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THE INFLUENCE OF LOGISTICS FUNCTION ON MANUFACTURING FIRMS' PERFORMANCE (A CASE STUDY OF GHACEM LIMITED)

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Abstract: ***Although supply chain functions such as logistics require attention and resources, the primary concern of organizational managers is improved organizational efficiency. The purpose of this quantitative study is to understand, main objective of this study is to assess the influence of logistics function on performance of GHACEM Limited. The methodology offers an explanation of the research design (correlation), strategy (quantitative), respondents, data collection, instrumentation (questionnaire), and analysis of data (SPSS-AMOS) used in the present study. Also, the findings revealed that all the logistics functions: transport, inventory, warehousing, order processing and information systems are effective tools to improve logistics performance in the manufacturing sector. The findings from multivariate data analysis provide a better understanding of logistics functions dynamics and are helpful to key decision-makers. This unique model has elevated logistics functions and performance to a new level. There are limited studies available in the existing logistics functions literature using resources-based view theory. This study will offer a comprehensive understanding to readers in this relatively new concept. It is concluded that logistics functions reduce the impact of shortages by institutionalizing practices and new measures by developing innovative technologies, processes, and warehousing.***

1.0. Introduction

This is the opening chapter which comprises of background of the study, problem statement, objectives of the study, brief methodology, scope of the study and significance of the study.

Finally, limitations and chapter disposition were discussed.

1.1.Background of the Study

GHACEM is the Ghana's largest cement manufacturer and exporter (GHACEM, 2021). The company was founded in 1967 and has played an essential part in the development of Ghana over the course of more than four decades. GHACEM operates two cement grinding factories in Ghana's capital city of Tema and Takoradi, as well as a nationwide network of sales offices and depots (RocketReach, 2021). Connecting and distributing to all these sales offices involves logistics. Any company's cornerstone is logistics. The movement of goods and services from one location to another is referred to as logistics (Aziz, Memon & Ali, 2020). Many factors, such as deregulation, economic pressures, information technology, globalization, and benefit leverage, led to the growth of logistics science in the form we know it today beginning in the early

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IJRRAS

1960s (Ittmenn & King, 2010). The aim of logistics management was to reduce delivery costs by optimizing the number, scale, and location of plant and warehouse facilities, as well as selecting transportation methods (Mentzer, Soonhong & Bobbitt, 2019). As a result, logistics management did an outstanding job of handling and transferring inventory as well as the operational aspects of logistics (Mentzer, Flint, & Kent, 2019).

Logistics management is a significant strategic element for rising productivity in a global economy that is competitive and diverse (Roman, Parlina & Veronika, 2018). Logistics management had progressed from a more passive, cost-cutting operation to a critical success factor for a firm's competitiveness (Spillin, Mcginnis & Liu, 2018). As a result, there was a growing consensus that businesses would address logistics problems alongside economic and business concerns (Tuttle & Heap, 2018). Delivery operation, logistics expense, and tied-up capital were all factors in the success of logistics systems. Customers demanded faster delivery times and more precise services, and logistics management was probably easiest to conceptualize in manufacturing, where products flowed physically (Spillin, et al., 2018). Logistics management is crucial to the economy, and as a result, the market value of logistics has already reached a significant level in many economies. Companies that were popular around the world have long understood the importance of logistics management in adding value (Spillin, et al., 2018). As a result, logistics management is a significant contributor to a country's competitiveness.

The only way to meet product demand is to supply goods and services in a timely and cost-effective manner (Ittmenn & King, 2010). In response to economic and social conditions, the importance of global logistics markets will grow in the coming years. More recently, a World Manufacturers report on logistics performance states that a competitive global logistics network will be the backbone of international trade, and the importance of efficient logistics for trade and growth will be widely recognized: "Better logistics performance is strongly associated with trade expansion, export diversification, and the ability to attract foreign direct investment," according to the report (World Manufacturers, 2010). The World Manufacturers Organization recognized the value of logistics efficiency and launched a study to assess countries' logistics competitiveness. The first research took place in 2007 and was followed up by another in 2010. (World Manufacturers 2007 and 2010). Based on a new dataset for 2010, the second version of this study compared the logistics profiles of 155 countries. The Logistics Performance Index (LPI), which was calculated for each country, was based on surveys conducted with approximately 1000 global freight forwarders and express carriers and was an assessment of logistics performance (ranked on a scale of 1 to 5, with 5 being the best and 1 being the worst). The study confirmed that the top four countries were from Europe, the fifth from Asia, but the bottom five were all from Africa, indicating that the continent of Africa was not doing well in logistics when compared to other continents. Germany (4.11), Singapore (4.09), Sweden (4.08), the

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Netherlands (4.07), and Luxembourg (3.98) were the top five logistics performers in 2010, while Somalia (1.34), Eritrea (1.70), Sierra Leone (1.97), Namibia (2.02), and Rwanda were the bottom five (2.04). In their 2018 Annual Publication, the Shippers Council of Eastern Africa (SCEA) affirmed that a country's ability to trade internationally is highly dependent on the degree to which its foreign traders have access to professional and high-quality logistics services. The majority of respondents to an international trader survey rated the quality of logistics services in eastern Africa as average (SCEA, 2018).

SCEA conducted a survey in 2012 that revealed a number of factors that contributed to the quality and cost structure of Ghana's logistics chain. They included logistics cost and efficiency indicators, delivery time indicators, truck turnaround time, complexity indicators that assessed the level of complexity in conducting trade transactions, and customer perception indicators. They discovered the following while comparing the years 2010/2011 and 2012: In 2012, shipping freight prices rose by 35.2 percent; aircraft operating costs increased from USD 3.00 per kilogram in 2010/2011 to USD 4.90 per kilogram in 2012, resulting in a reduction in the types of goods transported by air in the year (SCEA, 2018).

Only a well-developed transportation and communication infrastructure allowed for efficient movement of goods and information (Ittman & King, 2010). These infrastructures were, if current, poorly run and maintained in Sub-Saharan African countries. As a result, inefficient transportation and connectivity posed a significant barrier to achieving well-organized flows of goods and services. Farmers and manufacturers required reliable transportation and communication systems to take advantage of agricultural and other efficient system reforms. These structures were critical for facilitating both internal and external trade. Infrastructure investments will boost delivery logistics, productivity, and production costs (World Manufacturers, 2010).

1.2.Problem Statement

The usage of cement in Ghana has continuously increased over the years, owing to an increase in construction activity and the growth of infrastructure to support development efforts. Because of the rising demand for construction materials, the production of cement has increased as well (The Global Cement Report, 2011). It is, nevertheless, important for cement manufacturing enterprises to raise logistics function on their SCM and to modernize their warehousing, inventory and technologies in order to keep up with the increased demand for the material (Mentzer& Flint, 2018). In order to improve their global competitiveness, manufacturing companies must devote resources and attention to supply chain operations such as logistics (Odhiambo, Onyango, Kibet & Kimutahi, 2017). Failure of a company's supply chain due to inadequate logistics practices results in competitive losses and can eventually contribute to bankruptcy (Ntayi & Eyaa, 2010). Logistics, according to LearOlimpi (1999), play a critical role in achieving supply chain excellence, which contributes

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International
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(Multidisciplinary Open Access Refereed e-Journal)

to improved organizational efficiency. When manufacturers strive to improve logistics processes, they embrace their organization's supply chain strategy, resulting in improved supply chain performance and, ultimately, improved manufacturing performance.

In order to meet customers' requirements, logistics management designs, implements, and monitors the reliable, effective forward and reverse movement and storage of goods, services, and related information between the point of origin and the point of consumption (Mwangangi, 2016). Inbound and outbound transportation management, fleet management, warehousing, materials processing, order fulfillment, logistics network architecture, inventory management, supply/demand planning, and management of third-party logistics service providers are among the company's responsibilities (Mwangangi, 2016).

In the Ghanaian background, there is a paucity of empirical evidence on the logistics management principle and its relationship to firm success. In comparison to developing countries, first-world countries such as Europe, America, and parts of Asia had more developed infrastructure in terms of sea, air, and road modes of transportation, information technology and connectivity, and business frameworks that could easily facilitate the introduction of (Hajiesmaeili, Rahim, & Amir, 2016). Although all previous research have appeared to concentrate on the developed world McKinnon, Edwards, Piecyk, and Palmer, (2009); Sanchez-Rodrigues, Cowburn, Potter, Naim, and Whiteing, (2009); Sanchez-Rodrigues, Cowburn, Potter, Naim, and Whiteing, (2009); Sanchez-Rodrigues, Cowburn, Potter, Naim, and Whiteing, (2009); Sanchez-Rodrigues In Ghana, Njumbi and Katuse (2018) and Kilasi, et al., (2018); Wambui, (2010); Magutu, at el., (2012); Kangaru, (2011); Bosire, (2011) had all done studies on third party logistics (3PL), or logistics out sourcing. However, little had been written about logistics management in Africa, and especially in Ghana (Ajoke, Iortimbir, Taiwoand & Omotayo, 2019).

Again, Ghana's manufacturing industry is thought to be a crucial pillar in the country's economic and social growth (Bigsten, et el., 2010). However, Ghana's manufacturing industrial sector experienced moderate growth rates over the last decade, averaging 4% (KAM 2012), but was negative 1% in 2020. (IMF, 2021). As a consequence, the sector's contribution to GDP has been reduced. So, new management practices with the potential to improve firm efficiency in Ghana must be sought. Therefore, in this thesis, the logistics management function was advanced with the goal of resolving performance issues in Ghanaian manufacturing firms. The aim of this quantitative study was to see if there was a connection between logistics role and manufacturing firm performance in GHACEM Limited.

1.3. Objectives of the Study

1.3.1. Main objective

The main objective of this study is to assess the influence of logistics function on performance of

Original Article

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International

Journal of Recent Research and Applied Studies

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GHACEM Limited.

1.3.2. Specific Objectives

1. To examine the effect of warehousing function on GHACEM Limited performance
2. To analyze the effect of inventory function on GHACEM Limited performance
3. To analyze the effect of transport function on GHACEM Limited performance
4. To examine the effect of order processing function on GHACEM Limited performance
5. To examine the effect of logistics information system function on GHACEM Limited performance

1.4.Research Question

The following questions guided the study:

1. What is the effect of warehousing function on GHACEM Limited performance?
2. What is the effect of inventory function on GHACEM Limited performance?
3. What is the effect of transport function on GHACEM Limited performance?
4. What is the effect of order processing function on GHACEM Limited performance?
5. What is the effect of logistics information system function on GHACEM Limited performance?

1.5.Significance of the Study

Ghana's government has always been committed to creating a mixed economy that includes both public and private sector businesses (RoK, 2007). Because of the government's policy reform, public involvement in the manufacturing sector is much lower than in the private sector and is still declining; the focus is now on privatization of the industrial sector. As a result, successful logistics services have become a crucial problem for the government to address in order to boost the efficiency of Ghanaian manufacturing firms. The study may give the government more insight into the connection between logistics management and manufacturing sector efficiency. This will assist in the development of policies and regulations that can help enhance the sector's efficiencies and effectiveness, and a stronger manufacturing sector could boost national GDP and, as a result, job growth. Improved logistics management could result in increased trade flow and lower export costs, resulting in export rewards, lower prices for goods and services, and a more reliable supply chain.

Manufacturing companies may benefit from the study because they will gain a better understanding of the underlying logistics factors that influence their performance and will be better equipped to deal with obstacles that obstruct efficient logistics management. Efficient and efficient logistics would serve as a foundation for manufacturing firm growth, increased efficiency, lower production costs, better distribution, higher quality goods, and higher customer satisfaction. Based on these findings, this research might be able to suggest some

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potential directions for making Ghanaian logistics more competitive with world-class logistics best practices. Logistics service providers, transporters, warehouse management service providers, distribution sector, and any other service provider who contributes to ensuring that products and services are available to customers from suppliers when necessary and at the right time are included in Ghana's logistics sector. This study could serve as a wake-up call for these logistics providers, emphasizing the importance of logistics information systems and the advantages of well-managed logistics, such as increased efficiency in the customs clearance process, improved quality of trade- and transportation-related infrastructure, ease of arranging competitively priced shipments, improved logistics services, and the ability to track shipments (World Bank, 2012).

The study could also support the academic community by adding to the growing body of logistics literature. It which include a framework of logistics management dimensions that can be used as a testing ground for future study. Since there has been little research on logistics in the developing world to date, researchers in the field, especially those in Ghana, may be interested in reviewing the results of this project. The research could also pave the way for further theoretical and empirical research in the field of logistics, specifically logistics management. Centered on a Ghanaian case study, this research will lead to a theoretical and functional improvement of logistics adoption, implementation, and upgrade in a variety of cultural and business settings.

LITERATURE REVIEW

2.1. Theoretical Review

2.1.1. The Resource Based View (RBV)

The resource-based view (RBV) was a possible conceptual structure for my research. The resource-based theory is an important theory to research firm success since it focuses on the relationship between a firm's internal resources and gaining competitive advantage (Cruz & Haugan, 2019). RBV recognizes a company's (valuable, rare, imitable, and non-substitutable) resources as the basis of its long-term competitive edge. The knowledge-based view of the firm (Grant, 1996), core competency (Prahalad & Hamel, 1990), capabilities theory (Ajoke et al., 2019), and the dynamic capabilities view (Ajoke et al., 2019) are examples of theoretical refinements based on the theory (Teece, Pisano, & Sheun, 1997). To date, the resource-based interpretation of the firm's main contribution has been as a principle of competitive advantage. Its underlying logic is straightforward. It begins with the assumption that the aim of managerial activity within the company is to achieve a long-term competitive advantage (SCA). The firm will gain economic rents or above-average returns by achieving a SCA. As a result, the emphasis shifts on how companies gain and maintain competitive advantages. The resource-based perspective asserts that the answer to this question lies in the possession of

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certain main resources, i.e., resources with value, duplication barriers, and appropriability. If a company successfully deploys these tools in its product markets, it may earn a SCA. As a result, the RBV emphasizes strategic choice, taskeding the firm's management with defining, creating, and deploying key capital in order to optimize returns. In summary, the resource-based view's basic elements are: sustained competitive advantage and superior performance; the attributes and forms of advantage-generating resources; and management's strategic choices (Barney, 1991).

Internal resources are important for gaining a competitive advantage because they are thought to be scarce, valuable, inimitable, and non-substitutable (Busby, 2019). Sheehan and Foss (2017) stressed that activity drivers dictate a company's ability to offer distinctive value, and that this is where competitive advantage comes from. Sustainable value is generated by the inimitable nature of firm capital, according to Sheehan and Foss (2017). For this to happen, the firm must have proprietary rights that avoid replication, learning and development costs that make it difficult to derive the same performance, and causal uncertainty.

2.2. Logistics Function of GHACEM

GHACEM cement is a mixture of limestone, sand, clay, and iron. It is used in the construction industry (RocketReach, 2021). The Portland cement is the most widely used type of hydraulic cement in the world. The term "hydraulic cement" is used because when cement is mixed with water, it hardens and becomes more durable. It is defined as follows by the Portland Cement Association (2008): "Portland cement is a tightly controlled chemical mixture of calcium and silicon in varying proportions with aluminum and iron in minor amounts with other materials, to which gypsum is added during the final grinding process." Portland cement is available in two colors: gray and white. However, mixtures can be created by combining the two types. GHACEM is involved in the cement supply chain upstream, including the sourcing of raw materials, the manufacturing of cement, and the distribution of cement from the plant. There are two GHACEM cement facilities in Ghana, both of which are located near the quarries that provide the company with its primary raw materials (in Tema and Takoradi). Cement is produced in large quantities due to the fact that it takes 1.6 tons of primary raw materials to manufacture one ton of cement. According to the information received, there are no restrictions on the availability of the primary raw materials required by GHACEM for the production of cement.

There are two major processes in the production of GHACEM cement, both of which are logistically focused. Producing clinker from raw materials is the first step in the manufacturing process. Second, clinker is converted into cement in a process known as cement manufacturing. The first phase necessitates the transportation of raw materials to the factory, where they are crushed and homogenized before being fed into a large revolving pipe known as a kiln. It is heated to extremely high temperatures, and then it is tilted,

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IJRRAS

allowing the raw materials to roll down the inclined kiln to the other end, where they are immediately cooled. As a result, a solid grain known as "clinker" is formed. The second phase involves the transformation of clinker into cement through the use of a grinding mill. A fine powder called cement can be made by combining other materials such as gypsum and possibly other minerals to form a cohesive mass. After that, the cement is moved to a storage facility until a customer orders it (RocketReach, 2021). Finally, cement is moved to storage until a customer place an order.

2.3. Empirical Review

2.3.1. **Business Logistics**

Continuous process modification and enhancement is a critical method for a company's modernday operation and a major competitive advantage. Supply chain management activities have an effect on an organization's overall success as well as its competitive advantage (Karimi & Rafiee, 2014). Proper supply chain management is a mechanism that lowers costs and improves a company's productivity (Kumaret al., 2006). As a result, logistics must respect the procurement, storage, transportation, and information preparation, execution, and control processes with the sole purpose of improving them. In order to execute its business logistics, every organization should develop an acceptable mission and vision. Business logistics' goal is to ensure that the right product is available in the right amount, at the right place, at the right time, and to the right customer at the right price. The goal of business logistics is to ensure long-term growth, or to plan logistics activities and operations to achieve the best possible results with the least amount of planning, maximum synergy, and lowest costs while adhering to all environmental and consumer laws. The degree to which the logistics function's goals are met, according to Rivtovska et al., (2017), is described as logistics effectiveness. The process of planning, implementing, and managing the reliable, effective flow and storage of goods, services, and related information from point of origin to point of consumption in order to meet customer requirements is referred to as logistics. It entails overseeing the flow of raw materials from suppliers to finished products within a company. Logistics refers to the process of planning and coordinating operations to ensure that resources are available and that the process is carried out in an efficient and successful manner (Mellat-Parast & Spillan, 2014). The primary responsibilities of logistics managers include inventory management, ordering, storage, and warehousing. The logistic activities can be divided into two groups (Lambert and Burduroglo, 2000): •Inbound Logistics, which refers to activities related to material sourcing, handling, storage, and transportation; and •Outbound Logistics, which refers to activities related to product processing, maintenance, distribution, and delivery to the final customer.

As a result, logistics plays a critical role in many sectors, as it is essential for gaining a competitive edge (Kenyon & Meixell, 2007). Companies must, however, respond to changing consumer demands, and logistics versatility is a critical component of that response (Zhanget al., 2005). Each organization must build or

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Journal of Recent Research and Applied Studies
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establish its own logistical principles, which will be integrated into the product or used to determine its value. For consumers, regardless of the product's form, it's important that they have access to it in a timely manner. Logistics information management, closeloop capability, supply chain integration, supply chain alignment, conformity capability, and institutional rewards are six reverse logistics capabilities that have an effect on company success

(Vlachos, 2016).

2.3.2. Logistics Function (LF)

Manufacturing firms are continually challenged with keeping track of inventory and ensuring that their goods are shipped to consumers in a timely manner. This workflow usually entails many types of logistics, each of which works in a slightly different way. According to (Ristovska, Kozuharov, & Petkovski, 2017), there are five different types of logistics management: warehousing, order processing, logistic information system, inventory, and transportation.

2.3.3. Logistics Information System (LIS)

A logistics information system (LIS) is a computer-based information system (IS) that helps with all aspects of logistics management, such as fleet preparation, inventory replenishment, and flow planning (Chang & Lee 2007). Instead of relying on human analysis and experience, LIS promotes a variety of automated decision-making processes that result in less human errors, lower costs, and more reliable performance, thus increasing the overall profitability and operational efficiency of logistics management (Hofenk, Schipper, Semeijn and Gelderman, 2011). Gu, Goetschalckx, and McGinnis (2010) used a heuristics model to solve warehouse order picking system forward reserve allocation problems. In Taiwan, this was discovered to have a major positive impact on logistics management and firm results (Guet al. 2011). Shi, Cheung, Xu, and Lai (2011) developed an efficient enhancement heuristics model based on real-time data to assist in the decision-making process of a freight transportation network, resulting in improved logistics management and retail firm efficiency. Seven types of LIS are widely used in the logistics industry due to the perceived benefits of using LIS to support logistics daily operations: load planning system (LPS); terminal management system (TeMS); vendor selection system; warehouse management system (WMS); financial management system; electronic Customer Relationship Management; and transportation management system (TMS) (Shi et al.2011).

2.3.4. Order processing (OP)

Order processing is the term used to describe the group of tasks involved in fulfilling a customer's order for products or services, and it served as the foundation for the information flow in a logistics system (Christopher, 2010). It served three main purposes: it produced a flow of knowledge that preceded, accompanied, and followed the products (Christopher, 2010). Historically, the role of accurate order processing in achieving superior logistical efficiency had been overlooked. Although several aspects of

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(Multidisciplinary Open Access Refereed e-Journal)
IJRRAS

knowledge were essential to logistics operations, order processing was the most important ((Bowersox, et al., 2010). Failure to appreciate its significance stemmed from a lack of awareness of how order processing distortion and organizational failures affect logistical operations (Bowersox, et al., 2010).

2.3.5. Warehousing Function (WH)

Warehousing is a critical component of a company's logistics system, since it stores items (raw materials, parts, work-in-progress, and finished goods) at and from points of origin and use.

Warehouses and distribution centers will also provide warehousing services (Murphy & Wood,

2018). The criterion for locating warehouse facilities is a significant decision for many businesses. Cost considerations are common in decision-making models. Some of the models place a premium on resources like skilled labor. Another important aspect is accessibility, which refers to the facilities and modes of transportation available (Melachrinoudis, et al, 2000). Alberto (2000) also stresses the importance of time and reliability considerations. This involves the distance between a customer's manufacturing facility and a supplier's facility.

2.3.6. Inventory Function (INV)

Aside from the myriad practices associated with a lean supply chain, many companies around the world are constantly looking for new strategies and approaches to minimize their inventory investments, which are a tax on the firm's profitability. Inventory management is a strategic field of logistics operations that affects the overall supply chain system's quality and effectiveness. Although inventories provide some protection against fluctuations in consumer demand, there is concern that they may limit supply chains' ability to respond to changes in demand patterns. Inventories in foreign supply chains may thus serve as a risk buffer for one form of risk while raising the risk of another. Etienne (2005) mentions factors like pace to market for new products, responsiveness to market niches, and quality feedback time.

2.3.7. Transport Function (TF)

The actions involved in transporting any materials or finished products from suppliers to a factory, warehouses, and sales locations will be classified as transportation (Kenyon & Meixell, 2011). Transport management is the planning, managing, and making of decisions in the operating field of logistics for inventory that is transported and placed geographically (Bowersox, Closs, & Cooper, 2010). Transportation had historically received significant managerial attention due to its fundamental value and obvious expense, and almost all businesses, large and small, had transportation managers (Bowersox, et al., 2010).

Since transportation costs accounted for one-third to two-thirds of the total logistics costs, transportation

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International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

management had a significant impact on the logistics system's performance (Bowersox, et al., 2010). From manufacturing to distribution to final consumers and returns, transportation is needed during the production process. The benefits of logistics can only be maximized with good management and teamwork between each component. Good logistics transportation management can improve logistics performance, lower operating costs, and improve service quality for businesses (Bowersox, et al., 2010). Three factors were critical to transportation success from the standpoint of the logistical system: expense, speed, and consistency (Bowersox,et al., 2010). The cost of transportation includes the bill for shipping between two geographical locations as well as the costs of keeping inventory in transit. Transportation was used in logistical schemes to reduce the overall cost of the system (Bowersox, et al., 2010).

2.4. Organizational Performance

In today's literature, business effectiveness is still a major topic. Scholars continue to debate various factors that influence organizational success. For example, Awino (2015) investigates the role of organizational structure in the success of large firms in Ghana's manufacturing sector. Her research uses a cross-sectional survey of large manufacturing firms to show that non-financial factors such as customer satisfaction, internal company processes, and firm image have an impact on results. Shisia, Sang, Matoke, and Omwario (2014), on the other hand, believe that strategic innovation has the potential to improve the performance of Ghana's public universities. Human capital's effect on organizational success has also been studied. From a pharmaceutical standpoint, Odhon'g and Omolo (2015) focused on assessing the impact of human capital investment on organizational success. The study found that investing in efficiency, significance, and reliability in intellectual resources was linked to organizational success using inferential tests of association. While reflecting on the internal organizational environment in the sense of community-based organizations specializing in HIV and AIDS, Kinyua-Njuguna, Munyoki, and Kibera (2014) discovered that the internal organizational environment has an influence on the importance, performance, and effectiveness of organizations.

The study used correlation analysis and manufacturing firms from Western Ghana to show that corporate governance practices have a positive correlation with organizational success. Characteristics of the board, top management, and stakeholder engagement are some of the specific activities that come to mind here. In the case of not-for-profit organizations, Kitonga Bichanga and Muema (2016) describe strategic leadership variables such as human resources, ethical practices, and strategic orientation as positively contributing to organizational success. Kariuki and Murimi (2015), on the other hand, looked at employee empowerment and how it affects organizational efficiency. Employee empowerment through knowledge sharing and training had a moderate effect on organizational success, according to the report, which looked at the case of Tata

ISSN: 2349 - 4891
International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

Chemicals in Magadi, Ghana. According to Christopher (2005, as cited in Chimwani, Iravo, and Tirimba, 2014), in order for any sensitive organization to achieve its procurement goals, such as the transformation of functions to processes, inventory to knowledge, goods to customers, benefit to results, and transactions to relationships, key procurement performance measures must be continuously monitored.

2.5. Conceptual Review

2.5.1. Warehousing Function and Firm's Performance

Receiving, transfer, and put away, order-picking or collection sortation, cross-docking, and shipping are all main warehouse operations, according to De Koster et al. (2007). Inventory management, storage or retrieval management, and inventory monitoring are the most important warehousing operations (Wang, Chen, & Xie, 2010). In effect, Ballard (1996) claimed that a warehouse's effective use of space and resources would result in increased accuracy and improved customer service. When warehouse management and inventory management are combined with IT, they can help ensure cost-effective operation. Warehouse management systems operate in tandem with enterprise ERP and planning functions to provide demand to forecasting functions by exchanging detailed data about how specific items are doing. When goods are transacted and information is shared, product demand and seasonality are reflected. As a result of this data, planners will make informed decisions about which goods to change for the business in order to maximize sales or reduce losses (Li et al. 2006). By - errors in the order fulfillment process, the warehouse management system (WMS) also improves customer loyalty and service. In addition, the system ensures that consumers receive undamaged goods in a timely manner. As a result, the number of consumer complaints decreases, and operations increase (Li et al. 2006).

2.5.2. Inventory Function and Firm's Performance

Inventory management influences production firms' comparative benefit, according to a report conducted in Ghana by Naliaka and Namusonge (2015). The study goes on to say that the company will compete on quality and that it fulfills customer orders on time. Competitive advantage is the result of critical management decisions that enable a company to distinguish itself from its competitors (Li et al. 2006). Effective inventory management allows businesses to gain a longterm competitive advantage and improve their market advantage. Inventory management is critical for any company that wants to improve its profitability and achieve high levels of customer satisfaction. According to Nzuza (2015), an organization's material assets account for the majority of its assets. Most businesses spend a significant amount of money in materials, and it is critical for them to implement a good material management system in order to properly manage their stock. An organization's performance can be harmed by a poor inventory management system (Atnafu &

ISSN: 2349 - 4891
International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

Balda, 2018).

Inventory management systems enable a company to assess and sustain an optimal level of inventory expenditure in order to meet operational goals. The aim of inventory management and inventory control, according to Sila (2006), is to meet customer demand. Furthermore, Fawcett, Ogden, Magnan, and Bixby Cooper (2006) argue that in order to satisfy consumer demand, businesses must avoid stock-outs while avoiding high inventory costs. Factors such as a lack of knowledge sharing and inaccurate predictions contribute to stocking level variability. He discovered that the majority of inventory fluctuations is caused by companies failing to use inventory management systems. He listed the consequences of inventory fluctuations, such as inaccurate forecasts leading to periods of insufficient capacity, poor customer service, and high inventory costs (Atnafu & Balda, 2018).

2.5.3. Transport Function and Firm's Performance

Mukolwe and Wanyoike (2015) investigated how logistics management practices affect Mumias Sugar Company's operational performance. Using descriptive and inferential statistics, the study discovered, among other things, that transportation management and physical distribution activities are associated with a cost-effective flow of raw materials and products, which has a positive impact on operational performance. Under the least cost concept, transportation systems allow goods and products movable and have timely and regional effectiveness to encourage valueadded (Yung-Yu, Wen- Long and Michael, 2005). Transportation has an effect on the outcomes of logistics operations, as well as development and sales (Hesse and Rodrigue, 2000). Furthermore, Yung-Yu, Wen-Long, and Michael (2005) asserted that transportation is the foundation of logistics management performance, and that a good transportation system benefits not only service quality but also firm sales growth. Furthermore, Geraldine and Bagshaw (2019) observed that rising transportation costs due to poor road conditions, high vehicle and spare part costs pose a serious problem for successful territory coverage and on-time delivery of firm's goods. Since goods are seldom manufactured and consumed in the same region, transportation, as one of the most noticeable elements in logistics operations, has a strong relationship on firm success in terms of the amount of sales it can make. Furthermore, transportation programs that can deliver products to consumers on time and in good condition help to provide customer loyalty and offer the company a competitive advantage (Cooper, Lambert, and Pagh, 2018). Furthermore, transportation's position in the logistics system is more complicated than simply transporting goods for the business. Goods could be delivered to the right location at the right time using a wellmanaged transportation system, allowing consumers' demands to be met. It improves effectiveness, creates a connection between producers and consumers, and influences product distribution (Yung-Yu et al, 2005).

A powerful logistics strategy cannot fully utilize its capability unless transportation is connected. Bagshaw

ISSN: 2349 - 4891
International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)
IJRRAS

(2019) observed that rising transportation costs due to poor road conditions, high vehicle and spare part costs pose a serious threat to successful territory coverage and on-time delivery of firm's goods. To put it another way, for businesses to reach on-time delivery deadlines, they must have a reliable transportation system that allows their goods to move freely. In addition, efficient transportation management aids a company's sustainability by ensuring that goods are delivered on time to customers. More importantly, increasing the pace at which businesses produce products helps them to better serve their customers (Jack, 2006).

2.5.4. Order Processing Function and Firm's Performance

The order processing system is a communications network that provides information for managing the interfaces between logistics and the rest of the company's functional areas, as well as inside logistics (Yuan et al., 2020). The order processing procedure began with the customer's approval of the order, and it is not considered complete until the customer receives the goods and confirms that the orders were completed correctly and absolutely (Stevenson, 2009). It serves three main purposes for a company: it provided a flow of knowledge that preceded, accompanied, and followed the goods (goods) (Mangarulkar, et al., 2012). Workload balancing is directly related to the advantage of fast information sharing. According to Bowersox, et al., (2010), it made no sense for a company to accumulate orders for a week at a local sales office, mail them to a regional office, process the orders in a batch, assign them to a distribution warehouse, and then ship them via air to achieve fast delivery. In comparison, combining direct Internet orders from customers with slower, less expensive transportation resulted in even quicker and more reliable delivery service at a lower overall cost (Yuan et al., 2020).

The entire flow of products benefited from fast, accurate processing. As a consequence, a company should always prioritize efficient processing. Order processing capacity and productivity should have been assessed on a regular basis using metrics that tracked order handling reliability and flexibility (Pfohl, 2019). Customer preferences were typically communicated in the form of orders in most supply chains. All aspects of managing customer requirements, including initial order receipt, distribution, invoicing, and selection, were all part of the handling of these orders. The more time (lead time) management had to schedule transportation and inventory operations while meeting the necessary customer service levels, the faster an order was transmitted, entered, and processed. When handled well, a company's logistics capabilities can be as good as or better than its order processing capabilities.

2.5.5. Logistic Information System Function and Firm's Performance

Knowledge flow is beneficial in achieving efficiency. Information flow was described by Harisson and van Hoell (2002) as the flow of data in various directions with variable contents between various data bases (departments) within an organization. Previously, information flow within logistics was critical because it allowed chains to react to real-time and accurate data (Harisson& van Hoell, 2002). Since it was impossible

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International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)
IJRRAS

to provide an effective and secure materials flow without it, firms viewed knowledge flow as an advantage at the time (Yuan et al., 2020). According to Stevenson and Spring (2007), the flow of reliable and real-time information in logistics is critical to the flow of materials. Logistics has become an effective tool in the firm's arsenal to add value to the bottom line as a result of the knowledge explosion (Closs, et al., 2005). The ability to share information was crucial to the success of logistics operations (Whipple et al., 2002). Wardaya, et al., (2018) found that information flow had become a significant indicator of cooperation within logistics management and firm success in their research.

Transfer information, inventory level and location information, revenue data and forecasting information, order status information, production schedules and delivery capability information, and firm performance metrics have all become important to all businesses (Yuan et al., 2020). As a result, Bowersoxet al. (2010) identified four reasons why timely and reliable information flow has become increasingly important for the design and operation of successful logistics systems: Customers saw order status, product availability, delivery schedules, shipment monitoring, and invoices as critical components of overall customer service. Managers realized that information could be used to minimize inventory and human resource needs, with the intention of reducing overall supply chain assets. Increased versatility in terms of how, where, and where resources could be used to achieve a competitive advantage as a result of increased information flow; Using the internet to improve knowledge transfer and exchange, buyers and sellers were improving and redefining channel relationships (Somuyiwa & Adewoye, 2010).

Effective knowledge integration within an enterprise is a powerful enabler of lower costs, higher efficiency, and better customer service. Due to its reliance on information for efficient activities, logistics planning and operations was an early and widespread adopter of information technology advances (Bardaki, Kourouthanassis & Pramatari, 2011). Early implementations included systems for order entry, order processing, electronic data interchange (EDI), vehicle routing and scheduling, and inventory replenishment (Wang, Lai, & Zhao, 2018). To help logistics processes, effective information technology (IT) has become a must (Li, Yang, Sun & Sohal, 2009). IT has allowed managers to concentrate on strategic concerns and core competencies by automating several repetitive logistics tasks and supporting the use of intermediate supply chain activities such as distribution (Bardaki, et al., 2007). (2011).

ISSN: 2349 - 4891
International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)
IJRRAS

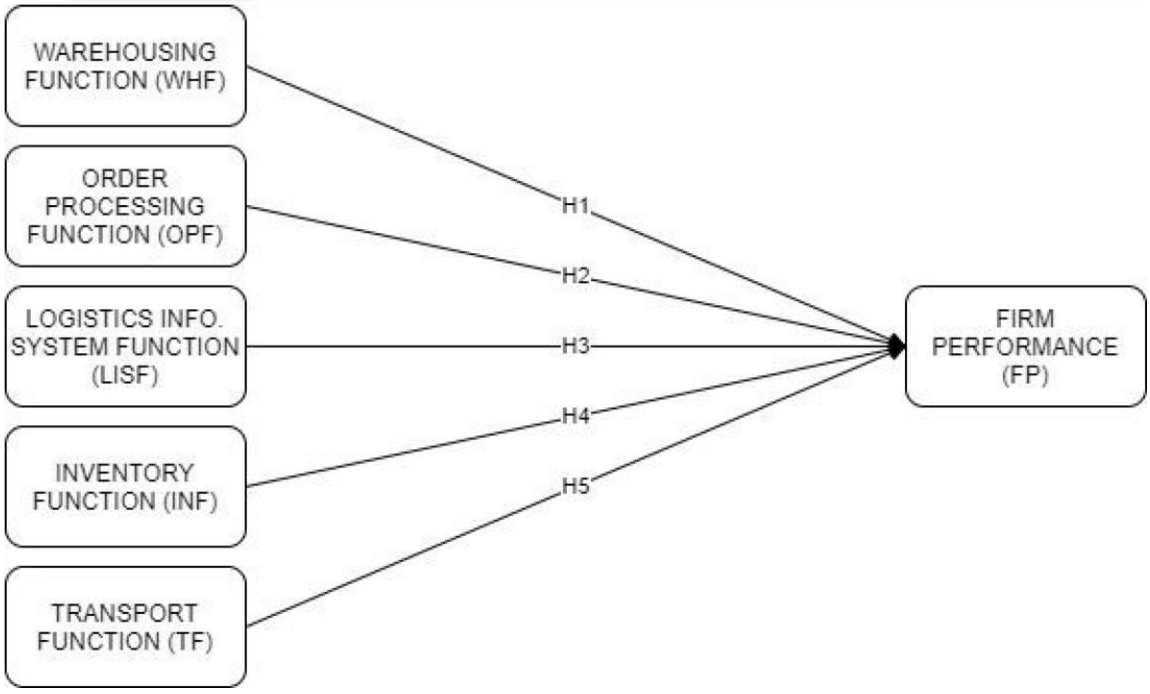

Figure 1: Conceptual framework

RESEARCH METHODOLOGY

3.3. Research Design

The research design refers to the overall strategy choosing to integrate the different components of the study in a coherent and logical way. Thus, ensuring that the research problem is effectively addressed (Yin, 2018). It forms the framework for the collection, measurement and analysis of data. A design can be exploratory research, Descriptive research and Explanatory research. Exploratory type of research is usually conducted to have a better understanding of the existing problem, but usually doesn't lead to a conclusive result (Frankfort-Nachmias, 2012). Explanatory research is not used to provide conclusive evidence but helps in understanding the problem more efficiently (Gray, 2018). Descriptive research involves gathering data that describe events and then organizes, tabulates, depicts, and describes the data collection (Ghauri & Gronhaug, 2016). In this study descriptive was used. Descriptive studies report summary data such as measures of central tendency including the mean, median, mode, deviance from the mean, variation, percentage, and correlation between variables. And the use of survey in this study makes it appropriate to use descriptive approach. Survey research commonly includes that type of measurement, but often goes beyond the descriptive statistics in order to draw inferences.

ISSN: 2349 - 4891
International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

3.4 Population

The population is the entire set of individuals to which findings of the survey are to be extrapolated. The elements of the population or elementary units are the individual members to the population whose characteristics are to be measured (Hakim, 2016). The study's participant included all of the GHACEM Company's employees in Takoradi and Tema, as well as their families. The accessible population consists of GHACEM personnel (permanent employees) who work for the company (GHACEM, 2019). Human resource personnel, production personnel, quality assurance personnel and accountants are among those who work in these various departments. Other departments include clinics and commercial operations; environment; health and safety; stores; maintenance; marketing; technical support; security; transportation; and the planning and development divisions. Both senior and junior employees were counted among the group. In this study the population was all 336 workers of GHCEM (GHCEM, 2019).

3.5 Sampling and Sample size

Sampling is the process by which data is collected. Collecting data from all the entities in a finite population is a census (Hakim, 2016). However, for population it's difficult to conduct a census study. Time and money are significant determinant of taken sample as resources are limited. Sampling offer a glimpse of the population but not an entire view. Researchers like (Hussey, 2017) argue that a credible factor analysis require a higher sample size. This study engaged 204 respondents of GHACEM.

3.7. Sampling Method and Technique

This refers to the name or other identification of the specific process by which the entities of the sample have been selected. A successful selection of sample frame from the sample size of a population leads to the adoption of sampling techniques for the study (Johnson & Clark, 2015). Sample many either be random (probability sample) or nonrandom (non-probability sample). This leaves everything to chance and nothing to preference. Every element in the population have an equal chance of being sample. Example of random sample include simple random sample, stratified sample, systematic sample, cluster sample. This is a method of selecting entities by personal choice rather on Mathematical chance. This usually happened when there is control over the inclusion and exclusion entities in the sample. Example of nonrandom sample include judgement, convenience and quota sample. Nonrandom sample are selected to be representative of the population. The used convenience sampling technique.In this study convenience sampling was adopted as a method of gathering data for analysis. It is a non-probability sampling method where the sample is taken from a group of people easy to contact or to reach. The reason of using this sampling method is due to its cost effective and extremely speedy approach.

Original Article

ISSN: 2349 - 4891

International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

3.8 Instrument

Instruments refer to devices used to collect data such as questionnaires, tests, structured interview schedules and checklists. (Kothari, 2015) define a questionnaire as a method of gathering information from respondents about attitudes, knowledge, beliefs and feelings. A questionnaire was designed to gather information on all the 6 functional areas of logistics. The design for the questionnaire was tailored to answer all the relevant research questions.

It was structured based on the research questions. Validity and reliability were adhered to in the study. Validity refers to the degree, to which an instrument measures what it is supposed to measure whiles reliability is the degree of consistency with which an instrument measures an attribute it is supposed to be measuring (Kothari, 2015) To achieve this, the questionnaire was shown to the research supervisor for comments and any corrections, after which pre-testing was done. A sample of 10 staff were selected for the pre-tested exercising to find out if the objectives of the study would be met by the data collected and also if the questions were of standard in order to prevent vague or irrelevant questions before the final administration of the questionnaire to respondent. The strength of the instrument used lied in its ability to gather the relevant information pertaining to the aim of the study. However, its weakness was the fact that it couldn't gather all the necessary views from the respondents as it was closed ended questionnaire.

3.9 Data Collection Procedures

This involves the steps and manner of gathering data that needs to be analyzed to address the research problem. In conducting surveys, it is important to have enough information before important or informed decision can be make or proper conclusion is drawn. The manner of which the data will be gathered is important in order to avoid biases and sampling errors. How data is gathered and analyzed depends on many factors, including the context, the issue that needs to be monitored, the purpose of the data collection, and the nature and size of the organization from which the information is taken from.

For the purpose of this study, a period of about two weeks was used to collect the relevant information from the staff of GHCEM. Permission was sought from the Branch Managers and other relevant supervisors. The purpose of study was explained to them and those on duty who were less busy were issued the questionnaire. Others too filled the questionnaire without any assistance. The researcher engaged the services of other trained research assistants for this exercise considering the time constraint and budget and was able to reach out to 204 respondents through the convenience sampling approach as discussed earlier, and also with the permission and consent of the targeted persons.

ISSN: 2349 - 4891
International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

3.10 Data Analysis

Data analysis involves compiling, selecting and entering data into the computer files, inspecting it for errors and running tabulations and various statistical tests to derive proper findings for the study. The statistical package for the social science (SPSS) version 20 was used to analyze the data which was presented in the form of charts, graphs, and tables. This software is used in analyzing quantitative data. Questionnaires are first coded in it and the analyses toolbar is used to perform the necessary analysis. It is important to adopt the correct statistical technique for any research problem. In this study, estimate of proportion values was used and they were presented in tabular and pictorial forms.

3.11 Reliability and Validity

Reliability refers to the degree of consistency or accuracy with which an instrument measures the attribute it is designed to measure (Leedy & Ormrod, 2018). If a study and its results are reliable, it means that the same results would be obtained if the study were to be replicated by other researchers using the same method. A pretest utilizing staff members, excluded from the actual research, with similar characteristics to the study sample was conducted to determine the clarity of the items and consistency of the responses. “Validity refers to the degree to which an instrument measures what it is supposed to be measuring” (Leedy & Ormrod, 2018)). Validity can be subcategorized as external and internal validity. Internal validity encompasses whether the results of the study are legitimate because of the way the groups were selected, data was recorded or analysis performed.

DATA ANALYSIS AND RESULTS

4.1 Respondents Information

During the survey, the study collected information on the demographics of the respondents; gender, age, marital status and educational qualification. Information collected on gender shows that majority of the study respondents were females accounting for 61.8% (126) of the total respondents and males accounting 38.2% (78). This satisfying the general notice that there are more females in the manufacturing sector than the male counterpart. Concerning the ages of the respondents, the majority of the respondents fall within the ages 18-30 years and 31-40 years corresponding to 50% (102) and 34.8% (71) respectively. This implies a youthful workforce in the manufacturing sector in Ghana. Additionally, the study sought for the marital status of the respondents, majority 46.6% (95) were recorded to be single and 34.3% (70) were married. The majority of the respondents had their educational qualifications between certificate, diploma, post-basic, bachelor's degree, and master’s degree 34.8%, 35.3% and 14.7% respectively. Lastly, concerning the type of position held by the respondents, the majority of the respondents (100) representing 49% were senior managers, and there were 29 (14%) Middle level manager and 75 (37%) supervisors.

ISSN: 2349 - 4891
International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)
IJRRAS

Table 4.1 Respondents Information

Variable	Category	Count	% of n
Gender	Male	78	38.2
	Female	126	61.8
	Total	**204**	**100.0**
Age (years)	18-30	102	50.0
	31-40	71	34.8
	41-50	20	9.8
	Above 50	11	5.4
	Total	**204**	**100.0**
Education level	MSLC/JHS		
	SSSCE	20	9.8
	Diploma	71	34.8
	Degree	72	35.3
	Post Graduate	30	14.7
	Other (Specify)	11	5.4
	Total	**204**	**100.0**
Marital	Single	95	46.6
	Married	70	34.3
	Divorced	39	19.1
	Total	**204**	**100.0**
Staff category	Senior Manager	100	49
	Middle level manager	29	14
	Supervisor	75	37
	Total	**204**	**100.0**

Source: Field Study (2021)

Original Article

ISSN: 2349 - 4891

International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

4.3 Descriptive Statistics

The purpose of descriptive statistics is to provide a summary of responses from the survey in the form of mean, standard deviation, mode, and median. In this study responses of participant were recorded with a 5-point Likert scale for all the study variables. Table 4.2 below shows the results from the survey.

Table 4.2 Descriptive Statistics

Variables	N	Min	Max	Mean	Std. D
Warehousing Function	204	1.00	5.00	4.5244	1.34612
Order Processing Function	204	1.00	5.00	4.7900	1.31316
Logistic Information System Function	204	1.00	5.00	4.6679	1.19649
Inventory Function	204	1.00	5.00	4.5164	1.31703
Transport Function	204	1.00	5.00	4.9374	.91591
Firms Performance	204	1.00	5.00	4.4374	.91591

Source: Field Study (2021)

Table 4.2 shows the descriptive statistics of the study variables, there are 6 variables in the study, and their mean was between 4.5164 – 4.9374 with their standard deviation between 0.9159 – 1.3461. This implies that on the matter of commitment a respondent believes in they are committed to the 5 dimensions (transport, inventory, warehousing, order processing and information systems) of GHACEM Limited logistics performance.

4.3 Normality Test

The purpose of a normality test in a research study is to test for the distribution of a data set, this test is usually performed on dependent variables; the purpose for this is to ensure an evenly distributed data for further analysis. A normality test is usually based on a Kolmogorov-Smirnov model. The fundamental factor is that, when the Sig-value exceeds 0.05 (P-value > 0.05), the data distribution is considered to be normally distributed and vice versa. From Table 4.5, it can be observed that the data presented was normally distributed because the “sig value” is above 0.05.

Original Article

ISSN: 2349 - 4891

International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

The results presented in Table 4.3 below.

	Kolmogorov -Smirnov [a]			Shapiro -Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Performance	.058	204	.096	.987	204	.051

a. Lilliefors Significance Correction

Table 4.3: Tests of Normality

Source: Field Study (2021)

Table 4.4: Loadings, Reliability and Convergent Validity

Constructs	Items	Loadings	α	CR	AVE
Warehousing Function	WHF		0.85	0.82	0.66
	WHF1	0.77			
	WHF2	0.73			
	WHF3	0.82			
	WHF4	0.71			
Order Processing Function	OPF		0.97	0.81	0.75
	OPF1	0.75			
	OPF2	0.77			
	OPF3	0.71			
Logistic Information System Function	LISF		0.92	0.92	0.65
	LISF1	0.74			
	LISF2	0.81			
	LISF3	0.67			
	LISF4	0.63			
Inventory Function	INF		0.82	0.94	0.58
	INF1	0.77			
	INF2	0.71			
	INF3	0.84			
Transport Function	TF		0.92	0.88	0.61
	TF1	0.78			

Original Article

ISSN: 2349 - 4891

International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

	TF2	0.69			
	TF3	0.81			
Firms Performance	FP		0.87	0.78	0.68
	FP1	0.74			
	FP2	0.71			
	FP3	0.72			
	FP4	0.75			
	FP5	0.77			

Source: Field Study (2021)

The results of factor loading are also summarized in Table 4.4. The results show that the correlation between the variables and the dependent variable is described by the rotated component matrix. The value with the highest correlation estimate shows the most amount of relationship to the dependent variable. It allows for the collection of all variables. I looked at two variables, for a total of 6 constructs in all. The exploratory factor analysis test passed all six constructs. The reliability statistics for 6 items provided by exploratory factor analysis are shown in table 4.4 ranges from 0.82 to 0.97 denotes a percentage of 82%-97%. Composite reliability (CR) and Cronbach's alpha should be equal to or greater than 0.7 (Hair et al., 2017). The data in the above table can be verified using the estimation of alpha, and the results show that the estimation of alpha for both the independent and dependent variables is greater than 0.7. All the constructs have exceeded the 0.7 threshold as recommended by Hair et al. (2017). At the same time Average Variance Extracted (AVE) also ranged from 0.58 to 0.75, exceeding the cut-off point of 0.5 as proposed by Hair et al. (2017).

Table 4.5: Discriminant Validity

Constructs	AVE	WHF	OPF	LISF	INF	TF	FP
WHF	0.66	0.81					
OPF	0.75	0.62	0.87				
LISF	0.65	0.59	0.65	0.81			
INF	0.58	0.57	0.76	0.63	0.76		
TF	0.61	0.68	0.74	0.56	0.53	0.78	
FP	0.68	0.53	0.67	0.56	0.61	0.58	82

Source: Field Study (2021)

ISSN: 2349 - 4891
International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)
IJRRAS

The final constructs' standardized factor loadings, Cronbach's values, and composite reliability are shown in Table 4.5. The findings revealed that logistics function has a direct impact on business success. This result contradicts the findings of several previous studies (Vachon and Klassen, 2018), suggests that adopting logistics function does not directly improve a manufacturing company's business efficiency, which may mean that logistics do not seem to be a problem for GACEM as a manufacturing firms.

The square root of each AVE value was greater than the absolute correlation value between that scale and other scales to ensure discriminant validity. This criterion was met by all of the scales, indicating that discriminant validity was established (Fornell & Larcker, 1981).

Table 4.6: Goodness of fit results

	Model fit results							
	CMIN/df	RMSEA	FI	GFI		NFI	TLI	CFI
Criteria	<5	<0.05	0.80	0.85	Close to 1		Close to 1	>0.95
CFA Model	1.32	0.06	0.95	0.90	0.93	0.97	0.98	

Source: Field Study (2021)

Table 4.6 summarizes the model fitness results, which show that the value of CMIN/DF should be less than 5 (0.80), which it is in this model. The AGFI value should be greater than or equal to 0.85, and it is 0.902 in this model. The NFI value should be close to 1, and it is 0.934 in this model. The TLI value should be close to 1, and it is 0.971 in this model. The CFI value should be greater than 0.95, and it is 0.983 in this model, indicating that it is important. CMIN/DF values less than

5(0.80) are also used by Byrne et al. (2010). (Bagozzi & Yi, 1988). TLI value should be close to 1 and NFI value should be close to 1 according to Bentler (1990). The RMESA value should be less than or equal to 0.05. (Browne & Cudeck, 1992).

ISSN: 2349 - 4891
International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)
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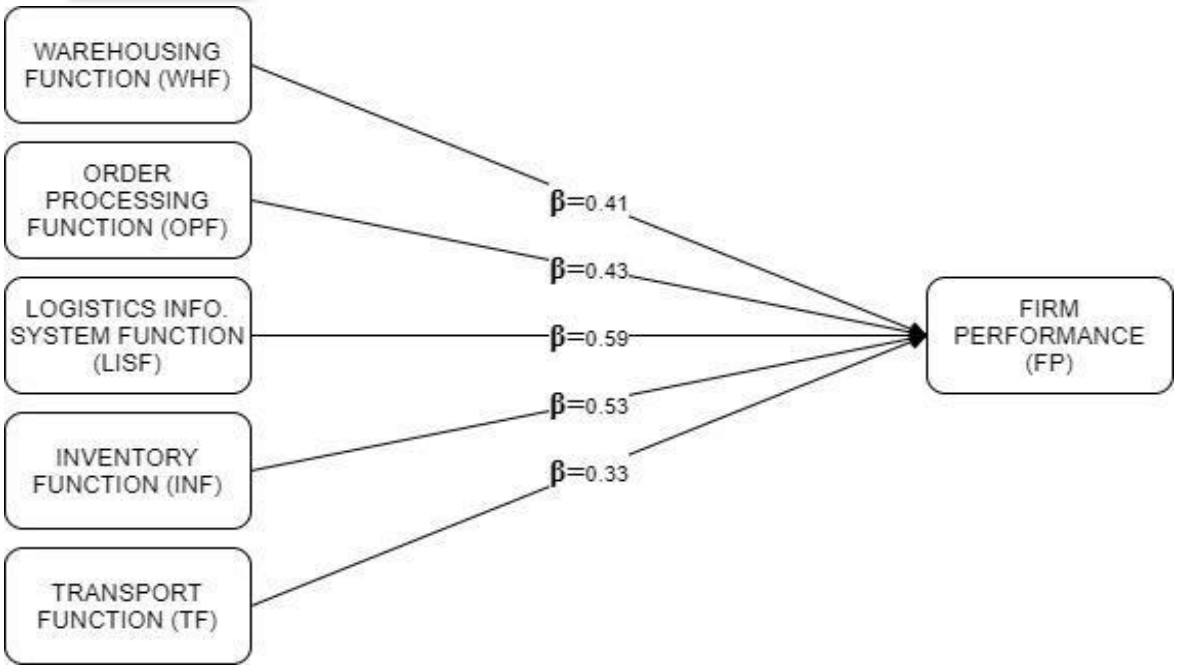

Figure 2: Path Model

Source: Field Study (2021)

Table 4.7: Path Analysis

Constructs		B	t-values	p-values	Results
H1	WHF → FP	0.41	12.52	0.000	Supported
H2	OPF → FP	0.43	17.21	0.001	Supported
H3	LISF → FP	0.59	9.52	0.001	Supported
H4	INF → FP	0.57	11.61	0.010	Supported
H5	TF → FP	0.33	13.32	0.005	Supported

Source: Field Study (2021)

The p-value of 0.00 and the t-value of 12.52 (β = 0.41) indicate a strong positive relationship between the two factors (warehousing and firm performance). The study found a significant positive relationship between order processing function and firm performance (p = 0.001; t =
17.21; β = 0.41). This shows that the order processing activities translate into firm performance of the manufacturing firms.

Also, Logistic Information System Function and firm performance (p = 0.001; t = 9.52; β = 0.59); Inventory

ISSN: 2349 - 4891
International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)
IJRRAS

Function and firm performance ($p = 0.000$; $t = 11/61$; $\beta = 0.57$) and Transport Function and firm performance ($p = 0.000$; $t = 13.32$; $\beta = 0.33$), demonstrating that all the hypothesis were accepted/supported. The general indication is that to enhance firm performance, logistic function should trigger the interest of firms.

Discussions

The logistics management function, according to Wisner (2003), is a positive predictor of firm success. The hypothesis was justified by the argument that purchasing and supply management performance evaluations would become increasingly linked to measures of organizational performance such as growth, profitability, and market share (Carter & Narasimhan, 1996). Wisner (2003) surveyed manufacturing and service organizations in the United States and Europe, assessing a model that included logistics management and customer relationship strategies as antecedents to supply chain management strategy and, as a result, firm success. As predicted, the correlation between supply chain management strategy and firm performance was found to be positive and important.

Warehousing function and firm performance

The first hypothesis was based on the assumption that warehousing function has no substantial effect on manufacturing firm efficiency. The results of the study confirmed the hypothesis, demonstrating that warehousing function has a positive impact on organizational effectiveness.

Storing, response time, and stock level were used to evaluate performance. As a result of this research, it has been determined that warehousing function improves logistics effectiveness, ensures timely delivery, lowers operating costs, and improves service quality, all of which have a positive impact on an organization's success. This result is consistent with Musau, Namusonge, Makhokha, and Ngeno (2017), who found that warehousing function has a major impact on organizational effectiveness. It is also in line with study that, warehousing is an essential component of any logistics system and that plays a vital role in providing the desired level of customer service at the lowest possible total cost (Kwateng, et. al., 2014).

Order processing function and Firm's Performance

While there is some anecdotal proof (Abendoly & Jacobs, 2019), this is the first time the validity of this OPF has been demonstrated in the presence of other complicating functions. Simply put, firms that have OPF that match the degree to which logistic function has a large impact on firm output seem to gain more. This means that logistical attempts should be made to ensure that OPF is well matched with the needs of businesses. This research backed up Stevenson's work (2009).

Logistic Information System Function and Firm's Performance

The third hypothesis was able to determine the effect of the Logistic Information System Function on the quality of the firm's performance. The results of the study backed up the theory, proving that the effect of

ISSN: 2349 - 4891
International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

information systems on employee productivity was statistically important. This finding asserts that an improved information system would result in a rise in the mean index of Logistic Information System Function, which will boost the company's efficiency by one unit. This result is consistent with Asamu (2014), who claimed that an efficient flow of knowledge inside an organization helps to boost manufacturers' performance, based on a study conducted in Lagos.

Inventory management function and Firm's Performance

The fourth hypothesis was based on the assertion that inventory management and firm efficiency have a substantial relationship. As a result, the findings confirmed the hypothesis and identified a clear link between inventory management and firm results. Inventory management is much more critical in manufacturing to keep operations going. Every minute that is lost due to a shortage of raw materials results in unplanned expenses for the company. In this way, inventory management becomes more than a cost-cutting tool; it also serves to promote the company. As a result, every company must concentrate on and prioritize inventory control and management in their operations. This finding is consistent with that of Anichebe and Agu (2018), who found a significant link between good inventory management and organizational productivity.

Transport function and firms performance

The last hypothesis was based on the assertion that transportation management has no substantial effect on the manufacturing organization's efficiency. The study's results confirmed the hypothesis, demonstrating that transportation purpose has a positive impact on organizational effectiveness. Market share, response time, and customer satisfaction were used to evaluate performance. As a result of this research, it was determined that transportation management improves logistics productivity, timely delivery, lowers operating costs, and improves service quality, all of which have a positive impact on the organization's success. This result agrees with Musau, Namusonge, Makhokha, and Ngeno (2017), and Ajoke et al. (2017) who found that Transportation Management has a major impact on organizational efficiency as measured by effectiveness.

5.1. Summary of findings

Although supply chain functions such as logistics require attention and resources, the primary concern of organizational managers is improved organizational efficiency. GHACEM Limited output, as measured by logistics function, has a positive effect on its performance. Green et al. (2006) conducted a survey of manufacturing logistics managers and discovered a correlation between logistics function and firms' efficiency. Despite the lack of an empirically validated measure of logistics function, logistics performance focuses on the manufacturer-customer relationship outside of the manufacturing function, and, as Bowersox et al. (2000) put it, logistics performance is a reflection of manufacturers' performance.

The p-value of 0.00 and the t-value of 12.52 ($\beta = 0.41$) mean that the two variables have a clear positive

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Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

relationship (warehousing and firm performance). The order processing feature was found to have a substantial positive relationship with firm output (p = 0.001; t = 17.21; β= 0.41). This demonstrates that order processing activities have an effect on manufacturing firm efficiency.

Also, the Logistic Information System Function and firm performance (p = 0.001; t = 9.52; = 0.59); the Inventory Function and firm performance (p = 0.000; t = 11/61; β = 0.57); and the Transportation Function and firm performance (p = 0.000; t = 13.32; β= 0.33), showing that all of the hypotheses were accepted/supported. The general consensus is that, in order to improve firm efficiency, logistic functions should pique firms' interest.

5.2.Conclusion

The effect of logistics function on GHACEM's performance is examined in this report. Based on the responses of 204 GHACEM respondents. According to the study, transportation management has a major impact on manufacturing firms' performance. Transport management is at the heart of logistics because goods must travel across a supply chain, which is why organizations must pay close attention to it if they want to achieve success in logistics. Second, this research has shown that inventory management and warehousing system have significant impact on an GHACEM's productivity. Inventory management is critical to the sustainability of manufacturing and retailing businesses. Raw materials, work-in-progress, spare parts/consumables, and finished products are examples. It is not required for a company to have any of these inventory classes. But, whatever the inventory products are, they need efficient management since they typically account for a significant portion of the company's funds. As a result, the conclusion that inventory management and organizational effectiveness have a significant relationship is reinforced. Third, if there is a sufficient flow of knowledge within an organization, workers can work more effectively. Information flow management maintains a continuous flow of information from the top to the bottom of the management hierarchy, as well as warehousing and order processing. As a result, businesses must recognize that communication is an essential aspect of their operations because it helps workers understand what is required of them during the logistics management process.

5.3.Recommendations

It is recommended that manufacturing firms like GHACEM should focus on transportation function into their operations processes, such as proper fleet management, vehicle scheduling, route planning, and vehicle maintenance, in order to ensure procurement of raw materials and product distribution in order to increase overall cost efficiency, increased market share, and reduced lead time, all of which have a positive impact on the bottom line. Second, resource control should be improved because it will aid in the organization's

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productivity.

Inventory management should be one of the main focuses in formulating business strategies for a GHACEM since it will lock down the organization's resources. In addition, various inventory management techniques such as just-in-time (JIT) should be used to handle the stocks that are stored in storage, increase productivity, decrease waste by obtaining products only as required for the production process, lowering inventory costs, and economic order quantity (EOQ) should be used to minimize overall holding costs and ordering costs. Finally, reliable logistics information can flow from managers to workers. This will help manufacturing firms to avoid misunderstandings that may lead to mistakes in meeting customer demands. Investment in information technology gadgets and information systems to store, transfer, and disseminate data useful to managers in manufacturing operations should be made in order to produce better products, minimize the cost of goods transition and worker productivity, and contribute significantly to current and future generations' sustainable growth.

The study also suggests that information technology infrastructure be developed so that any manufacturing companies like GHACEM, whether in rural or urban areas, can use automated inventory management, order processing, and seamless information flow at a lower cost. This will also boost firm transportation management, inventory management, order process management, and information flow management, all of which have a direct impact on manufacturing firms' success in Ghana.

The study has given the government more insight into the logistics management and efficiency of the manufacturing sector. This can help in the formulation of policies and regulations that can help improve efficiencies and effectiveness in the manufacturing sector, allowing for increased regional trade and lower production costs, resulting in foreign investment incentives, lower prices for goods and services, and a reliable supply chain that is appealing to global business, as well as an increase in market share for our products.

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