satisfactory, the data is accurate, the format of the data is easy to work with, the system is easy to use, and produces a timely output then the user is satisfied with the system.

2.2 Theoretical Review

To explain the degree to which information, system quality and radicalness, affect Business Process Outcomes (BPO). Karimi et al. (2007) employed the Resource Based View (RBV) of the company theories. The purpose of this study was to investigate the effect information and system quality on warehouse operations by extending the Karimi model. The research in this review takes into account resource-based views and network theories, which are significant endogenous factors influencing the effectiveness of warehouse operations.

2.2.1 Resource Based View (RBV) Theory

Bain (1968) and Porter (1985) were key contributors of the RBV theory, which emerged as an addition to "the industrial organization view." The manufacturing organization view, which

emphasises the configuration of the conduct-performance paradigm, externalized companies based on its industry's structure as a contributor to firm performance. Positioned in opposition to this idea, the RBV theory categorically searches for intrinsic sources of persistent competitive advantage and seeks to explain why businesses operating in the same sector may perform differently. RBV "theory uses two principles in identifying sources of competitive advantage," (Peteraf & Barney, 2003). Resource-based viewpoints contend that businesses perform well and add value when they employ methods that make the most of their own internal resources and capabilities to promote long-term competitive advantage. Due to the fact that resources are not entirely transferable among enterprises, it is also assumed that resource uniqueness may endure over time. For a resource bundle to contribute to a competitive advantage, resource uniqueness is thought to be a prerequisite.

First, this model assumes that businesses within an industry may be unique in terms of the types of resources they possess. RBV theory proponents contend that resources that are all at once valuable, uncommon, unique, and non-replaceable can be a source of better performance and help "the firm to gain persistent competitive advantage (Kraaijenbrink, 2011). According to RBV, businesses have a variety of resource endowments, and how well they use, develop, manage, package, and use those resources through time determines their ability to gain a competitive edge. Therefore, the theory is a good starting point for understanding competitive dynamics in which resources, such as technological, human, and physical assets are semi- permanently attached to the organization’s performance. However, Wong and Karia (2010) argue that simply possessing resources is insufficient. As a result, the RBV theory introduces a new category of capabilities that come about as a result of intricate patterns of coordination and interaction between resources. Resources and capabilities, according to the notion, are "frequently synergistic in nature and seems

more valuable when combined" (Paulraj, 2011). The tenets of the theory state that resources and capabilities, for example, a firm's complementary resources to leverage and optimize skills to produce sustained competitive advantage, need to be scarce, inimitable, valued and organizationally utilizable. According to RBV theory, a corporation can develop long-lasting "competitive capacities and to provide a competitive advantage" by utilizing its non-imitable resources (Paulraj, 2011).

2.2.2 Network Theory

The company's ongoing interactions with external parties play a significant role in the creation of new resources (Haakansson & Ford, 2002). The main application of network theory in supply chain management is to align activities, players, and resources in a supply chain (Lin, 2017). The goal is to build enduring, trustworthy connections between the supply chain participants. Relationships allow two organizations to pool their resources and gain more benefits than they could on their own. Reciprocity in cooperative interactions can be conceptually analysed using network-based theory as a foundation (Borgatti & Halgin, 2011). The theory significantly improves our understanding of the dynamics of inter-organizational relations by emphasizing the importance of the relationships between the parties, the development of trust through successful long-term cooperative relations, and the mutual adaptation of routines and systems through exchange processes. Inter-organizational linkages may become more significant than resource ownership because a resource's worth is determined by how it is combined with other resources. Direct communication between the relationships conveys a sense of distinctiveness, which ultimately leads to supply chains that are customized to satisfy specific consumer needs.

2.3 Empirical Reviews

2.3.1 System Quality and User Satisfaction.

System quality is a system that is considered to be reliable and flexible and provides smooth integration of information and seamless connectivity which reflects a positive value proposition for the adopting, organization with less maintenance and management cost is regarded as a quality system (Lee & Lee, 2012). User or customer satisfaction is the level of one's feelings after comparing the performance or results to his expectations (Keller & Kotler, 2022).

Moalagh and Ravasan (2012) proposed a framework for system quality implementation. In their framework, they identified a quality system to have; data accuracy, easy to learn, good features, data integration, efficiency. Data accuracy is a characteristic in a quality system that ensures the data generated, processed, stored, or shared are factual and true interpretations of the system's activities. A quality system must meet management expectations, meet organizational goals and achieve user satisfaction (Moalagh & Ravasan, 2012). According to Miyamoto et al. (2012), user satisfaction is achieved through operational efficiency which is an attribute of a quality system. When a system is easy to learn, devoid of complex operations requiring high level technical skills, it ensures users of all levels are able to use it. Also, if the features of the system are such that most of the warehouse operations activities can be can done through the system, then it adds to the quality of the system which generates user satisfaction. When data from all business units or users can be integrated for effective management and usage, it enhances and simplifies the management of the warehouse operations. Miyamoto et al., (2012) has stressed that, quality system implementation would not achieve the expected benefits without the potential users' acceptance. In order for users to maximize the use of a system, they must derive high level of satisfaction from the use of the system. And to derive that high level of user satisfaction, the system must produce

accurate data so that it becomes more effective to use. Again, the ability to use the system must be at the lowest possible difficulty level without compromising its functionality and security. The features of a quality system must address all the core business functions and operational activities. All data must be properly integrated for effective and efficient management.

Despite such huge investments in quality systems, many implementations have been plagued with failure. For instance, the computer integration problems that FoxMeyer Health Corp. has faced after the implementation of SAP software, have led the company to a bankruptcy filing, instead of realizing the expected benefits of cost reduction, improved inventory turnover and increased availability of useful information (Hyde, 1996). An important reason for these failures is that the implemented systems suffer from integration problems; the lack of alignment between people, processes, and the new technology, preclude an organization from realizing anticipated benefits or even to recover the cost of the implementation effort (Davenport, 1998). Moreover, the initial justification that drives the development of a quality system is also considered an important reason for success or failure (Peterson et al., 2001).

2.3.2 Information Quality and User Satisfaction

Information quality relates to whether the information is fit for use by the information consumer. Research has indicated that information should be relevant, timely, complete, and appropriate in terms of the amount so as to add value. According to Alla and Faryadi (2013) information quality has no formal definition but the variables to measure information quality relate to accuracy, renewal, integrity, availability and brevity.

In a study by Dwivedi et al., (2013) it was identified that information quality had a positive and significant impact on user satisfaction. The study showed that if users found the content to be engaging, clear, and relatable, the users would be more satisfied. In a study conducted by Gorla,

Somers and Wong, (2010) a positive relationship was found between information quality and organization impact when the information that is provided is relatable and relevant to the task at hand. According to DeLone and McLean (2016), the sole purpose of information quality is to supply the user with accurate, timely, and relevant information.

Information quality is an important dimension of a system's success that eventually contributes to user satisfaction. Different organizations define information quality differently, it varies from the quantity, purpose of content, the intended audience, and hence, it is imperative to measure the relationship between information quality and user satisfaction (DeLone & McLean, 2016).

Information quality refers to the wanted characteristics of the information that the information system produces. Some researchers describe information quality as the desirable characteristics of the system outputs. Information quality refers to the quality of the information that the system is able to store, deliver, or produce, and is one of the commonest dimensions along which information systems are evaluated. Information quality was measured in terms of accuracy, timeliness, completeness, relevance, and consistency. The quality of the information will determine user satisfaction. According to Sandjodjo & Tamsir (2019) information technology has become a tool with which to produce accurate, reliable, and timely information through the development of information systems. It is in line with other researchers that, information quality must be measured in light of relevance, understandability, accuracy, conciseness, completeness, timeliness, and usability. Information quality is often seen as a key dimension of user satisfaction (Sandjojo, & Tamsir, 2019).

Therefore, in defining information quality, one must consider; accuracy or the user's perception that the information is correct or the user's perception of the degree to which the information is up

to date, content or the degree to which the system gives a wholesome and relevant information and the user's appreciation of how well the information is presented**.**

2.3.3 User Satisfaction and Warehouse Operations Management.

Innovations advancing the field of information technology has become one determinant of user satisfaction. There is a discussion about how quality information and systems affect users' satisfaction during the management of warehouse operations. This research aims to concentrate on failure and success variables as well as other technical issues addressing their effects on management of warehouse operations.

The equity hypothesis states that parties will feel fairly treated or pleased provided they obtain fair economic benefits from the services they receive and the money they exchange. According to the hypothesis, customers or clients of warehousing companies are satisfied when they believe the investment they made or the service they received was fair. The client will gauge user satisfaction and warehouse operation management by obtaining fewer defective goods from the warehouse, prompt interaction and delivery from staff, other efforts made during the transaction, and expectations (Shivachi, 2014).

Users in the context of quality systems are people who use various programs regularly, are familiar with how the system functions (Liu, Feng, Hu, & Huang, 2011). Users are crucial to the evaluation of the effects of such system implementation on the performance of warehouse operations (Peslak & Boyle, 2012) and the level of system utilization directly influences the benefits of the established system that are acknowledged (Shen, Chen, & Wang, 2016).

According to Bhamangol, Nandavadekar, & Khilari, (2011), the objective of any user in the warehouse operations sector is to see to the resolving of current constraints in the various units or

departments. Quality systems ensures the highest level of user satisfaction in the management of warehouse operations by having a shorter lead time. Quality system is essential for controlling inventory and making purchases. It makes sure that inventory management software has safety features like safety stock and reorder levels integrated into it to flag scenarios when stock levels are dropping or if units in an organized row exceeds the limit. Without a quality system to enforce these controls, customers may experience delivery delays or even lose their business to rival companies, which damages their goodwill. To reduce the lead time during warehouse operations is ensured by the timely requisition of supplies and informing system users of availability and the time it will be made available. Information and system quality as a whole enforces this automation to improve the activities of warehouse operations and management. Since it notifies parties connected to the system of the things that must be supplied and when, which consequently assures a reduction in lead time. The amount of time saved is incredible because the system handles tasks like creating in-flow and out-flow receipts, issuing purchase orders, and processing payments electronically. In addition, user satisfaction can be determined by ensuring prompt shipping and conveyance, customers can receive products that are customized for them with the same lead time as products that are off- the-pallet or standard.

2.3.4 System Quality and Warehouse Operation Management.

According to Shivachi (2014), systems theory provides a framework for describing and analysing a set of transactions. This is done to guarantee that all organizational components are interconnected or embodied, especially when one unit or division has an impact on the operations of other components of the same company. Either the system is open or closed, depending on your perspective. In this analysis, the open system is linked to the receipt of quality standards, which are converted through their implementation and result in the quality system. This guarantees that,

despite the appearance of disparate responsibilities and pilasters for separate divisions, they should just all work together for the benefit of the company as a whole.

The Cocoa industry is one of the major inventory-keeping businesses in the economy that seeks to hold stocks during agricultural and production highs against transiting economic lows. To guarantee customer satisfaction, it is crucial to make sure quality systems are in place along the whole value chain of the Cocoa Marketing Company warehouse operations. The adoption of zero faults in commercial transactions and conformance in individual departments' workflow is ensured by the presence of a quality system in warehouse operations. The system quality theory provides a framework for describing and analyzing collections of objects while keeping the purpose and mandate of the company in mind. According to Kariuki (2012), the adoption of quality systems has grown quickly in Kenya as a result of the realization that meeting quality standards is crucial for the commercialization of any goods that have been stored.

According to Shivachi (2014), the operating firm, its clientele, and personnel all profit from the deployment of a quality system at all stages of warehousing operations. In addition to these, benefits include improved customer satisfaction, worker morale, fewer complaints from both internal and external groups, and less time spent performing various duties, all of which contribute to a corresponding decrease in operational expenses.

According to Ndanga (2013), the presence of a strong quality management system helps organizations better achieve the crucial goal of customer happiness. According to Okwiri & Mbeche (2013), quality systems offer a useful instrument for evaluating business capabilities that is relevant on a worldwide scale and serves as a foundation for managing businesses. Many corporations in the increasingly cutthroat global warehouse and operation business sector view

accreditation to the widely recognized ISO quality standards as an order qualifier rather than an order winner.

The majority of the businesses in the sector must be forced to establish or adopt the ISO quality systems, which are commonly linked with ISO 9000 series, in addition to changing their outdated warehouse operations and management systems, for any warehousing firm to remain competitive. Findings from Nganga (2013) demonstrated that the company's ability to better realize the crucial goal of customers satisfaction is aided by the efficient implementation of appropriate performance systems at all levels of warehouse operations because the application of standard quality systems of all kinds provides as "Formal declaration of an organization's business philosophy, management duties, processes, and associated controls, that represent the most efficient and effective approaches to exceed or meet its clients' demands while attaining its own key business goals" (Shivachi 2014).

Even though quality systems aid in management of warehouse operations, other environmental elements still have an impact, including management commitment, employee participation, training architecture, resource availability, and other contextual variables such as specific customer requirements.

2.3.5 Information Quality and Warehouse Operation Management

It is becoming more and more clear that information quality (IQ) is crucial and highly desired for decision-making, as well as for avoiding internal costs linked to defects discovered after the client receives the goods and external failure costs linked to defects discovered after the customer receives the product, which reduces costs and gives businesses a competitive edge across all industries, especially in warehouse operations. In the warehousing sector, professionals and investors effectively complete their deals, and the calibre of their information source influences

their choices. Information quality issues are what makes it difficult to provide reliable information for sound decision-making. It is challenging to conceptually characterize information quality. It is a feedback cycle where one system's activities are continuously influenced by the actions, modifications, and outcomes of the other, the cybernetic view of (IQM) sees it as a set of interdependent compensatory mechanisms that link information quality to how it is used (Beckford, 2015).

Information quality (IQ) enables warehouse owners to do their jobs well by continuously exceeding customers' expectations through information and information services (ERP). The significance of good and efficient information quality management (IQM) is essential for the success of quality management in warehouse operations. Greater information quality at any level in an organization leads to an increase in clientele, profit for the company, and effectiveness at all degrees since there will be better production and quality.

Senol & Suleyman (2010) noted that a reliable recording and documenting system is necessary for any company to be efficient. The inability to make decisions and operate effectively is hampered by the lack of reliable information. Information quality can be thought of as the gathering of accurate data from operations, inventories, and those sent for decision-making to reduce errors like incorrectly delivering out-of-bond products to various clients or misallocating floor space.

2.4 Conceptual Framework

To define the boundaries of the project, set a direction and assure coherence, the conceptual framework is imperative. Also, it aids in building relationships between variables taken into consideration for the study.

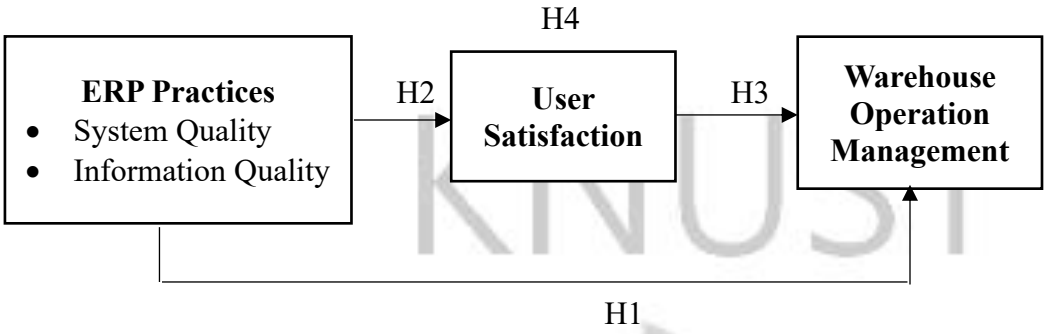

Figure 2.1: Conceptual Framework of ERP practices, US and WOM

Source: Author's Construct (2023)

2.5 Hypothesis Development

2.5.1 Impact of ERP practices On Warehouse Operations Mgt

Businesses can create a specific resource that directs both internal and external collaboration with the help of quality systems. A quality system, as per Ruivo and Neto (2012), enables users to cooperate across their departments, business units, and firm. Additionally, quality systems provide the user with an increased possibility to obtain the information readily with higher support for versatility in carrying out their activities and in exchanging work priorities at warehouse stations. Therefore, hypothesis 1 states as follows:

H1: ***EPR practices have a positive influence WOM.***

2.5.2 Impact of ERP practices On User Satisfaction (US)

DeLone and McLean (2016) describe how information affects the recipient and coined the level of the personal impact concept. Quality information which is also timely and easily accessible is a

key determinant of information system success, hence creates user satisfaction. Overall, the most crucial part of user satisfaction is the delivery of quality information to the right person and at the right time to make reasonable business decisions Bergmann, R. (2015). Therefore, hypothesis 2 is stated as follows:

H2: ***ERP practices positively influence user satisfaction.***

2.5.3 User Satisfaction on Warehouse Operations Management

Agboyi and Ackah (2015) has argued that a successful warehouse management plan to raise your overall customer service and retention rates can be influenced with the aid of a software solution for warehouse management. Through the use of quality systems and information, there is an improvement in control and responsibility due to the visibility of the information offered by the system. Employees at all level of warehouse operations are better informed on company guidelines and procedures thanks to increased visibility of the quality of information, which continues to produce desired results, thus satisfying the user of the system. Therefore, it is being hypothesized as:

H3*: user satisfaction positively impacts warehouse operations management.*

2.5.4 User Satisfaction, ERP practices and Warehouse Operations Mgt

Several literature studies have explored the mediating role of user satisfaction in the context of ERP practices. Smith et al. (2018) found that user satisfaction significantly mediates the relationship between system quality and overall ERP success. In a study by Chen and Wang (2019), user satisfaction was identified as a crucial mediator between information quality in ERP systems and organizational performance. Additionally, Li and Liu (2020) demonstrated the mediating effect

of user satisfaction in the relationship between ERP practices, particularly information quality, and warehouse operations management efficiency. These studies collectively highlight the pivotal role of user satisfaction in optimizing the impact of ERP practices on system and information quality, and subsequent warehouse operations management. Hence, this study proposes that;

H4: User satisfaction mediates the nexus between ERP practices and WOM

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CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter explains how the study was carried out and the approach used to administer and gather answers to the research questions. This chapter goes into great depth on how the research was organized, designed, and carried out. There is a thorough explanation of the research philosophy, research approach, and research design. Additionally, covered in this chapter are the study population, data collection tools, methodology, and data analysis. Additionally, the chapter covers a few ethical concerns, sample size, sampling techniques, and problems with instrument validity and reliability.

3.2 Research Approach and Design

3.2.1 Research Approach

A quantitative research approach was used in this study. A quantitative research strategy, according to Apuke (2017) helps when examining large groups of people and extrapolating findings from the sample under investigation to larger groups of people. A quantitative research strategy looks for explanations and forecasts that can be applied to other people, organizations, and locations (Mohammad & Reineke, 2013). According to Babbie and Mouton (2015), the data gathered by quantitative research are often structured numerically and are subjected to statistical analysis. To quantify the findings, quantitative research employed statistical metrics and control processes that minimized bias and conflicting or complex variables. This, places a strong emphasis on the producing accurate and reliable statistical findings.

3.2.2 Research Design

The type of research questions, the feasibility of achieving the study's goals, the adherence to underlying philosophies, and the limits of current knowledge all play a role in the decision of which research design to use. In order to describe how the use of system and information quality in ERP affects warehouse operations, the research design chosen for the study was a survey. Survey is a thorough strategy that could eliminate bias from the study process and offer repeatable results, (Root et al., 1997).

A research design, according to Salkind (2012), is a strategic plan for how a researcher will address the study questions. Bryman and Bell (2015), Maclntosh and O'Gorman (2015), concur that case study, experiment, survey, grounded theory, ethnography, archival research, action research, are primary research designs frequently utilized within business and management research. This work used a survey research approach which was generally simpler to comprehend and made it possible to obtain information in a method that was financially viable. Additionally, the survey approach used did not call for control over behavioural activities but rather focused primarily on the effects of system and information quality on the operations of CMC's warehouse. With the survey method, the researcher was able to assess the statistical validity of the sample's findings (Brandenburg et al., 2014).

3.3 Population

Quinn (2010) defined targeted population as a well-defined set of people, services, elements and events, group of things or households that are being investigated. A population is the entirety of all the subjects from which a sample is obtained (Pernecky, 2016). The population of the study consist of staff from Cocoa Marketing Company (CMC) – in Ghana, Tema branch. A group of staff

were selected from all departments of the company amounts to 80 employees at the selected area. The reason is that this group of people have used the system and knows how it affects their productivity.

3.3.1 Inclusion Criteria

The study included only employees of Cocoa Marketing Company (CMC) - Ghana who worked at the Tema branch in the Warehousing and Ports Operations department and who have worked for more than three (3) years. Additionally, only respondents who were ready and willing to participate in the study were included.

3.3.2 Exclusion Criteria

The study excluded employees of Cocoa Marketing Company (CMC) – Ghana who do not work at the Tema branch in the Warehousing and Ports Operations department. Moreover, the study also excluded participants who have less than three (3) years of working experience and respondents who declined to participate in the study. Those who were absent or not available during the erstwhile of data collection were excluded too.

3.4 Sampling and Sampling Techniques.

3.4.1 Study Type

This design methodology employed the Likert-type scale method to garner the relevant information from selected persons. This method of gathering relevant information supported the researcher to probe deeper into the topic under study and gave an inside description of the use of ERP and solicited respondents' views on the research problem. The use of the Likert- type scale

method assisted the researcher to collect relevant data at a single point in time using a snapshot populace and the finding could be comprehensive (Burns & Grove, 2005).

The response from the respondents to questions and information made available expanded the researcher's view on the topic to draw vivid and valid conclusions relating to the research questions and set the pace for stakeholders to know and use ERP to ensure their effective warehouse operations management.

3.4.2 Sampling

Given that the study is explanatory, CMC was chosen as the understudied firm with no clear- cut limits on size, kind of deployed ERP system or amount of deployment. In this study, the researcher used a non-random technique called purposive sampling, also known as judgmental sampling, in which participants were specifically chosen based on their qualifications (knowledge and experience), availability, and willingness to participate in the data collection process. (Etikan & Bala 2017). Purposive sampling technique was chosen because the researcher was interested in selecting participants from different backgrounds and experiences who use the ERP system. To generalize the findings to the target population, sampling involved choosing population units (Trochim and Donnelly, 2008). Convenience sampling was used since researchers may easily access the data sources, sampling usually selects a small sample of the population (Bhattacherjee, 2012; Trochim and Donnelly, 2008). Compared to basic random sampling, this sampling method is less expensive and quicker, but it has the drawback of making it difficult to safely compare the findings to the intended audience. Because of practical reasons, the researcher may find that this is the only option accessible in many circumstances.

The sampling procedure comprises three steps, according to Dillman (2012). The target population must be identified in the first phase in such a manner that represents the goal of the study, then the target population must be listed in the second step, and the sample must be chosen in the third step.

3.4.3 Sample Size Determination

Instead of having to interview every single member of the targeted community, sampling aims to get results that are typical of the "total group being sampled" (Fisher, 2010). The ideal sample size must satisfy the criteria for effectiveness, representativeness, dependability, and adaptability (Bryman and Bell, 2015). According to Wiid and Diggines, (2009), large samples are also necessary for quantitative research in order to decrease sampling error and boost representativeness. The sample size for this study used 80 persons who use the ERP system.

3.4.4 Sampling Techniques

According to Mugenda and Mugenda (2012), by selecting the sample at random, simple random sampling has the advantage of protecting survey research from selection bias. Additionally, because every member of the population had an equal chance of being chosen, simple random sampling was employed for the study. Additionally, this would enhance the information's quality and provide a true representation of the complete population.

3.5 Data Collection Methods

3.5.1 Sources and Types of Data

To get the best results, having access to the appropriate information is essential therefore the process of gathering data is a crucial component of research. Primary and secondary data sources are the two different categories of data sources. Access to secondary data is frequently made

possible by websites, annual reports, etc (Bryman & Bell, 2015). The researcher personally contacted the respondents for the needed data because this study relied on primary data sources.

3.5.2 Data Collection Instrument

Primary data is the major form of data used in this study and is been augmented with available secondary data. A purposive questionnaire was structured to employ quantitative information from stake-holding persons. The questionnaire consists of the demographic characteristics of respondents and their years of experience on the job. The questionnaire administered to guiding respondents, was done in the English language.

The researcher supervised the collection of the data to ensure that respondents comply and respond to all pertinent questions to assist in the reduction of high biasness.

3.5.3 Data collection technique

As mentioned above, both primary and secondary data were used in this study. To collect the information required for this investigation, structured questionnaires were created and administered. The surveys included closed-ended questions because they were ready for use right away. Structured questions were employed to save time and money while also making analysis simpler. Questionnaires were utilized because they provided a free atmosphere for respondents who were informed about the issue. Drop and pick was used to administer the questions with the human resource manager's approval. The staff at CMC who matched the requirements of the study were selected, contacted and requested to take part in the study. To ensure that the questions asked were properly understood and to remind the respondents to turn in their completed questionnaires with their answers on time, follow-up and clarification were given over the phone and in person. Overall, it took respondents between 7 and 10 minutes to complete the questionnaire, which could have a favourable impact on the response rate (Wiid & Diggines, 2009).

A questionnaire that is separated into four (4) sections was used to collect the data in order to guarantee the respondents' independence. The structured questionnaire's first section addresses the respondents' demographic traits. Age of respondents, level of education of respondents, management level of respondents, gender or sex of respondents, religious background, ethnicity of respondents, and degree of experience of respondents were included in this section. Questions in the second section of the questionnaire were designed to elicit data that would be useful in addressing the study's initial goals. In other words, the section included inquiries about Cocoa Marketing Company's use of quality system and information in the warehouse operations department. Using a five-point Likert scale, the second half of this study was created to identify the various levels of system and information quality at Cocoa Marketing Company: Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, and Strongly Agree = 5.

The third segment of the questionnaire focused on topics that aimed to analyse the study's secondary goal. That is, the mediating effect of user satisfaction on warehouse operations of Cocoa Marketing Company. Here, the respondents can state how much they agree or disagree with a list of various effects of user satisfaction. This component is presented using a five-point Likert scale: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), and Strongly Agree (5).

The questionnaire's last section aimed to address the study's ultimate goal. This assessed how ERP has contributed to effective warehouse operations management at CMC. Respondents were given a list of predetermined implementation problems for the use of ERP and asked to indicate how much they agreed or disagreed. A five-point Likert scale is also used to represent this section: 1 means "Strongly Disagree," 2 "Disagree," 3 "Neutral," 4 "Agree," And 5 "Strongly Agree."

3.6 Validity and Reliability

3.6.1 Reliability

According to Brandenburg, Govindan, Sarkis, and Seuring (2014), reliability is the characteristic of measuring consistency. The questionnaire used in this study was pretested on a small study sample to help the researcher to determine the reliability of the research instrument.

3.6.2 Validity

Validity is the extent to which a variable is measured accurately, that is to say, the level of accuracy between the actual value and the measured value. (Polit & Hungler, 2013). Validity was addressed by submitting the questionnaire to peers and experts (supervisor), to ensure that the questionnaire covers all areas stated in the objectives of the study.

3.6.3 Face Validity

Face Validity is the extent to which a measuring instrument looks as though it is measuring the objectives it purports to measure (Polit & Hungler, 2013). Face validity in this study was measured through a series of engagements with researchers and supervisors to avoid duplicated efforts.

3.7 Data Processing and Analysis.

Part of the data analysis process entails packaging the gathered data, organizing it, and dividing it into its constituent parts so that the results may be explained simply and clearly (Peersman, 2014). The International Business Management (IBM) Statistical Package for Social Sciences (SPSS) version 23 was used in conjunction with Microsoft Office Excel (2016) as a statistical tool to analyse data gathered from respondents contacted for this study. Descriptive statistics were used in the primary analysis (frequency, percentages, mean and standard deviation). The researcher was

able to gauge the degree of response dispersion from the sample mean using standard deviations. A lower standard deviation indicates answers grouping around the mean and the inherent resilience of the sample mean, whereas a higher standard deviation indicates a higher degree of dispersion. Tables, charts, and graphs were used to present the results.

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3.8 Ethical Considerations

The following are a few ethical principles that were followed during this study. Informed permission was asked in order to provide the research participants advance knowledge of the study so they may choose whether or not to participate. Confidentiality was rigorously protected as a matter of ethics. It was ensured that specific data could not be linked to specific individuals during the data collection process. Research subjects were identified by numbers rather than names to further ensure anonymity. The results prevented sentiments, values, or gender preconceptions from tainting the study's objectivity.

3.9 Organizational Profile

The cocoa industry is one of the major contributors to Ghana's economic growth, it consists of different stakeholders which include; Ghana Cocoa Board (COCOBOD) and its subsidiaries, Licensed Buying Companies (LBCs), Haulage companies and farmers. COCOBOD is the main regulatory institution for the cocoa industry and as such it's the main agency tasked with the development of the industry. It has five subsidiaries namely Cocoa Research Institute of Ghana (CRIG), Seed Production division (SPD), Cocoa Health and Extension Division (CHED), Quality Control Company (QCC) and Cocoa Marketing Company (CMC). These subsidiaries have their specified responsibilities which intertwine with each other to achieve the common aim of

COCOBOD. (Abrampah, 2009) Other stakeholders work hand in hand with the company, these include the Licensed Buying Companies (LBC)'s such as Olam food Ingredients, Kuapa Cocoa, Federated Commodities Ltd, Adwumapa Buyers Ltd, etc who buy cocoa beans directly from the farmers on behalf of COCOBOD. Also, the Haulage companies are third-party transport companies that complement the transportation of cocoa beans to and from the depots in the various takeover centres. The Cocoa Marketing Company (Ghana) Limited is a wholly-owned subsidiary of COCOBOD and is solely responsible for the sale of Ghana's cocoa beans to local factories and exportation to buyers.

CMC has is headquartered in Accra, Cocoa House with a branch office in London. The main objective of CMC is to sell cocoa to foreign buyers at the best prices possible to maximize the foreign exchange revenue of the country. CMC is responsible for the external marketing function of COCOBOD and the take-over function within the internal marketing system. (Abrampah, 2009). Warehousing (storage) is a critical role of CMC's Warehouse and Ports Operations department. This precedes the sale or export of cocoa beans and thus finding solutions to warehousing problems in the cocoa industry can be as good as half of the solution to problems associated with increasing profitable sales and foreign exchange. (Abrampah, 2009) However, the major challenges of cocoa warehousing are dominated by space availability, utilisation and quality control.

The exclusive authority for acquiring cocoa from Licensed Buying Companies belongs to the WPO Department (LBCs). The department makes sure that bags of cocoa being offloaded meet the necessary standards for a good grade, category, weight, and station marks while performing its duties. To guarantee that Ghana's cocoa premium status is not jeopardized, several checks are required. The first-in-first-out principle is rigorously observed when cocoa is carefully stacked in

sheds. Every stack in the shed has its stack history prepared to help with routine fumigating operations for protection against insects. Since its major responsibility is to decide where stock can be found and coordinates with labour companies to carry cocoa from the shed to trucks or containers for shipment to evacuation destinations, the WPO department is crucial to CMC as a whole. Stocks management is a critical part of the operations of WPO as it is useful for forecasting, preplanning and budgetary allocations for CMC. The focus of this work will be limited to the warehouses at the Tema take-over centres where bags of cocoa are stored under quality standards to await evacuation. These warehouses are the stock control unit and as such their operations have cost implications for the company. Warehousing is a cost in itself since every square meter is paid for hence, its optimum utilization is of great importance to CMC. The storage of goods in a warehouse includes controlling stock location, sorting, handling and order picking for evacuation. This process when done manually results in grave errors due to lapses in information flows among the various staff who work at the warehouses. Therefore, this study looks at the effects of information and system quality on the warehouse operations of CMC.

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CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

Results were presented in this chapter. The initial part provided results based on participant's age, gender, educational qualification, designation, years at current position, years of existence of current firm in the industry, years firm used ERP for its warehouse operations and number of years the respondents' specific department uses ERP. These were captured under demographic characteristics. The second part provided results aimed to assess the relationship between information quality, system quality and warehouse operations management. The third section of the chapter provided results aimed to evaluate the mediating effect of user satisfaction on warehouse operations management. The last section provided results aimed to assess the effect of Enterprise Resource Planning on the performance outcome of the warehouse operations management at Cocoa Marketing Company – Ghana.

4.2 Demographics Characteristics of Respondents

The study's retrieval rate was 87.75 as 67 out of 80 questionnaires distributed retrieved were completed. This indicates that only 13 representing 16.25% were not completed and non- retrieved questionnaires. This part presents information on the bio-data of the respondents.

The table below (Table 4.2.1) shows that the largest number of the participants is males, thus 44 males representing 65.7%. Females are the minority, thus, 23 females representing 34.3%.

The table below (table 4.2.2) shows that most of the participants (n= 29, representing 43.3%) are

within the age range of 31 to 40 years inclusive. 24 participants representing 35.8% are within the age bracket of 21 to 30 years inclusive. 14 out of 67 of the participants

(Representing 20.9%) are at least 41 years old with maximum age of 50 years.

The table below (table 4.2.3) shows that most of the participants (n= 32, representing 47.8%) have first degree as their highest academic qualification. 26 of the participants (representing 38.8%) are Masters' degree holders, 9 are HND holders, representing 13.4% whiles no participant selected PhD nor other as a form of academic qualification.

The table below (table 4.2.4) shows that most of the participants (n= 32, representing 47.8%) are professional staffs of Cocoa Marketing Company, Ghana. 23 out of 67 participants representing 34.4% are supervisors whiles the least number of participants (n=12, representing 17.9%) are managers at Cocoa Marketing Company, Ghana.

The table below (table 4.2.5) shows that most of the participants (n= 33, representing 49.3%) agreed to be serving at current position for less than 5 years now at Cocoa Marketing Company, Ghana. 23 of the participants representing 34.3% agreed to be serving at their current position for at least 5 years but not more than 10 years. 10 participants (representing 14.9%) selected 11 to 15 years, a participant selected above 20 years whiles no participant selected 16 to 20 years.

The table below (table 4.2.6) shows that most of the participants (n=33, representing 49.3%) agreed that the firms they work for have been operating in the cocoa industry for over 20 years now. This was followed by 14 participants that agreed that the respective firms they work for are in operation in the industry for at least 5 years to a maximum of 10 years. 12 participants representing 17.9% choose less than 5 years, 6 participants representing 9% choose 11 to 15 years whiles 2 participants choose 16 to 20 years of operation of the firms they work for in the industry.

The table below (table 4.2.7) result indicates that majority of the participants (n=47, representing 70.1%) confirmed that the firms they work for have been using ERP in warehouse operation for at most 5 years now. 17 participants representing 25.4% agreed that the firms they work for have been using ERP for warehouse operation for at least 6 to a maximum of 11 years now. This was followed by 2 participants that selected above 20 years, a participant (representing 1.5%) selected 11 to 15 years whiles no participant selected a range of 16 to 20 years.

The table below (table 4.2.7) results indicate that most of the participants (n=32, representing 47.8%) agreed that indeed the departments they work in at their various organizations have been using ERP for at most 5 years now. This was followed by 26 participants (representing 38.8%) that selected 6 to 10 years. 5 participants representing 7.4% selected the range of 11 to 15 years, 4 participants (representing 6%) selected above 20 years whiles no participant selected the range of 16 to 20. The outcome in table 4.2.8 further confirm the trend of result in Figure 4.7 indicating that most organizations extended ERP usage to their major departments during the first period of its usage in the organization.

Table 2: Demographic Profiles

	Frequency	**Percent**
Gender		
Female	23	34.3
Male	44	65.7
Total	67	100
Ages of Respondents		
21-30 years	24	35.8
31-40 years	29	43.3
41-50 years	14	20.9
Total	67	100

Education of Respondents		
HND	9	13.4
Bachelor's degree	32	47.8
Master's degree	26	38.8
Total	67	100
Designation		
Professional staff	32	47.8
Supervisor	23	34.3
manager	12	17.9
Total	67	100
Position		
Less than 5 years	33	49.3
5-10 years	23	34.3
11-15 years	10	14.9
Above 20	1	1.5
Total	67	100
Operation		
Less than 5 years	12	19.9
5-10 years	14	20.9
11-15 years	6	0.9
16-20 years	2	0.3
Above 20 years	33	49.3
Total	67	100
Warehouse operation		
Less than 5 years	47	70.1
5-10	17	25.4
11-15	1	1.5
Above 20 years	2	0.3
Total	67	100
Usage of ERP		
Less than 5 years	32	47.8

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5-10 years	26	38.8
11-15 years	5	7.4
Above 20 years	4	0.6
Total	67	100

Source: Field data, 2023

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4.3 Descriptive Statistics Results

This section of the chapter presents the descriptive results of the study constructs. Based on this, the results were presented using mean and deviation.

4.3.1 Enterprise Resource planning

Concerning the results in line with the enterprise resource planning as shown in Table 4.3.1. Based on this, the result revealed that the study participants moderately agreed to the statement which indicated that the use of quality system in the organization help in gauging effectiveness of specific systems used and the organization uses engineer-oriented evaluation in operations for achieving efficiency and effectiveness. This implies that the organization depends on quality information for managerial decision making. The respondents also moderately agreed that information is accurate, timely and relevant in our organization which enables smooth warehouse operations. The respondents further slightly agreed that the organization depends on quality services and products as a determinant of long-term success.

Table 4.3.1: Enterprise resource planning

Items	**N**	**Min**	**Max**	**Mean**	**±SD**
System quality					
The use of quality system in our organization help in gauging effectiveness of specific systems used	67	1	5	2.2836	1.0270

The use of quality system in our organization ensures the effectiveness of warehouse operations	67	1	5	2.8955	1.0889
Our organization uses engineer-oriented evaluation in operations for achieving efficiency and effectiveness.	67	1	5	2.3582	1.0969
Our organization depends on quality services and products as a determinant of our long-term success	67	1	5	2.4925	0.8939
Information quality					
Our organization always find information to be valuable for warehouse operations	67	1	5	2.4030	1.0159
Data collected usually satisfies the requirements for warehouse operations in our organization	67	1	5	2.3582	0.9326
Information is accurate, timely and relevant in our organization which enables smooth warehouse operations	67	1	5	2.5821	1.0173
Our organization depends on quality information for managerial decision making	67	1	5	2.8060	1.1043

Source: Field data, 2023

4.3.2 User satisfaction

Concerning the results in line with the user satisfaction as shown in Table 4.3.2. Based on this, the result revealed that the study participants moderately agreed to the statement which depicts that the organization measure user satisfaction through the effectiveness of quality systems and

information and the organization gauges the success of quality systems with user satisfaction. Again, the organization's quality systems for standardized information enhance user satisfaction and ease of use of quality systems make warehouse operations seamless in or organization.

Table 4.3.2: User satisfaction

Items	**N**	**Min**	**Max**	**Mean**	**±SD**
Our organization measure user satisfaction through the effectiveness of quality systems and information	67	1	5	2.1940	0.9573
Our organization's quality systems for standardized information enhance user satisfaction	67	1	5	2.7612	1.0884
Our organisation gauges the success of quality systems with user satisfaction.	67	1	5	2.3731	0.9184
The ease of use of quality systems makes warehouse operations seamless in or organisation	67	1	5	2.1493	1.0625

Source: Field data, 2023

4.3.3 Warehouse Operations Management

Concerning the results in relation to warehouse operations management as shown in Table 4.3.3. Based on this, the study revealed that the respondents weakly agreed that coordination in between different departments in our organization results in efficient warehouse operations and quality systems reduce the overall operational cost of our organization's warehouses and the organization's cycle times are reduced as a result of quality information.

Table 4.3.3: Warehouse Operations management

Items	N	Min	Max	Mean	±SD
Coordination in between different departments in our organization results in efficient warehouse operations	67	1	5	2.0597	0.8327
Quality systems reduce the overall operational cost of our organization's warehouses	67	1	5	2.1045	0.7615
Our organization's cycle times are reduced as a result of quality information	67	1	5	2.0299	0.9206
Our organization enjoys return on investment by maximizing the performance of inventory and floor space management	67	1	5	2.2985	0.9214

Source: Field data, 2023

4.4. Reliability results

Reliability test was performed to determine the extent to which the data could be trusted in providing accurate information when performed in different scenario again. This section therefore contains details of the result. According to Wilson (2010), for a test to be reliable, it also needs to be valid. Based upon it, this part includes both validity and reliability evaluation of the study's constructs. Cronbach alpha is the method chosen for the reliability test. Cronbach Alpha is viewed as the most appropriate measure of reliability when making use of Likert scales (Robinson, 2009). Enterprise resource planning had a Cronbach alpha score of 0.855, user satisfaction had a Cronbach alpha score of 0.813 and warehouse operations management had a Cronbach alpha score of 0.753.

The various constructs measuring enterprise resource planning, user satisfaction and warehouse operations management passed the Cronbach alpha test. The test showed that the data was reliable.

Table 4.4: Reliability Analysis

Constructs	No. of Items	Cronbach's Alpha
Enterprise resource planning	7	0.855
User satisfaction	3	0.813
Warehouse operations management	4	0.830

Source: Field Survey, 2023

4.5 Correlation Matrix

Correlational analysis is carried out in this part of the study to test the bivariate relationship between the main constructs of the study. The table below shows that enterprise resource planning positively and significantly correlated with user satisfaction (r= .579, P<.01). Thus, increasing enterprise resource planning is associated with increasing user satisfaction. Again, enterprise resource planning was positively and significantly correlated with warehouse operations management (r= .470, P<.01). Thus, increasing enterprise resource planning is associated with increasing user satisfaction. However, user satisfaction had a non-significant correlation with warehouse operations management (r= .233, P<.01).

Table 4.5: Correlation Table

		Enterprise resource planning	User satisfaction	Warehouse operations management
Enterprise resource planning	Pearson Correlation	1	.579**	.470**
	Sig. (2-tailed)		.000	.000
	N	67	67	67
User satisfaction	Pearson Correlation	. 579**	1	.233
	Sig. (2-tailed)	.000		.058
	N	67	67	67
Warehouse operations management	Pearson Correlation	. 470**	.233	1
	Sig. (2-tailed)	.000	.058	
	N	67	67	67

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

Source: Field Data (2022)

4.6. Enterprise Resource Planning and Warehouse Operations Management

The regression analysis presented in the data below indicates the relationship between enterprise resource planning and warehouse operations management. The model shows a positive correlation between enterprise resource planning and warehouse operations management with an R-squared value of 0.221 which implies that 22.1% of the variation in enterprise resource planning can be explained by warehouse operations management. The standardized coefficient indicate that enterprise resource planning has a moderate positive impact on warehouse operations management and an increase in enterprise resource planning would lead to 47.0% increase in warehouse operations management.

Table 4.6 Regression analysis on the effect of enterprise resource planning on warehouse operations management

Model	Unstandardized Beta	Std. Error	Standardized Coefficients Beta	T	p-value
(Constant)	.851	.306		2.785	.007
Enterprise resource planning	.504	.118	.470	4.288	.000

Model Summary

R = .470

R^2 = .221

Adjusted R^2 = .209

Std. Error of the Estimates = .59651

Dependent Variable: Warehouse operations management
*Significant at 5%
Source: Field Survey, 2023

4.7 Enterprise Resource Planning and User Satisfaction

For the purpose of assessing the effect of enterprise resource planning on user satisfaction, a simple linear regression analysis was conducted among them. The r-squared indicates the proportion of variance in the dependent variable that can be demonstrated by the independent variable. Results of the regression model indicated that there was a significant and positive relationship between enterprise resource planning and user satisfaction, and that enterprise resource planning accounted for about 57.9% of the variability in user satisfaction. To ascertain if the model is a good match for the data, the analysis of variance was utilized. The significance level was found to be 0.000

which is below 0.05, indicating that the model or illustration is effective in predicting how enterprise resource planning impacted user satisfaction. Lastly, the model indicates that a unit increment in enterprise resource planning would lead to 57.9% increase in user satisfaction.

Table 4.7 Regression analysis on the effect of enterprise resource planning on user satisfaction

Model	**Unstandardized Beta**	**Std. Error**	**Standardized Coefficients Beta**	**T**	**p-value**
(Constant)	.508	.335		1.517	.134
Enterprise resource planning	.738	.129	.579	5.723	.000

Model Summary

R = .579

R^2 = .335

Adjusted R^2 = .325

Std. Error of the Estimates = .65387

Dependent Variable: User satisfaction
*Significant at 5%
Source: Field Survey, 2023

4.8 User Satisfaction and Warehouse Operations Management

The regression analysis presented in the data below indicates the relationship between user satisfaction and warehouse operations management. The model shows a non-significant correlation between user satisfaction and warehouse operations management with an R-squared value of 0.054 which implies that 5.4% of the variation in user satisfaction can be explained by warehouse operations management. The standardized coefficient indicate that user satisfaction has

a weak positive impact on warehouse operations management and an increase in user satisfaction would lead to 23.3% increase in warehouse operations management.

Table 4.6 Regression analysis on the effect of user satisfaction on warehouse operations management

Model	Unstandardized Beta	Std. Error	Standardized Coefficients Beta	T	p-value
(Constant)	1.658	.254		6.532	.000
User satisfaction	.196	.102	.233	1.931	.058
Model Summary					
$R = .233$					
$R^2 = .054$					
Adjusted $R^2 = .040$					
Std. Error of the Estimates = .65705					

Dependent Variable: Warehouse operations management
*Significant at 5%
Source: Field Survey, 2023

4.9 The Mediating Effect of User Satisfaction

The mediation effect of user satisfaction in the link between enterprise resource planning and warehouse operations management has a non-significant relationship in this study. The results did not support H4. This means that enterprise resource planning has no impact on warehouse operations management through user satisfaction and this also suggests that user satisfaction does not pivotal role in optimizing the impact of ERP practices on system and information quality, and

subsequent warehouse operations management.

Table 4.6: Process Macro analysis

	Beta	SE	T	P	LLCI	ULCI
Direct effects						
Dependent variable: WOM						
Enterprise resource planning	.5408	.1452	3.7253	.0004	.2508	.8308
User satisfaction	-.0493	.1139	-.4329	.6666	-.2768	.1782
Dependent variable: User satisfaction						
Enterprise resource planning	.7379	.1289	5.7231	.0000	.4804	.9955
Indirect effect						
ERP→US→WOM	-.0364	.0927			-.2377	.1292

Notes: ERP = Enterprise Resource Planning, US = User Satisfaction, WOM = Warehouse Operations Management, LLCI = Lowe-level Confidence Interval, ULCI = Upper-level Confidence Interval.

4.10 Discussion

4.10.1 Impact of ERP practices on Warehouse Operations Mgt

The regression analysis reveals a positive correlation between enterprise resource planning (ERP) and warehouse operations management, with an R-squared value of 0.221, suggesting that 22.1% of the variation in ERP can be explained by warehouse operations management. The standardized coefficient indicates a moderate positive impact, with a 47.0% increase in warehouse operations management for every increase in ERP. However, the model's explanatory power is limited,

emphasizing the need for considering other factors influencing warehouse operations management beyond ERP. The statistical significance (p-value) further supports the observed relationship.

The positive correlation (R-squared = 0.221) between Enterprise Resource Planning (ERP) and warehouse operations, indicating a potential 47.0% increase, aligns with Moalagh and Ravasan's (2012) framework. Their study emphasizes the importance of a quality system that integrates information seamlessly, reflecting the positive value proposition of ERP. Lee and Lee (2012) highlight that a reliable and flexible system, as ERP, contributes to smooth information integration. This supports the notion that ERP investments are crucial for enhancing warehouse operations. However, Davenport (1998) warns of potential integration problems and emphasizes the need for alignment between people, processes, and technology for successful ERP implementation, highlighting the importance of considering broader operational factors beyond ERP for optimized warehouse management.

4.10.2 Impact of ERP practices on User Satisfaction (US)

The regression analysis indicates a significant and positive relationship between ERP and user satisfaction, accounting for 57.9% of the variability in user satisfaction. The low p-value supports the model's effectiveness in predicting how ERP impacts user satisfaction. A unit increment in ERP is associated with a substantial 57.9% increase in user satisfaction. These findings underscore the crucial role of ERP systems in enhancing user satisfaction, highlighting the importance of a well-implemented ERP in positively influencing user experience.

The substantial positive relationship (R-squared = 57.9%) between ERP and user satisfaction resonates with Miyamoto et al. (2012), who stress the importance of user satisfaction through operational efficiency in a quality system. Keller and Kotler's (2022) definition of user satisfaction

as the alignment of performance with expectations supports the findings. According to Moalagh and Ravasan (2012), a quality system, which includes ERP, must meet management expectations, organizational goals, and achieve user satisfaction. This reinforces the recommendation that managers should invest in ERP systems that align with user needs, fostering continuous improvement for sustained user satisfaction.

4.10.3 User Satisfaction on Warehouse Operations Management

The regression analysis demonstrates a non-significant correlation between user satisfaction and warehouse operations management, with an R-squared value of 0.054, indicating that only 5.4% of the variation in user satisfaction can be explained by warehouse operations management. The weak positive impact suggests that an increase in user satisfaction would lead to a 23.3% increase in warehouse operations management. The limited explanatory power suggests that factors other than user satisfaction significantly contribute to warehouse operations management, challenging the notion that higher user satisfaction directly translates to improved warehouse operations.

The weak positive correlation (R-squared = 0.054) challenges the direct link between user satisfaction and warehouse operations. Shen et al. (2016) highlight that user satisfaction, while crucial, may not singularly impact warehouse operations. The nuanced approach advocated aligns with Moalagh and Ravasan's (2012), emphasizing that user satisfaction alone may not significantly enhance operational efficiency. According to Bhamangol, Nandavadekar, and Khilari (2011), the objective of users in warehouse operations is to resolve constraints in various units. This supports the study's finding that a comprehensive approach, considering various operational factors, is crucial for warehouse management improvements, challenging the direct link between user satisfaction and operational enhancement.

4.10.4 User Satisfaction, ERP practices and Warehouse Operations Mgt

Contrary to expectations, the study finds a non-significant relationship, failing to support the idea that user satisfaction mediates the impact of ERP on warehouse operations management. The mediation analysis indicates that user satisfaction does not play a significant role in linking ERP to warehouse operations management. This challenges the assumption that satisfied users are more likely to positively influence goods and services. The nuanced findings suggest that the relationship between ERP, user satisfaction, and warehouse operations management is complex and influenced by additional factors not captured in this study.

The non-significant results rejecting the mediating effect of user satisfaction on the link between ERP and warehouse operations contradict assumptions. Dwivedi et al. (2013) and Gorla et al. (2010) support the importance of information quality in influencing user satisfaction. Sandjojo and Tamsir (2019) stress that information quality, including accuracy and relevance, is key to user satisfaction. This aligns with the study's challenge to prevailing views, suggesting that future research should explore additional factors influencing the ERP-warehouse operations relationship. The literature emphasizes the multifaceted nature of the relationship between ERP, user satisfaction, and warehouse operations, urging a holistic understanding for effective management.

CHAPTER FIVE

SUMMARY OF KEY FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides key findings based on analyzed results presented in the previous chapter. The Findings are arranged to reflect the chronological arrangement of the specific objectives as stated in Chapter one. Key conclusions of the study were also provided in the Chapter. Based on the study findings, the study provided recommendations for policy purposes in the chapter as well. The last part of the chapter was the suggestions for future researchers.

5.2 Summary of Key Findings

5.2.1 Impact of ERP practices on Warehouse Operations Mgt

The regression analysis reveals a positive correlation (R-squared = 0.221) between Enterprise Resource Planning (ERP) and warehouse operations, with a moderate positive impact. An increase in ERP could lead to a 47.0% increase in warehouse operations. Strategic investments in ERP are recommended, but a comprehensive approach considering other operational factors beyond ERP is essential for optimized warehouse management.

5.2.2 Impact of ERP practices on User Satisfaction (US)

A significant and positive relationship (R-squared = 57.9%) between ERP and user satisfaction emphasizes the importance of effective ERP implementation. A unit increment in ERP could result

in a substantial 57.9% increase in user satisfaction. Managers are advised to invest in ERP systems aligning with user needs, fostering continuous improvement for sustained user satisfaction.

5.2.3 User Satisfaction on Warehouse Operations Management

A weak positive correlation (R-squared = 0.054) between user satisfaction and warehouse operations suggests that user satisfaction alone may not significantly impact operations. A nuanced approach considering various operational factors is crucial for comprehensive warehouse management improvements, challenging the direct link between user satisfaction and operational enhancement.

5.2.4 User Satisfaction, ERP practices and Warehouse Operations Mgt

The study challenges the idea that user satisfaction mediates the link between ERP and warehouse operations. Non-significant results reject the hypothesis, suggesting ERP has no impact on operations through user satisfaction. Future research should explore additional factors influencing this relationship for a more comprehensive understanding.

5.3 Conclusions

The main motive of this study is to appreciate how system and information quality of Enterprise Resource Planning contributes to having effective Warehouse Operations at Cocoa Marketing Company (CMC). The study approach used was the quantitative research approach. The study employed the survey research design. The study sampled 80 participants using purposive sampling technique. Questionnaire was used for data gathering. Face validity was employed by submitting data gathering instrument to the research supervisor whiles Cronbach's alpha was used to check

the internal consistency reliability of instruments. Data was presented using descriptive statistics such as frequency and percentages (pie-charts and bar- graphs), mean, standard deviation, minimum and maximum values. The study found out that ERP plays a crucial role in positively influencing both user satisfaction and warehouse operations management. While user satisfaction has a limited direct impact on warehouse operations, it does not serve as a significant mediator in the relationship between ERP and warehouse operations management, challenging the notion that high user satisfaction leads to positive responses about goods and services in this context..

5.4 Recommendation

The study recommends the following:

5.4.1 Impact of ERP practices on Warehouse Operations Mgt

Given the moderate positive impact of Enterprise Resource Planning (ERP) on warehouse operations, organizations should strategically invest in ERP systems, recognizing their potential to enhance efficiency. However, it's crucial to acknowledge that ERP alone may not entirely elucidate variations in warehouse operations. To optimize warehouse management comprehensively, companies should explore complementary strategies and consider factors beyond ERP, such as workforce training, supply chain integration, and technology infrastructure improvements. A holistic approach will better position organizations to address the multifaceted challenges of warehouse operations and achieve sustained improvements.

5.4.2 Impact of ERP practices on User Satisfaction (US)

Organizations are urged to prioritize the effective implementation of ERP systems, acknowledging their substantial positive impact on user satisfaction. Strategic investments in ERP systems that

align with user needs and expectations can lead to significant improvements in overall user satisfaction levels. Continuous monitoring, feedback mechanisms, and adaptability of ERP systems based on user input are recommended practices to maintain and enhance user satisfaction over time. By prioritizing the user experience, organizations can harness the full potential of ERP systems to positively impact both operational efficiency and end-user satisfaction.

5.4.3 User Satisfaction on Warehouse Operations Management

Despite the weak correlation identified, organizations are cautioned against relying solely on enhancing user satisfaction to drive improvements in warehouse operations. While user satisfaction remains an important aspect, a comprehensive approach is necessary, concurrently addressing various operational factors. Organizations should recognize that warehouse operations are influenced by a multitude of variables beyond user satisfaction. Strategic initiatives that encompass technology upgrades, process optimization, and supply chain enhancements should be considered alongside efforts to enhance user satisfaction for a more balanced and effective approach to warehouse management improvements.

5.4.4 User Satisfaction, ERP practices and Warehouse Operations Mgt

Organizations should reevaluate assumptions regarding the mediating role of user satisfaction in linking ERP to warehouse operations management. The study's findings challenge the conventional wisdom that high user satisfaction invariably translates to positive impacts on goods and services. Further research is recommended to explore nuanced factors influencing this complex relationship. Decision-makers should recognize the intricacies involved and consider a multifaceted approach that goes beyond singular reliance on user satisfaction. This entails

examining additional variables and contextual factors to gain a more comprehensive understanding of how ERP, user satisfaction, and warehouse operations management intersect.

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5.4.1 Suggestion for further studies

Future studies should delve deeper into the nuanced factors influencing the relationship between Enterprise Resource Planning (ERP), user satisfaction, and warehouse operations management. Exploring variables such as organizational culture, employee training, and technological integration could provide a more comprehensive understanding. Additionally, longitudinal studies capturing the evolving nature of ERP implementation and its sustained impact on user satisfaction and warehouse operations are warranted. Comparative analyses across diverse industries and organizational sizes would enhance generalizability. Investigating the role of emerging technologies, like artificial intelligence and automation, in shaping this relationship could offer valuable insights. Finally, qualitative research methods could provide a richer understanding of user perceptions and experiences in the context of ERP systems and warehouse operations.

5.5 Managerial Implications:

For managers, the positive correlation between Enterprise Resource Planning (ERP) and both warehouse operations and user satisfaction underscore the strategic significance of robust ERP systems. Prioritizing substantial investments in ERP implementation aligning with user needs can lead to enhanced warehouse efficiency and heightened user satisfaction. However, acknowledging the limited explanatory power of ERP alone in warehouse operations necessitates a holistic approach. Managers should consider complementing ERP strategies with investments in workforce training, supply chain integration, and other operational aspects for comprehensive

improvements. This balanced strategy ensures a more resilient and adaptable operational framework.

5.6 Theoretical Implications

From a Resource-Based View (RBV) perspective, the findings suggest that ERP can be viewed as a valuable organizational resource contributing to competitive advantage. The moderate positive impact of ERP on warehouse operations and user satisfaction aligns with the RBV's focus on unique, inimitable resources driving firm performance. Managers should strategically leverage ERP as a resource, emphasizing continuous improvement and alignment with organizational goals. Additionally, the study prompts further exploration of how specific ERP capabilities and configurations contribute to sustained competitive advantage within the context of RBV.

In the context of Network Theory, the study's insights highlight the interconnectedness of ERP, user satisfaction, and warehouse operations within organizational networks. Understanding ERP as a node in a larger network underscores the importance of considering the ripple effects of ERP implementations. Managers should assess how changes in ERP configurations impact relationships within the organizational network, emphasizing the collaborative nature of technology deployment. This perspective prompts further investigation into the dynamics of information flow, communication, and collaboration within the network, contributing to a more nuanced understanding of how ERP systems function within complex organizational ecosystems.

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APPENDIX A

QUESTIONNAIRE

My name is Vera Ansaa Asante, a research student of Kwame Nkrumah University of Science and Technology (KNUST) researching on the topic "The use of Enterprise Resource Planning for Effective Warehouse Operations Management in Cocoa Marketing Company, Ghana; the Mediating Role of User Satisfaction**"**.

You have been chosen by reason of your experience and knowledge in my field of study. The research is purely academic and all information gathered will be used as such. Please tick as appropriate the demographics below.

SECTION A – DEMOGRAPHIC INFORMATION

Bio Data

1. Gender

   Male [ ] Female [ ]

2. Age

   21 – 30 [ ] 31 – 40 [ ] 41 – 50 [ ] Above 50 [ ]

3. What is you highest education?

   [1] HND [2] Degree [3] Masters [4] PhD

   [5] Others (specify) _____

4. What is your designation?

[1] Professional staff [2] Supervisor [3] Manager

5. How many years have you held this position?

[1] Less than 5 [2] 5-10 [3] 11-15
[4] 16-20 [5] 21-25 [6] More than 25

6. How long has your firm operated in the industry?

[1] Less than 5 [2] 5-10 [3] 11-15 [4] 16-20

[5] 21-25 [6] More than 25

7. How many years have you used ERP in the warehouse operation industry?

1– 5 years [ ] 6 – 10 years [ ] 11- 15 years [ ] 16 – 20 years [ ]21 years and more [ ]

8. How long has your unit/ department been using the ERP?

- Less than 5 years
- More than 5 years but less than 10 years
- More than 10 years but less than 15 years
- More than 15 years

SECTION B: ERP PRACTICES

Please tick appropriate the questions provided on a Likert scale of 1 – 5 which represents;

1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree

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System quality	**1**	**2**	**3**	**4**	**5**
The use of quality system in our organization help in gauging effectiveness of specific systems used.					
The use of quality system in our organization ensure the effectiveness of warehouse operations.					
Our organisation uses engineer-oriented evaluation in operations for achieving efficiency and effectiveness.					
Our organization depends on quality services and products as a determinant of our long term success.					
Information quality	**1**	**2**	**3**	**4**	**5**
Our organization always find information to be valuable for warehouse operations.					
Data collected usually satisfies the requirements for warehouse operations in our organization.					
Information is accurate, timely and relevant in our organization which enables					

smooth warehouse operations.					
Our organization depends on quality information for managerial decision making.					

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SECTION C: USER SATISFACTION

	1	2	3	4	5
Our organization measure user satisfaction through the effectiveness of quality systems and information.					
Our organization's quality systems for standardized information enhance user satisfaction.					
Our organisation gauges the success of quality systems with user satisfaction.					
The ease of use of quality systems make warehouse operations seamless in or organisation.					

SECTION D: WAREHOUSE OPERATION MANAGEMENT

Warehouse Operations Management	1	2	3	4	5
Coordination in between different departments in our organization results in efficient warehouse operations.					
Quality systems reduce the overall operational cost of our organization's warehouses.					
Our organization's cycle times are reduced as a result of quality information.					
Our organization enjoys return on investment by maximizing the performance					

of inventory and floor space management.					

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