

# Factors Affecting Warehouse Construction Performance at Chai Trading Company Limited

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**Abstract:** *There are many challenges which organizations in Kenya face during the implementation of technical projects. The main purpose of the study was to establish the factors affecting warehouse construction performance at Chai Trading Company Limited (CTCL). To achieve the main objective of the study, the researcher was guided by the following objectives: to establish how warehouse construction site influence warehouses construction performance at CTCL; to investigating how warehouse construction human resource as a knowledge area influence warehouses construction performance at CTCL; to establish the influence of stakeholder management to warehouses construction performance at CTCL and finally to establish the influence of organization structure to warehouses construction performance at CTCL. The research targeted employees of CTCL (a subsidiary of KTDA (H) Limited), and hence, some of the outcome of the study was specifically tailored to suit the company objectives and strategy. This might make the duplication and application of the result of findings a problem to the technical projects undertaken in the rest of the country. The study was limited to construction of warehouse and due to this the results may have to be modified in order to be applicable to the construction industry in Kenya at large. A descriptive research design which deals with what, where and how of a phenomenon was adopted. The researcher targeted on a population divided into four levels of employment at CTCL where a proportionate stratified sampling method was applied to select a representative sample of 30% for the study. Both quantitative and qualitative data collection methods and analysis targeting a total of 51 members was used, the response rate realized being 75%. In-depth Interviews, management information systems, and questionnaires was used as data collection tools where 38 members responded to the study. The researcher used SPSS version 20.0 for windows to facilitate data analysis process after which the results was presented in the form of frequencies, percent ages, and tables. The study through a Pearson's correlation analysis which was conducted at 95% confidence interval and 5% confidence level 2-tailed found that there*

*was a fair positive correlation between warehouse construction performance and warehouse construction site at 0.482, warehouse stakeholder management at 0.521 and organization structure at 0.418. However the study realized that warehouse construction performance had a very positive correlation with warehouse human resource at 0.777. The study also revealed that the combination of the four independent variables investigated in this study contributed 75.7% to warehouse construction performance at CTCL. When implementing the study findings, the researcher recommended that there must be a proper coordination and clear communication between the top management of CTCL, the contractors involved in the construction of the warehouses and the rest of the CTCL staff.*

**Key Words:** *Human Resource, Stakeholders, Organizational Structure & Site.*

## 1 Introduction

A warehouse is a large building where raw materials or manufactured goods may be stored. According to Lorenzatt, Sandro (2007), the first warehouses were found at Ostia, the port city of ancient Rome, in Italy. They were an essential tool for trading nations and as time went by during the industrial revolution their function evolved and became more specialized, and architecturally significant. Early warehouses were specifically made for various reasons and hence the site where they were constructed was very important.

The purpose of early warehouses in relation to sites where they were located included the following: Display of finished goods for sale, meant for the home trade- such as the latest cotton blouses or fashion items, their street frontage was impressive, so they took the styles of Italianate, Palazzo style architecture (Wyke, Terry, "Manchester warehouses", 2012); the other reason for early warehouses was to cater for the overseas trade, they became the meeting places for overseas wholesale buyers where printed and plain cloth could be discussed and ordered, trade in cloth in Manchester was conducted by many nationalities, Behrens

Warehouse is a good example, located on the corner of Oxford and Portland Street in Manchester, United Kingdom. (Parkinson-Bailey 2000); another function of early warehouses was for packing purposes which was meant for the picking, checking, labeling and packing of goods for export, a good example is the India House (Wyke, Terry, 2012); finally we had the railway warehouses which were built close to the major stations in railway hubs, the first railway warehouse to be built was opposite the passenger platform at the terminus of the Liverpool and Manchester railway.

Historically warehouses were a dominant part of the urban landscape from the start of the industrial revolution through the 19th century and into the twentieth century. The buildings remained when their original usage had changed (Wyke, Terry, 2012; Kidd, Alan 2006). Always a building of function, warehouses have adapted to mechanization and changes in the supply chain over the last century. According to Khan (2014), warehouses are most crucial components of most modern supply chains: they are likely to be involved in various stages of sourcing, production and distribution of goods. From handling of raw materials to work in process through to finished products as the dispatch point serving the next customer in the chain, they are critical to the provisions of high customer service levels. Owing to the nature of facilities, staff and equipment requirement, warehouses are one of the most costly supply chain and therefore their successful management in terms of costs and services. They are part of a firm's logistic system that stores products (raw materials, parts, goods-in-process, finished goods) at and between point of origin and point of consumption, provides information to management on the status, condition and disposition of items being stored. They are basically intermediate storage points in the logistics system where raw material, work in process, finished goods and goods in transit are held for varying duration of times for a variety of purposes (Khan, 2014).

Warehouses used to be fairly straight-forward infrastructure projects, but over time the requirements for these facilities have become more complex and hence huge investments finances are needed. Between 1998 and 2007, spending on African infrastructure rose at a compound annual rate of 17 percent—up from \$3 billion in 1998 to \$12 billion in 2008, significantly outstripping the growth of global infrastructure investment. Africa accounted for 11 percent of total global private-sector and foreign-funded investment from 1999 to 2001 and for 17 percent from 2005 to 2007. This

growth has been driven largely by increased funding from non-OECD governments—particularly China's, which provided 77 percent of it in 2007. The private sector is still the largest single source of funds (45 percent in 2007). Rapid growth has attracted many multinational companies within and outside Africa. (Cloete, Faulhaber, and Zils, 2010).

While this growth has been substantial, the size of the investment gap that must be closed if the continent is to realize the United Nations' Millennium Development Goals is still big. Governments and the private sector must therefore substantially increase their infrastructure spending. So the growth trend in African infrastructure is far from over, and several countries have already announced significant additional spending. Since infrastructure investments also offer a high stimulus multiple in times of economic slowdown, Angola, Kenya, Mozambique, Nigeria, and Senegal have announced essentially similar programs, though on a much smaller scale. (Cloete, Faulhaber, and Zils, 2010).

The current trends in Kenya have seen warehouse construction sites where they are often co-located with other functions, such as the administrative offices, various industrial processes and even retail stores, as in the case of the Nakumatt Nyali, Mombasa. Accordingly proper project management practise and precise site location during construction of warehouses is key so that investments made becomes viable. According to Lurie (2010), a business is fundamentally an economic enterprise, and its primary goal from the perspectives of its shareholders is to maximize profit. In current thinking, the focus may have shifted to the role of the facility, such as a warehouse, distribution or logistics center, in supporting the overall business strategy of a firm. Therefore the construction site of a warehouse is generally one of the most important and strategic decision in the optimization of logistic systems. Warehouse location is a long-term decision and is influenced by many quantitative and qualitative factors. Among the main criteria taken into account in this paper are costs of construction resources, labor characteristics, infrastructure, and markets, tax incentives and tax structures, availability of labor force, quality and reliability of modes of transportation, and proximity to customers, stakeholder management and organization culture.

The conventional approaches to the problem of selection of construction site of the warehouse tend to be less effective in dealing with the imprecise or vague nature of the linguistic assessment. Under many situations, the values of the qualitative

criteria are often imprecisely defined for the decision-makers (Demirel and Kahraman, 2010). Warehouses form part of production and distribution network as they enable short lead time, flexibility in volumes, delayed customization in terms of assembly and packaging, and also organisational profitability (Christopher, Peck and Towill, 2006; Baker, 2007; Koskinen and Hilmola, 2008; Hilletoft, 2009). This makes proper warehousing to be a big factor in aiding performance among organizations which forces them to be part of their logistical investment, outsourcing them when necessary (CapGemini, 2007; Selviaridis and Spring, 2007; Marasco, 2008; Hilletoft and Hilmola, 2010; Hilmola and Tan, 2010). In an international or global setting, warehouses or distribution centers play a key role in supporting supply chain strategies.

According to Nkansah (2012) the processes of initiation, planning, execution, monitoring and controlling and closing are the standards used to ensure the effective implementation of all projects. However, most organizations undertake projects without necessarily adhering to these standard project management practices leading to the failure of most projects. The primary challenge of project management is to achieve all of the project goals and objectives whilst meeting the demands of project constraints (Nkansah, 2012, Lewis, 2006). Phillips (2006), outline typical project constraints as scope, time, cost and quality. A secondary objective is to optimize the allocation and integration of inputs to meet pre-defined objectives. These challenges ran through project management practices in warehouse construction industry and become a hindrance to achieving most objectives and results required from the execution of projects. The challenges witnessed in the construction industry includes cost overruns, lengthy out of hand schedules, poor quality and bad labor relations resulting to prolonged disputes.

CTCL is in the process of commissioning one of its largest warehouse which was funded by World Bank in the tune of 1.2billions. However CTCL has been through many challenges in completing the warehouses and hence a need for a study to come up with viable solutions. Due to these challenges, the warehouse construction project team at Chai Trading Company Limited (CTCL) has to elaborate the initial plans and execute the project based on these plans. When handling warehouse construction project, it is important we handle them differently compared to other operations within CTCL. This is because warehouse construction projects are different from operations involving other technical works. For example, whereas

operations involve continuous and repetitive actions meant to deliver same results over time, warehouse construction projects at CTCL are temporary endeavors meant to deliver unique results.

According to Office of Government Commerce (OGC), (2009), when implementing major projects, it is recommended that temporary organizations are set by the project manager who supervises a team of professionals. In these particular case of warehouse construction, the project team will comprise but not limited to an architect, a civil and construction engineer, a mechanical engineer, the project manager, a designer, contractor representative, clerk of works, electrical engineer, painter, ICT specialist and a quantity surveyor. The project can then be divided into sub-projects for ease of implementation. Before implementation of projects, a Strength, Weakness, Opportunity and Threat (SWOT) analysis must be done and a monitoring and evaluation program set, so that the project is fast tracked throughout its project levels from the input, activities, output, outcome all the way to impacts. Implementation of warehouse construction projects would be more successful in Kenya if all stake holders are involved, from the start in identification and design as well as implementation. CTCL have over the years recognized many factors contributing to failure during the construction of warehouses in Kenya and therefore there are important reasons as to why these failures are researched on so that a long time solution is arrived at.

## 1.2 Statement of the Problem

Selection of warehouse construction site and the use of knowledge areas by the project managers during the warehouse construction process has always been a problem to Chai Trading Company Limited. Currently CTCL is in the process of commissioning one of its biggest warehousing complex located in Miritini location, Mombasa County. However the site where the warehouse is located is not very good due to the following reasons: Eighty percent of the companies within the warehousing and logistic chain are located within the Mombasa island, due to proximity to the port of Mombasa for easy of business. In comparison it makes the new site where CTCL's warehouses are located to be very far to the rest of the players in the industry and also to the port of Mombasa through which most of its imports and exports pass through; the other reason is CTCL being a tea trading company is involved with a big number of tea sample distribution to and from various tea auction brokerage firms within the Mombasa central business district which will be a big

challenge due to the location of the new CTCL warehouse site; the other reason is the persistent traffic gridlock within the Makupa crossway which increases the cost of doing business.

On the other hand according to PMI, PMBOK Guide (2013) which is a guide to the project management practice in the world, there are ten key competencies that project managers must develop in order to lead and manage projects in a way it will guarantee achievement of its intended goals and objectives. The application of knowledge areas during warehouse construction at CTCL has not been very good. This has led to delayed completion date for the construction of CTCL's new warehouses resulting into higher costs of resources involved in the project. Poor project management skills by the project manager involved in this project has also resulted into disputes due to land ownership, as a result of improper stakeholder management. The construction industry calls for a unique type of project management, as many projects require large amounts of materials, physical tools and labor, and involve numerous and diverse stakeholders. Based on the above mentioned factors the study aimed at providing an understanding on the impact of the concepts of proper warehouse construction site selection and application of project knowledge areas during the construction of warehouses at CTCL. The study specifically looked into how human resource management, stakeholder management and the organization structure affects the construction of warehouses at CTCL. The outcome of this study when implemented will in turn efficiently and effectively place CTCL in a competitive advantage.

### 1.3 Objectives of the Study

#### 1.3.1 General Objective

To establish the factors affecting warehouse construction performance at Chai Trading Company Limited.

#### 1.3.2 Specific Objectives

The following were the specific objectives of this research project,

1. To establish how warehouse construction site influence warehouses construction performance at Chai Trading Company Limited.
2. To investigate how human resource management influence warehouses construction performance at Chai Trading Company Limited.

3. To establish the influence of stakeholder management in warehouses construction performance at Chai Trading Company Limited.
4. To establish the influence of organization structure on warehouses construction performance at Chai Trading Company Limited.

### 1.4 Research Hypothesis

In order to achieve its objectives, the researcher used the following hypothesis.

- H<sub>1</sub>** The warehouse construction site have an influence to warehouse construction performance at CTCL.
- H<sub>0</sub>** The warehouse construction site does not have an influence to warehouse construction performance at CTCL.
- H<sub>1</sub>** Human resource management have an influence to warehouse construction performance at CTCL.
- H<sub>0</sub>** Human resource management does not have an influence to warehouse construction performance at CTCL.
- H<sub>1</sub>** Stakeholder management have an influence to warehouse construction performance at CTCL.
- H<sub>0</sub>** Stakeholder management does not have an influence to warehouse construction performance at CTCL.
- H<sub>1</sub>** Organizational structure have an influence on warehouse construction performance at CTCL.
- H<sub>0</sub>** Organizational structure does not have any influence on warehouse construction performance at CTCL.

## LITERATURE REVIEW

### 2.1 Introduction

This chapter highlights the literature by other scholars and researchers on the aspect of factors affecting construction of warehouses in Kenya while at the same time trying to relate it to Chai Trading Company Limited. It reviews literature that is related to both the general and specific

objectives of the research. Other areas covered will include basic theories related to this problem, critical review, summary, gaps to be filled and the conceptual framework.

## 2.2 Theoretical Review

### 2.2.1 Theories of Motivation in Project Human Resource Management

According to Sugiharto (2012) and Miner (2015), there are six main theories of motivation that should be understood to develop a good project team. McGregor's theory X and Y describes two different types of workers and how they should be managed, once it is only interested in their own selfish goals, they dislike work, are unmotivated and must be coerced into carrying out any form of work. This describes the Theory X approach. Theory Y assumes that people are naturally motivated and are interested in doing their best, given the freedom to do so they can be trusted to work towards the project goals, (Sugiharto, 2012); Herzberg's motivation-hygiene theory states that there are many work factors that influence satisfaction within the work force and hence while using the develop project team process, so-called hygiene factors do not make someone satisfied but their absence will make someone unsatisfied. Examples here are the pay and working conditions. The other factors are called motivation factors and as their name suggests will actively motivate individuals but they will not work without the hygiene factors in place. Examples here are achievement, recognition and advancement (Miner, 2015); Maslow's hierarchy of needs theory states that we all have basic needs which must first be met before we can move on to the next higher level of needs. There are five steps within the hierarchy: The lowest level is the physiological level covering basics such as food clothing and sleep. The next level is security bringing freedom from fear, job protection and safety. The third level is social in the form of acceptance and feeling part of the team. The fourth level is the first of the higher needs and is called esteem. This includes feelings of contribution, recognition, and importance and is obviously vital when using the develop project team process. The highest level is called self-actualization and is defined as living and working as an individual's full potential, (Sugiharto, 2012); ERG theory is similar to Maslow's hierarchy of needs, but is illustrated as a pyramid with the lowest level described as existence, the middle level described as relatedness, and it's highest level described as growth. It could be seen that existence refers to as the physiological and security levels, relatedness refers to acceptance, and growth to the esteem and self-actualization of Maslow's theory

(Sugiharto, 2012); McClelland's theory of needs is also called the achievement theory and states that team members are motivated by three primary needs. These are Power which is a behavior of how people like to organize motivate and lead others, Achievement which refers to individuals who are result oriented and like to achieve objectives and be recognized for it, and Affiliation which describes individuals who prefer being part of a team including acceptance and a need for belonging (Miner, 2015); Finally we have the Vroom's expectancy theory which depends on the perception that the individual's effort will result in a desired outcome and are therefore motivated when they believe that putting in more effort will bring about better job performance leading into organizational rewards that are seen as valuable by the employee (Miner, 2015).

### 2.2.2 Stakeholder Theory

The stakeholder theory is a theory that deals with both organizational management and business ethics that addresses morals and values in managing an organization (Freeman 2009). He illustrated a system which identifies and produces models of the groups of stakeholders in an organization. According to Freeman, Harrison & Wicks, (2007), organizations should always give due regard to the interests of those groups. Traditionally organizations used to view stakeholders only as the shareholders of the organization taking them with at most care with all their interests being looked into. Organizations had a binding duty to keep their needs first, to increase value for them. Stakeholder theory instead argues that there are other parties involved, including employees, customers, suppliers, financiers, communities, governmental bodies, political groups, trade associations, and trade unions. Even competitors are sometimes counted as stakeholders their status being derived from their capacity to affect the firm and its stakeholders. The nature of what is a stakeholder is highly contested (Miles, 2012), with hundreds of definitions existing in the academic literature (Miles, 2011).

According to Olajide (2014), the concept of corporate social responsibility (CSR) focuses on ethical and moral issue which impact corporate decision making and behavior. CSR is a concept that emphasizes responsive and extended social contribution of businesses to the society. Likewise, globalization has reinforced the relevancy of CSR in business operations. This is because globalization has introduced new challenges and opportunities emanating from increasing linkages between social, political, economic and environmental roles of businesses. Thus, businesses

are confronted with new risks in the global dynamic environment. The implication is that businesses need to be profitable and respond positively to emerging societal expectations accordingly. The main purpose of CSR is to ensure that firms are accountable to stakeholders. There is a wide range of stakeholders including customers, employees, trade unions and community (Hillenbrand & Money, 2007; Carroll & Shabana, 2010; Kemper et al., 2013).

Company resources should always be shared properly and hence there is need to identify, prioritize and incorporate stakeholders in decision-making. Naturally, business seeks to maximize its profits and is self-interested (Fisher & Lovell, 2009; Hooker, 2011). But at the same time organizations must never ignore CRS since their strategic plans affect a wide range of stakeholders.

CSR practices have become a component of business organization that enhance competitive advantage and long-term sustainability (Porter & Kramer, 2006; Halme & Laurila, 2009; Brik et al., 2010; Carroll & Shabana, 2010; Rodriguez-Melo & Mansouri, 2011; Kemper et al., 2013; Monowar & Humphrey, 2013).

### 2.3 Conceptual Framework

The main goal of this study is to establish the factors affecting warehouse construction strategy at Chai Trading Company Limited. The conceptual framework is as shown in figure 2.4 below. The independent variables are selection of location for warehouse construction site, human resource management and stakeholder management. The dependent variable is ‘implementation of CTCL’s Warehouse Construction Project Strategy’.

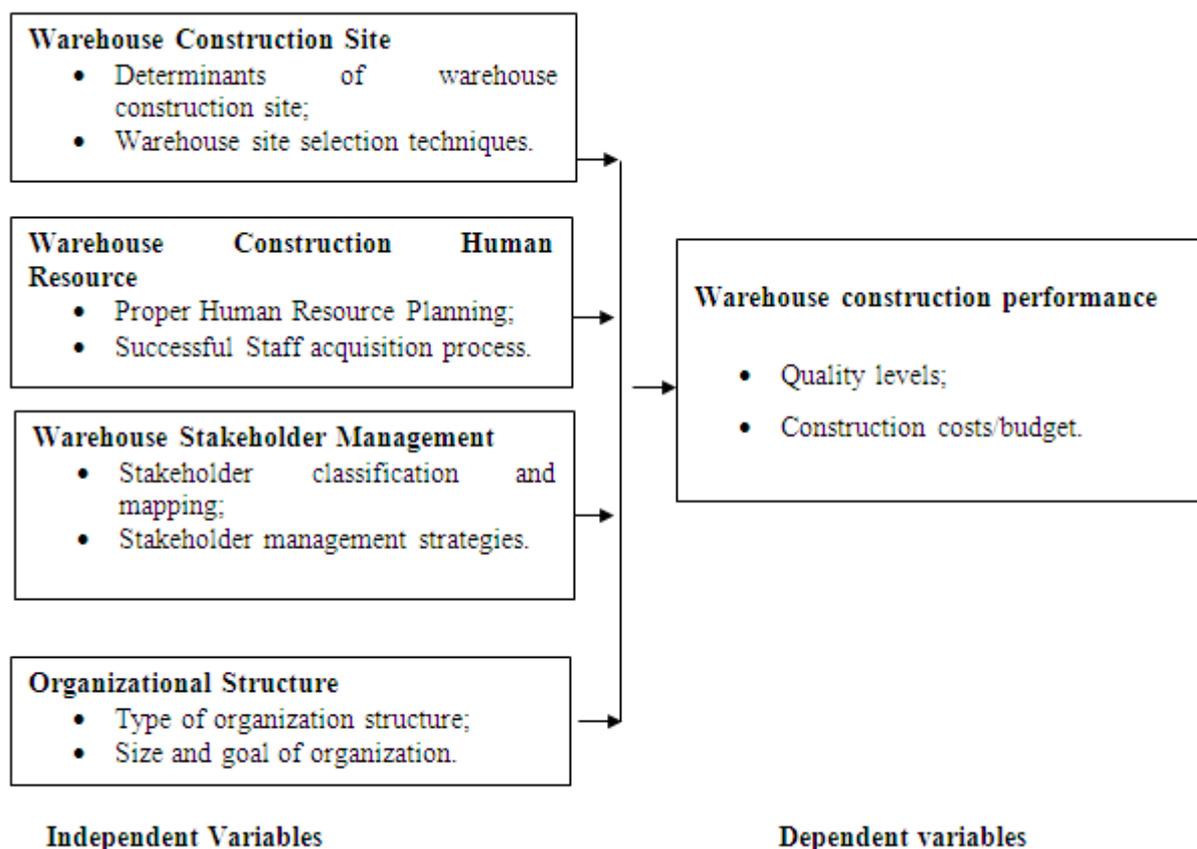


Figure 2.1: Conceptual Framework

#### 2.3.1 Warehouse Construction Site

According to Fechner (2010), there are two decisive determinants involved in the process of selecting location for modern warehousing

facilities. These are, the agglomeration determinant and the infrastructural determinant. The former accounts for the impact of such determinants as population size and household income, retail sales volume and volume of sold production. The latter

is related to the availability and quality of transport infrastructure. The location of warehousing facilities is mainly determined by economic criteria, including GDP volume and growth, volume of sold production, trade turnover, the population's purchasing power and demographic factors. Selection of location for new warehousing facilities is also conditioned by such constraints as; availability of large-size real properties fit for the purpose of constructing warehouse buildings and structures, legal regulations related to obtaining real property development conditions and building permits, quality of transport infrastructure in the area concerned, local labor market, including availability of warehouse workers.

According to Tozay (2012), in real life there exist many factors that directly or indirectly affect the selection of site location. The factors to consider in a global location decisions include the following; government stability, governed regulations, political and economic systems, exchange rates, culture, climate, export & import regulations, tariffs and duties, raw material availability, availability of suppliers, transportation & distribution systems, labor force, available technology, technical expertise, cross-border trade regulations and group trade agreements. On the other hand, for the selection of the region, city or country the factors considered are; labor, proximity to customers, number of customers, construction costs, land cost, availability of modes and quality of transportation, transportation costs, local business regulations, business climate, tax regulations, financial services, incentive packages applied to that region and labor force education are both critical and important in selection of site location of the facility. Therefore it is clear that there is a need in location problem approaches concentrating on the combination of qualitative and quantitative factors.

According to Comtois, Slack (2009), the determinants of site location for construction of a warehouse can be categorized into three general functional categories, namely: site, accessibility and socioeconomic environment. Site is the specific micro-geographical characteristics which includes the availability of land, basic utilities, the visibility (for activities related to prestige such as head offices), amenities (quality of life) and the nature and level of access to local transportation (such as the proximity to a highway). These factors have an important effect on the costs associated with a location. Accessibility include a number of opportunity factors related to a location, mainly labor (wages, availability, level of qualification), materials (mainly for raw materials dependent activities), energy, markets (local, regional and

global) and accessibility to suppliers and customers (important for intermediate activities). The socioeconomic environment is the specific macro-geographical characteristics that tend to apply to jurisdictional units (nation, region, and locality). They consider the availability of capital (investment, venture), varied subsidies, regulations, taxation and technology. The role and importance of each factor depends on the nature of the activity which locational behavior is being investigated (Rodrigue, 2013).

Taking into consideration that CTCL will be locating some of its processing plants in the newly constructed warehouses the issue of availability of raw material and transportation of final product becomes a key factor in site selection for the construction of the warehouses. The availability and price of suitable raw materials will often determine the site location. The transport of materials and products to and from the plants installed inside the warehouses will be an overriding consideration in site selection. If practicable, a site should be selected that is close to at least two major forms of transport: road, rail, waterway (canal or river), or a sea port. Road transport is being increasingly used, and is suitable for local distribution from a central warehouse (Sinnot, 2014).

There are four specific analytical techniques available to aid in evaluating location alternatives namely; the factor-rating method, locational break-even analysis, center-of-gravity method and the transportation model (Das, 2011). According to Sharma, (2014), the factor rating method involves qualitative and quantitative inputs, and evaluates alternatives based on comparison after establishing a composite value for each alternative. Factor Rating consists of six steps which involves the following; Determining the relevant and important factors, assigning a weight to each factor with all weights totaling 1.00, determining common scale for all factors usually 0 to 10, scoring each alternative, adjusting score using weights (multiplying factor weight by score factor and adding up scores for each alternative) and finally choosing the alternative with the highest score as it is considered the best option. The other technique which is the transportation model works by finding an initial feasible solution and then makes step-by-step improvements until an optimal solution is reached which minimizes the total production and shipping costs (Sharma, 2014).

According to Shmula, Das (2011), center of gravity technique is used in determining the location of a facility which will either reduce travel time or lower shipping costs. This method takes into

account the location of markets, volume of goods shipped to those markets and shipping Costs for distribution center. Distribution cost is seen as a linear function of the distance and quantity shipped. The Center of gravity method involves the use of a visual map and a coordinate system; the coordinate points being treated as the set of numerical values when calculating averages. If the quantities shipped to each location are equal, the center of gravity is found by taking the averages of the  $x$  and  $y$  coordinates; if the quantities shipped to each location are different, a weighted average must be applied (the weights being the quantities shipped). Location cost-volume-profit Analysis can be represented either mathematically or graphically. It involves the following three steps; for each location alternative, the fixed and variable costs are determined, the total-cost lines are then plotted on the same graph, and finally the lines are used to determine which alternatives will have the highest and lowest total costs for expected levels of output. Additionally, there are four assumptions one must keep in mind when using this method. They are; fixed costs are constant, variable costs are linear, required level of output can be closely estimated and there is only one product involved (Reid, Sanders, 2007).

According to Gigerich (2012), the main question is how does the site selection team narrow down the potential locations for a project? Any successful site selection process begins with the development of a strong project team, an excellent set of assumptions, and a list of key decision-drivers. Without the right team and correct assumptions in place, the process cannot deliver optimal results. Then, in order to move the process forward to ensure the right decision, it is important to develop two checklists for the project. Checklist 1 focuses on the key milestones in the process. Checklist 2 identifies the key site selection factors that will be considered when making a recommendation. While the milestones are generally the same for most projects, the key factors considered in the decision-making process may be weighted differently, depending on the type of project, the company's culture, the required work force for the location, and other key objectives established by the company for the project. CTCL must have a plan in place to optimize results for the warehouse construction project. As stated, it is very important for companies to identify their key criteria and objectives at the outset of the project in order for their site selection team to make a sound recommendation and the company to make the right decision. These decisions have long-term implications for CTCL owners and its employees and customers. Passion and commitment are musts

in the economic development and site selection world.

### **2.3.2 Warehouse Construction Human Resource**

According to the PMBOK (2012) resource management is the efficient and effective deployment of an organization's resources when they are needed. Management of human resources involved in warehouse construction, is part of a wider PHRM. It involves the processes required to make the most effective use of the people involved with the project. These group of people are called the project team who are charged with the responsibilities for completing the project. The team includes all the project stakeholders' sponsors, customers, partners, individual contributors, performing organization, and project team members. The core processes involved are human resource planning, acquiring the project team, developing the project team, and managing the project team, PMBOK (2013). These processes interact with each other and with the processes in the other knowledge areas as well. Each process may involve effort from one or more individuals or groups of individuals based on the needs of the project. Although the processes are presented here as discrete elements with well-defined interfaces, in practice they may overlap and interact in ways not detailed here. In this study only the first two processes will be discussed.

Human Resource planning (HRP) involves determining project roles, responsibilities, and reporting relationships culminating in the staffing management plan. It is the ongoing process of systematic planning to achieve optimum use of an organization's most valuable asset - its human resources. The objective of HRP is to ensure the best fit between employees and jobs, while avoiding manpower shortages or surpluses, PMBOK (2013). According to Pournader, Tabassi, Baloh, (2015) developing a comprehensive human resource (HR)-planning framework that corresponds to the variety of HR-related issues has seldom been observed in existing project management literature. The three authors presented a study which applies a three-step design science approach to introduce a holistic HR-planning framework. The rigor and relevance cycles in this approach address the HR-related issues in projects and the shortcomings of the literature associated with developing a thorough HR-planning framework. Subsequently, the proposed framework is being validated by an exploratory study undertaken at Parsons Brinckerhoff (USA) and BISOL Group (EU). Next, in line with the

guidelines of the design cycle for justifying the use of the framework, a survey is conducted on the collected data from 110 Iranian experts in the construction industry.

There are three main inputs involved in HRP according to PMBOK (2013). Project interfaces, which generally fall into one of the three categories. Organizational interfaces, which is a formal and informal reporting relationships among different organizational units, technical interfaces which is a formal and informal reporting relationships among different technical disciplines (e.g., the site design developed by the civil engineers must be compatible with the superstructure developed by the structural engineers) and between project phases (e.g., when an automotive design team passes the results of its work along to the retooling team that must create the manufacturing capability for the vehicle) and finally interpersonal interfaces which is a formal and informal reporting relationships among different individuals working on the project. These interfaces often occur simultaneously, as when an architect employed by a design firm explains key design considerations to an unrelated construction contractor's project management team. The next input is the Staffing requirements which defines what kind of skills are required from what kind of individuals or groups and in what time frames.

Finally we have constraints as an input to HRP which are factors that limit the project team's options. They include organizational structure of the performing organization (e.g. an organization whose basic structure is a strong matrix means a relatively stronger role for the project manager than one whose basic structure is a weak matrix). See figure 2.6 below. Collective bargaining agreements as a constraint involves contractual agreements with unions or other employee groups who may require certain roles or reporting relationships. We also have the preferences of the project management team acting as a constraint (e.g. if members of the project management team have had success with certain structures in the past, they are likely to advocate similar structures in the future). Finally we have the expected staff assignments acting as a constraint, (e.g. how the project is organized is often influenced by the skills and capabilities of specific individuals).

According to PMBOK (2013), the following tools and techniques are used; Templates are used as a tool for this purpose and although each project is unique, most projects will resemble another project to some extent. Using the role and responsibility definitions or reporting relationships of a similar project can help expedite the process of HRP.

Human resource practices is used as a technique since many organizations have a variety of policies, guidelines, and procedures that can help the project management team with various aspects of organizational planning. Organizational theory is also used as a technique to assist in HRP as there is a substantial body of literature describing how organizations can and should be structured. Although only a small subset of this body of literature is specifically targeted at project organizations, the project management team should be generally familiar with the subject of organizational theory so as to be better able to respond to project requirements. Finally we have stakeholder analysis. The needs of the various stakeholders should be analyzed to ensure that their needs will be met.

According to PMBOK (2013), there are four main outputs required on a HRP. The first one is role and responsibility assignments which must be done to the appropriate project stakeholders. Roles and responsibilities may vary over time. Most roles and responsibilities will be assigned to stakeholders who are actively involved in the work of the project, such as the project manager, other members of the project management team, and the individual contributors. The roles and responsibilities of the project manager are generally critical on most projects but vary significantly by application area. Project roles and responsibilities should be closely linked to the project scope definition. On larger projects, RAMs may be developed at various levels. For example, a high-level RAM may define which group or unit is responsible for each element of the work breakdown structure while lower-level RAMs are used within the group to assign roles and responsibilities for specific activities to particular individuals. The second output of HRP is the Staffing management plan which describes when and how human resources will be brought onto and taken off the project team. The staffing plan may be formal or informal, highly detailed or broadly framed, based on the needs of the project. It is a subsidiary element of the overall project plan. Particular attention should be paid to how project team members (individuals or groups) will be released when they are no longer needed on the project. Appropriate reassignment procedures may will reduce costs by reducing or eliminating the tendency to "make work" to fill the time between this assignment and the next and also it will improve morale by reducing or eliminating uncertainty about future employment opportunities.

Organization chart is also another output. It consists of a graphic display of project reporting relationships. It may be formal or informal, highly

detailed or broadly framed, based on the needs of the project. For example, the organization chart for a three- to four person internal service project is unlikely to have the rigor and detail of the organization chart for a 3,000-person nuclear power plant outage. An Organizational Breakdown Structure (OBS) is a specific type of organization chart that shows which organizational units are responsible for which work items. The final output involves documenting all the Supporting detail for HRP which varies by application area and project size; e.g. organizational impact (what alternatives are precluded by organizing in this manner), job descriptions (written outlines by job title of the skills, responsibilities, knowledge, authority, physical environment, and other characteristics involved in performing a given job), training needs (if the staff to be assigned is not expected to have the skills needed by the project, those skills will need to be developed as part of the project).

Staff acquisition is the process of getting the needed resources on the project team to complete the project work. Staff acquisition focuses on working within the policies and procedures of the performing organization to obtain the needed resources to complete the project work. Negotiation, communication, and political savvy are key to getting the desired resources on the project team, (Phillips, 2012)

There are three inputs involved during staff acquisition. The first one is the Staffing management plan. It involves selecting and assembling a project team. The staffing plan specifies when and how to meet the requirements for staffing the project. The staffing plan builds on the high-level staffing needs identified in the Initiate Stage. It considers the following; how the staff will be acquired, how long the staff will be needed, the skills required and what training is needed. It also identifies the staff required and how and where to secure those staff. Getting commitments from key staff before actual work begins is necessary (Heldman, Baca, Jansen, 2007).

The second input is the Staffing pool description. When the project management team is able to influence or direct staff assignments, it must consider the characteristics of the potentially available staff. Considerations include, but are not limited to; Previous experience (have the individuals or groups done similar or related work before? Have they done it well?), Personal interests (are the individuals or groups interested in working on this project?), Personal characteristics (are the individuals or groups likely to work well together as a team?), Availability (will the most desirable individuals or groups be available in the necessary

time frames?). The last input is the recruitment practices. One or more of the organizations involved in the project may have policies, guidelines, or procedures governing staff assignments. When they exist, such practices act as a constraint on the staff acquisition process, (PMBOK, 2013).

According to Heldman and Mangano (2009), one of the tools used in staff acquisition is negotiations. Staff assignments must be negotiated on most projects. For example, the project management team may need to negotiate with responsible functional managers to ensure that the project receives appropriately skilled staff in the necessary time frame. The team may also negotiate with other project management teams within the performing organization to assign scarce or specialized resources appropriately. The team's influencing skills play an important role in negotiating staff assignments as do the politics of the organizations involved. For example, a functional manager may be rewarded based on staff utilization. This creates an incentive for the manager to assign available staff who may not meet all of the project's requirements. The other tool used is called pre-assignment. In some cases, staff may be pre-assigned to the project. This is often the case when the project is the result of a competitive proposal and specific staff were promised as part of the proposal, or the project is an internal service project and staff assignments were defined within the project charter.

Finally we have procurement process as a technique. Project procurement management can be used to obtain the services of specific individuals or groups of individuals to perform project activities. Procurement is required when the performing organization lacks the in-house staff needed to complete the project (e.g., as a result of a conscious decision not to hire such individuals as full-time employees, as a result of having all appropriately skilled staff previously committed to other projects, or as a result of other circumstances). The final stage of staff acquisition is reached when the outputs are produced. According to PMBOK (2013) there are two main outputs. The first one happens when the project staffs are assigned. The project is staffed when appropriate people have been reliably assigned to work on it. Staff may be assigned full-time, part-time, or variably, based on the needs of the project. The second output is the formation of the project team directory. A project team directory lists all the project team members and other key stakeholders. The directory may be formal or informal, highly detailed or broadly framed, based on the needs of the project.

### 2.3.3 Warehouse Stakeholders Management

According to the Project Management Institute (PMI), the term project stakeholder refers to an individual, group, or organization, who may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome of a project' (Project Management Institute, 2013). The role of stakeholder management as a central project management process has made the execution of the technical projects in Kenya very easy. Today even the concept of project management is defined through stakeholders as "the process of adapting the specifications, plans, and approaches to the different concerns and expectations of the various stakeholders" (PMI, 2008). Despite the acknowledged importance of stakeholder management, project research still lacks both theoretical knowledge and empirical evidence of various project stakeholder related phenomena (Achterkamp and Vos, 2008). In project management it is commonly accepted that the interests of stakeholders need to be dealt with to support the success of a project (Achterkamp and Vos, 2008).

Success has always been the ultimate purpose of each activity of a project including construction and building projects (Yu, Shen, Kelly, & Hunter, 2006). Project success has been extensively discussed in the construction and project management literature. Most studies have focused on the scope of project success which means the way to measure success of project and factors affecting project success. In these study, the author will be investigating how proper management of stakeholder will influence the success factors of the construction of warehouses at CTCL. Heravitorbati, et al., (2011), cited Aktin and Skitmore (2008) theory which stated that enhanced stakeholder involvement can help with managing their needs, decreasing unanticipated risk and reducing unconstructive actions or reactions that have possible impact on project success. However, according to the comprehensive statement by PMBOK Guide published by the Project Management Institute (PMI), project success criteria consist of the golden triangle ( time, cost, quality) and key project stakeholder's satisfaction and their incorporation to the project (PMI, 2004). Gathering the information from the literature shows that quality and stakeholder involvement have been regarded as two major success factors in construction projects and that's why there is need to apply the same to the construction projects at CTCL in particular warehouse construction.

Direct stakeholders are those directly associated or involved in the project. These include the client,

project sponsor, project manager, members of the project team, technical and financial services providers, internal or external consultants, material and equipment suppliers, site personnel, contractors and subcontractors as well as end users (Lester, 2007). They are also known as internal stakeholders. Indirect stakeholders are those indirectly associated with the project, such as; internal managers of the organization and support staff not directly involved in the project, national and local government, public utilities, licensing and inspecting organizations, technical institutions, professional bodies, and personal interest groups such as stockholders, labor unions and pressure groups (Lester, 2007). They are also known as external stakeholders. Positive stakeholders are those who are likely to have a favorable impact on a project. These people or organizations tend to also be direct stakeholders, and stand to gain from the project's success. Examples would be the organizations involved in the work itself that stand to benefit financially. Negative stakeholders are those who are likely to have a detrimental impact on a project. They tend to be people or organizations not directly involved in a project, but who are still affected by it in some way. An example would be local residents with concerns about loss of public areas to a new project. (Burke, 2006). Stakeholders are further differentiated between those with legitimacy and power, and those without it, as this will influence the degree to which they can affect the project, whether positively or negatively. Legitimacy is the perceived validity of a stakeholder's claim to importance on the project. Power is the stakeholder's ability to influence the project and the parties involved in some way, whether finically, legally or by some other form of pressure (Olomolaiye & Chiniyo, 2010).

While it may not be possible to place all stakeholders on every project, effective stakeholder management should endeavor to satisfy as many as possible, which will often involve strategic prioritization of the different stakeholders needs. A common technique used for this is the stakeholder matrix or stakeholder map, which allows the priority level of the stakeholder to be assessed using the power and legitimacy criteria. The result of these processes is a 4-tier hierarchy of stakeholder importance levels, which will dictate how stakeholders are managed during the course of a project.

The first category is the one which must be informed about what is going on throughout the entire project. This category contains those stakeholders who require minimal effort. Stakeholders with lower power but higher

legitimacy need to be kept informed of decisions taken that may affect them directly (Olomolaiye & Chiniyo, 2010). The second category is called the consult group type of stakeholders. These are stakeholders who require more than just being informed about the project. Since the secondary stakeholders with higher power but lower legitimacy need to be kept onboard they should be consulted in order to seek their opinions and input for key decisions that directly or indirectly affect them. It is unlikely that the strategy will be altered as a result of such consultation, but tactics may be adjusted to maintain higher levels of commitment (Olomolaiye & Chiniyo, 2010).

The third category is called the involve group type of stakeholders. They are stakeholders with high power levels, even though with low legitimacy. They need to be involved in all activities in the project according to their interest since they have power to make decisions that impact on the project. The management should work directly with these stakeholders to ensure that their concerns are consistently understood, considered, and reflected in the projects development (Olomolaiye & Chiniyo, 2010). The last group is called the partner/collaborate type of stakeholders. Primary stakeholders have high enough levels of legitimacy and power to effect project success and as such, they should be treated as partners to increase their engagement and commitment. This can be achieved by revising and tailoring project strategies, objectives, and outcomes if necessary to win their support (Olomolaiye & Chiniyo, 2010).

Apart from power and legitimacy, the following methods shall be used to analyze and classify the stakeholders: Urgency, the question will be concerned with the level of response to claims made by each stakeholder in warehouse construction project. Proximity, this shall evaluate the degree to which stakeholders are associated with warehouse construction projects. Knowledge, will be concerned with stakeholder knowledge of warehouse construction project. Vested Interest, shall obtain a subjective assess of the level of vested interest of each stakeholder in warehouse construction. Attitude, will measure the attitude of each stakeholder toward the construction of the warehouses.

In order to run a successful project it is important to address the needs of the projects stakeholders, effectively predicting how the project will affect them and how they can affect the project. The effective management of project stakeholders is considered an important key to project success (Olomolaiye & Chiniyo, 2010). Ineffective stakeholder management can result in

dissatisfaction with the final product and negative impacts on the projects budget and schedule (Olomolaiye & Chiniyo, 2010). During the development stages of a project, a stakeholder management strategy should be developed. An organization should consider the following factors when developing a stakeholder management plan (Caroll and Buchholtz, 2006): Who are our stakeholders?, What are their stakes?, What opportunities do they present?, What challenges or threats do they present?, What responsibilities do we have towards our stakeholders?, What strategies or actions should we use to engage our stakeholders? This process will allow the projects stakeholders to be effectively mapped out. The next step is to assess their key characteristics and present this information in a way that helps the project team implement effective stakeholder management initiatives (Olomolaiye & Chiniyo, 2010).

According to Hammad (2013) on stakeholder management, a number of studies have been conducted to explore how to apply this knowledge area in the construction industry. Olander (2006) adopted Cleland and Ireland, (2002) in describing a project stakeholder management process in the following basic premises that could be served as a guide for the development of a stakeholder management process. The process consists of executing the management functions of planning, organizing, motivating, directing and controlling the resources used to cope with strategies from stakeholders with the following steps: Identification of stakeholders, gathering information, identification of mission, determining strengths and weaknesses, identification of stakeholder strategy, prediction of stakeholder behavior, and implementing stakeholder management strategy. Jepsen and Eskerod (2009) clarified the premises underlying project stakeholder management, which includes making deliberate efforts to exert influence on project stakeholders in order to gain their contributions to the project, allocating limited resources in such a way that they achieve the best possible results, and expanding efforts spread across a range of stakeholders than concentrated on a few. Therefore, project stakeholder management is indispensable to control the negative impacts of stakeholders, maximize the perceived benefits, and achieves the preset mission (El-Gohary *et al.*, 2006).

According to Bourne and Walker (2006) project-stakeholder advantage of management is designed to encourage the use of proactive project management for limiting stakeholder activities that might affect the project negatively, and to assist the project team's ability to take opportunities which

encourage stakeholder support of project objectives. Since the purpose of stakeholder management is to address the diverse views of various participants, improve communication among stakeholders, and clarify their needs (Yang *et al.* 2009). All the above authors focused on the management activities related to stakeholders. These activities include, but are not limited to: identifying stakeholders, gathering information on stakeholders, analyzing the influence of stakeholders, communicating with stakeholders and developing strategies. Stakeholder management can therefore be summarized as the process of identification, analysis, communication, decision making and all other kinds of activities in terms of managing stakeholders (Yang *et al.*, 2011). Similar process model centering on identifying stakeholders; gathering information about stakeholders; analyzing the influence of stakeholders was championed by Young (2006).

According to Bourne and Walker (2006) the process could be managed in the following three steps identifying stakeholders; prioritizing stakeholders; developing a stakeholder engagement strategy. Identifying stakeholder; prioritizing stakeholders, visualizing stakeholders, engaging stakeholders, and monitoring effectiveness of communication are the basic steps for stakeholder management (Walker *et al.* 2008). Jepsen and Eskerod (2009) explains project stakeholder management, by insisting that it includes making deliberate efforts to exert influence on project stakeholders in order to gain their contributions to the project, allocating limited resources in such a way that they achieve the best possible results, and expanding efforts spread across a range of stakeholders than concentrated on a few.

#### 2.3.4 Organizational Structure

The construction industry is plagued by fragmentation of the functions carried out by the various disciplines involved in a project, particularly between the design and construction teams. Concurrent engineering (CE) is seen as a possible means of overcoming this problem. However, for the use of CE to produce the desired benefits, various issues have to be addressed, one of which is the use of appropriate organizational structures. (Anumba, Baugh, Khalfan, 2006). Organizations are set up in specific ways to accomplish different goals, and the structure of an organization can help or hinder its progress toward accomplishing these goals. Organizations large and small can achieve higher sales and other profit by properly matching their needs with the structure they use to operate. (Alexis, 2016). This implies that even in implementation of warehouse

construction projects the organization structure plays a crucial role on its success.

According to Alexis, 2016, there are three key organization structures which have different influences on success of different projects. Functional structure is set up so that each portion of the organization is grouped according to its purpose. In this type of organization, for example, there may be a marketing department, a sales department and a production department. The functional structure works very well for small businesses in which each department can rely on the talent and knowledge of its workers and support itself. However, one of the drawbacks to a functional structure is that the coordination and communication between departments can be restricted by the organizational boundaries of having the various departments working separately. In this situation it means if the project department operates as separate division, then there may arise various challenges when it comes to project success.

Divisional structure typically is used in larger companies that operate in a wide geographic area or that have separate smaller organizations within the umbrella group to cover different types of products or market areas. For example, the now-defunct Tecumseh Products Company was organized divisionally--with a small engine division, a compressor division, a parts division and divisions for each geographic area to handle specific needs. The benefit of this structure is that needs can be met more rapidly and more specifically; however, communication is inhibited because employees in different divisions are not working together. Divisional structure is costly because of its size and scope. Small businesses can use a divisional structure on a smaller scale, having different offices in different parts of the city, for example, or assigning different sales teams to handle different geographic areas. (Alexis, 2016).

The third main type of organizational structure, called the matrix structure, is a hybrid of divisional and functional structure. Typically used in large multinational companies, the matrix structure allows for the benefits of functional and divisional structures to exist in one organization. This can create power struggles because most areas of the company will have a dual management--a functional manager and a product or divisional manager working at the same level and covering some of the same managerial territory. However this type of structure is cited as the best for large organizations undertaking mega projects. A number of factors determine how organizations are structured. Size, though an element of structure, is

also a determinant because it influences all the other elements. Organizational goals clearly influence the way an organization is designed. Social customs, beliefs and values at the time of an organization's birth also determine how it is structured. This has been very important in the history of business. Environmental constraints, and available technology are the other determinants of the type of structure to be adopted by an organization. (Hahn, 2007)

#### **2.4 Empirical Review**

There has been quite a number of literature on factors influencing implementation of various warehousing project in the past. (Wixom and Watson, 2001) researched about factors affecting the implementation of data warehousing projects. They cited that data warehousing has unique characteristics that may impact the importance of factors that apply to it. Their study found that management support and resources help to address organizational issues that arise during warehouse implementations; resources, user participation, and highly-skilled project team members increase the likelihood that warehousing projects will finish on-time, on-budget, with the right functionality; and diverse, unstandardized source systems and poor development technology will increase the technical issues that project teams must overcome. The implementation's success with organizational and project issues, in turn, influence the system quality of the data warehouse; however, data quality is best explained by factors not included in the research model.

Enshassi, Mohamed, Abushaban, (2009), researched on factors affecting the performance of construction projects in the Gaza strip. The survey findings indicated that the most important factors affecting project performance are: delays because of borders/roads closure leading to materials shortage; unavailability of resources; low level of project leadership skills; escalation of material prices; unavailability of highly experienced and qualified personnel; and poor quality of available equipment and raw materials.

Ogunlana, (2009), researched about critical success factors in large scale construction projects in Thailand. The researcher found that success factors vary across various projects. Project planning and control, project personnel and involvement of client were found as the critical factors that influence project success. Ann et al. (2006) carried out an investigation on CSFs in construction project briefing. They found that briefing process is prerequisite to achieving success in project

performance. Ugwu et al. (2007) identified nine CSF's that act as enablers for successful implementation of ICT projects in construction as cost of development, top management support, availability of appropriate tools, development team knowledge and understanding of construction processes, ease applications, clear definition and understanding end user, clear communication, standardization issues and change management of organization level.

Enshassi et al (2006) studied causes of contractor's business failure in developing countries. The study found them as managerial, financial, business growth, business environment and political factors. Managerial factors were found to be related to experience, decisions, procurement, control, productivity, communication and claims factors; financial factors were found to be related to loans, cash flow, profit, expenditures, material wastages, equipment cost and usage, and variation order; business growth factors were found to be mainly related to managerial development, size of projects, type of work and number of projects; business environment factors are mainly related to regulations, awarding, economy, owner involvement and accounting practices and political factors are mainly related to delay, closure, lack of resource, high cost of materials, banks policy and dealing with suppliers. The results showed that political group is the most important influencing factor on contractor's business failure in Palestine. Otherwise, Business growth and Business environment had been ranked as the lowest influencing factors on failure.

Iyer and Tha (2006) found out through a survey in India that two most critical success factors are commitment of participants 'and owners 'competence. Executive support, user involvement, experienced project manager, clear business objectives, minimized scope, standard software infrastructure, firm basic requirements, formal methodology and reliable estimates were found out as the nine top success factors influencing project performance (Gartner group, 2004).

Nyambura (2015) explored the factors influencing the completion of building projects in Kenya. She cited that in any construction organizations, the quality and delivery of the final product to the community can play a crucial role in improving future development and long term survival of such organizations. Completion of a given project along the three critical dimensions of time, cost and quality, requires detailing all the planning requirements. This could be achieved by identifying preconstruction planning factors and

describing them in a process that takes into account all the preconstruction planning aspects

Kariuki (2014) studied on third party warehouse layout optimization as a consideration during construction at Bollore Africa logistics limited. The researcher found that Bollore preferred random storage above the rest of the storage system. Random storage helped Bollore to utilize every available space irrespective of the type and ownership of goods. Goods were therefore stored according to the available space as they arrive at the warehouse. This storage system was also complemented by the fact that majority of the warehouses in Bollore were under general warehouse as opposed to either contract or private.

## **RESEARCH METHODOLOGY**

### **3.1 Introduction**

The chapter gives the overview on the steps which were followed to do the study. According to Thomas (2010), all research is based on some underlying philosophical assumptions about what constitutes 'valid' research and which research method(s) is/are appropriate for the development of knowledge in a given study. The research method is a strategy of enquiry, which moves from the underlying assumptions to research design, and data collection (Myers, 2009). In this chapter the researcher looked into the research design, population, sample frame, sample and sampling

technique, instruments, data collection procedures, processing, analysis, and presentation.

### **3.2 Research Design**

The research design refers to the overall strategy that was chosen to integrate the different components of the study in a coherent and logical way, thereby, ensuring that the author was able to effectively address the research problem; it constituted the blueprint for the collection, measurement, and analysis of data (Trochim, 2006). This section highlights the arrangement which was followed for data collection and analysis making sure that there was relevance to CTCL as an organization and the Kenyan economy as a whole. A descriptive research design which deals with what, where and how of a phenomenon was adopted according to Cooper and Schindler (2006). This design was chosen because the study aimed at building a profile about the factors affecting construction of warehouses at CTCL.

### **3.3 Population**

A target population is a specific group of people within the target study, Kotler (2000). The targeted population of this research included, but not limited to all the CTCL staff including the company's top management making a total of 166 employees according to human resource department records. The research also included contractors hired by CTCL for the purpose of construction of the warehouses. Table 3.1 illustrates population size in the four levels at CTCL.

**Figure 3.1: Population size**

<b>Level in the organization</b>	<b>Population</b>
Senior Management	3
Middle Management	94
Union staff	33
Contractor's staff	36
<b>Total</b>	<b>166</b>

### **3.4 Sample Frame**

According to Kiragu, (2014), Kombo and Tromp (2006), a sample size is a finite part of a statistical population whose properties are studied to gain information about the whole sample. The researcher divided the population into four levels of

employment at CTCL apart from the contractors: senior level management; middle level management; and union staff. The fourth level included the contractors involved in the construction of warehouse at CTCL. The study applied proportionate stratified sampling method to select a representative sample for the study. Sample

size is an important concept in statistics, and refers to the number of individual pieces of data collected in a survey. A survey or statistic's sample size is important in determining the accuracy and reliability of a survey's findings (Zamboni, 2015). According to Zamboni, (2015), to determine the sample size needed for the survey, the researcher took a number of desired factors into account. First, the total size of the population being studied was considered. The researcher then considered the margin of error, which is the reliability that the data collected is generally accurate. The researcher also looked at the confidence level, which is the

probability that the margin of error taken was accurate. Finally, the researcher took into account the standard deviation expected to be seen in the data. Standard deviation measures how much individual pieces of data vary from the average data measured. According to Cooper and Schindler (2006) a sample of at least 30 elements (respondents) and not less than 10% of the population must exist so as to get reliable data. A sample size of 30% of the population was used for the study which meant that a total number 51 respondents was used as shown in table 3.2 below.

**Table 3.2: Sample Size**

Level in the organization	Population	Sample Percent	Sample Size
Senior Management	3	≥ 0.3	2
Middle Management	94	≥ 0.3	28
Union staff	33	≥ 0.3	10
Contractor's staff	36	≥ 0.3	11
<b>Total</b>	<b>166</b>		<b>51</b>

### 3.5 Sample and Sampling Technique

Two different types of data was collected and used for these study. The first set of data is the secondary data which was sourced from the articles, magazines and various publications in project management which were contacted. The second set of data is the primary data which comprised data collected using both the quantitative and qualitative methods (Anastasia, Martin, 2015). The following quantitative method tools was used to collect primary data; administering surveys with closed-ended questions (which involved face-to face interviews, telephone interviews and questionnaires). The other quantitative technique which was used is called observation. It involved interaction and communication with the various respondents (Anastasia, Martin, 2015). This technique of primary research involved scientific tests where hypotheses and variables were used. Finally where applicable the researcher obtained relevant data from management information systems. Two qualitative method techniques which were used to collect primary data according to Anastasia,

Martin, (2015), were the focus groups discussions (FGD) and In-depth Interviews.

### 3.6 Instruments

Data collection instruments refer to devices used to collect data such as questionnaires, tests, structured interview schedules and checklists (Mbambo, 2009). According to Biddix (2009), an instrument is the generic term that researchers use for a measurement device (survey, test, questionnaire, etc.). Instruments fall into two broad categories, researcher-completed and subject-completed, distinguished by those instruments that researchers administer versus those that are completed by participants. Researchers chose which type of instrument, or instruments, to use based on the research question. For the purpose of these research the instrument which were used are the following: Questionnaires; Interviews and Focus Groups. These instruments were used because of their reliability and validity. Reliability refers to the degree of consistency or accuracy with which an instrument measures while, validity refers to how well a test measures what it is purported to measure (Phelan and Wren, 2009).

### 3.7 Data Collection Procedures

The process of collecting data entailed interviewing 51 respondents in the sample in order to collect the required information about the research. As indicated in 3.4 above, interviews and focus groups are some of the methods of data collection which were used in this research. According to Gill, Stewart, Treasure, Chadwick (2008), semi-structured interview was used to explore the views, experiences, beliefs and motivations of individual participants. The interviews consisted of several key questions that helped to define the areas to be explored, but also allow the interviewer or interviewee to diverge in order to pursue an idea or response in more detail. The length of interviews depended on the topic, researcher and participant. Focus group was used to allow group dynamics generate quantitative data. The group was homogenous in composition, six to twelve persons, the sitting arrangement being circular, ensuring good eye contact, the timing being one to two hours and number of sessions being four for each sub-category (Gill, Stewart, Treasure, and Chadwick 2008). The researcher also used self-administered questionnaire especially where technical data was required according to Sapsford, Jupp (2006). Questionnaires were mostly used so as to enable the researcher collect both quantitative and qualitative data with ease, (hang, Krosnick 2009). The researcher made sure he sought permission from the head of each of the warehouse by explaining the purpose of the study as required by research ethics. After approval was given, the researcher asked for consent of the participants after which confidentiality of information that they provided was assured. Data collection took between one and two months.

### 3.8 Pilot Test

The study started in January, 2016 when the initial topic was approved. After a number of discussions with the University supervisor, some modifications were done on the topic and the researcher embarked on the literature review which was completed by the end of June 2016. After the approval of the research proposal by the University, validity testing and piloting started in August 2016 which took the researcher a period of one and a half months. The researcher first started by piloting the interview schedule on several respondents prior to proper data collection. Questionnaires were distributed to ten respondents picked randomly from the three levels of employment at CTCL for piloting purposes. Three of them were experts having experience in the same field of the research. All the suggested comments and modifications were discussed with

the researcher before considering them and making the final documents for the process. The distribution of the questionnaires, data collection and collating for the main research, then followed after which analysis, discussion, conclusion and recommendation were done with the expected date of completion being January 2017.

### 3.9 Data Processing, Analysis and Presentation

The researcher used both quantitative and qualitative data analysis methods. In quantitative method, both descriptive and inferential analysis was involved. Descriptive analysis involved the use of both absolute and relative frequencies in the form of percentages. It also involved measures of central tendency (mode, median, mean) and dispersion (mean and standard deviation respectively). The quantitative data was presented in the form of tables and bar charts. Data collected from questionnaire was screened and coded by transcribing the data into a systematic format, entering the information obtained from each respondent or group and organizing it into one overall format (a computer database). The data was then entered into the SPSS version 20.0 for windows to facilitate the data analysis process. Qualitative data (e.g. open ended questions) were analyzed using content analysis. The researcher used correlation analysis to establish the degree of relationship between the independent variables and multiple regression analysis to show the effect and influence of the independent variables on the dependent variables. The following regression analysis was utilized for the purpose of study.

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$$

Where:

Y= Warehouse Construction Strategy

a= Constant term indicating the level of warehouse construction strategy in absence of any independent variables

Then:

$\beta_1, \beta_2, \beta_3,$  and  $\beta_4$  was the coefficient function of the independent variables,

$X_1$ = Warehouse Construction Site Selection

$X_2$ = Human Resource Management

$X_3$ = Warehouse Stakeholder Management

$X_4$ = Organizational Structure

e= Error term of the regression

### 3.9.1 Hypothesis Testing

The T-test and F-test were used to test the four stated hypothesis with the test decision criteria set such that the study rejects null hypothesis ( $H_0$ ) if  $\beta \neq 0$ . Otherwise, the study will fail to reject  $H_0$ . The hypothesis test was done at 5 percent

significance level (within 95 percent confidence interval) which is significant for social sciences. The four null hypothesis set for the study were tested using the T-test and F-test and the results were presented in the following section: This was summarized in table 3.3 below.

**Table 3.3: Hypothesis Testing**

Hypothesis Statement	Hypothesis Test	Decision Rule
$H_{01}$ : There is no relationship between warehouse construction and warehousing strategy at CTCL	F-test (ANOVA) T-test $H_0: \beta_1=0; H_0: \beta_1 \neq 0$	Reject $H_{01}$ if P- value $\leq 0.05$ otherwise fail to reject $H_{01}$ if P- value $> 0.05$
$H_{02}$ : There is no relationship between Human resource management and warehousing strategy at CTCL	F-test (ANOVA) T-test $H_0: \beta_2=0; H_0: \beta_2 \neq 0$	Reject $H_{02}$ if P- value $\leq 0.05$ otherwise fail to reject $H_{02}$ if P- value $> 0.05$
$H_{03}$ : There is no relationship between stakeholder management and warehouse construction strategy at CTCL	F-test (ANOVA) T-test $H_0: \beta_3=0; H_0: \beta_3 \neq 0$	Reject $H_{03}$ if P- value $\leq 0.05$ otherwise Fail to reject $H_{03}$ if P- value $> 0.05$
$H_{04}$ : There is no relationship between organizational structure and warehouse construction strategy at CTCL	F-test (ANOVA) T-test $H_0: \beta_4=0; H_0: \beta_4 \neq 0$	Reject $H_{04}$ if P- value $\leq 0.05$ otherwise Fail to reject $H_{04}$ if P- value $> 0.05$

## DATA ANALYSIS, RESULTS AND DISCUSSION

### 4.1 Introduction

In this chapter, raw data from the questionnaires was analyzed and interpreted. Various models were used to test the relationship between variables, level of significance and reliability. Specifically, we used Cronbach's alpha test, descriptive statistics test, Karl Pearson correlation and Multiple Regression.

### 4.2 Response Rate

From the data collected, out of the 51 questionnaires administered, 38 were filled and returned, which represent 75% response rate. This response rate is considered satisfactory to make conclusions for the study. Mugenda and Mugenda (2003) observed that a 50% response rate is

adequate, 60% is good, while 70% rated very good. This implies that based on this assertion, the response rate in this case of 75% is therefore very good. The recorded high response rate can be attributed to the data collection procedures for instance, the researcher pre-notified the potential participants for the study.

### 4.3 Reliability and Validity

The study used reliability with the use of Cronbach's Alpha to test the high reliability for the variables in order to have acceptability. According to Trochim, (2005), a coefficient of 0.7 and above implies that there is high degree of reliability. The purpose was to check the research instruments so that respondents would not encounter any problems when answering the research question. The results on reliability of the research instruments are presented in Table 4.1 below.

**Table 4.1 Reliability Coefficients**

Scale	Cronbach's Alpha	Number of Items
Warehouse construction site	0.784	4
Warehouse Construction Human Resource	0.816	5
Warehouse Stakeholder Management	0.723	4
Organizational Structure	0.748	4
Warehouse Construction Performance	0.812	4
<b>Overall</b>	<b>0.777</b>	<b>21</b>

**4.5.1 Effects of warehouse construction site on warehouse construction performance.**

The study sought to establish the effects of warehouse construction site on warehouse construction performance. Several statements were fronted to which the respondents were to indicate the extent of agreement with the statement. The study then computed mean and standard deviation to aid in the analysis. Most of the respondents agreed that Miritini is the most suitable warehouse construction sites selected by CTCL that stores and keeps goods as they wait to be exported to other countries with a mean of 3.92 and a standard deviation of 0.882. Most of the respondents agreed that quality of transport infrastructure and local

labor market are the location constraints and objectives that face the current CTCL sites with a mean score of 3.97 and a standard deviation of 0.753. This clearly implies that before any construction of a warehouse significant strategies should be given priority in order to enhance smooth storage facility. Most of the respondents agreed that fundamentals of warehouse construction site selection process were followed during the selection of the current CTCL site with a mean score of 3.92 and a standard deviation of 0.784. Most of the respondents agreed that the two decisive determinants (Agglomeration and infrastructure) were used to select current CTCL warehouse construction site with a mean score of 3.89 and a standard deviation of 0.831.

**Table 4.2: Effects of warehouse construction site on warehouse construction performance.**

Descriptive Statistics			
	N	Mean	Std. Deviation
Miritini is the most suitable warehouse construction sites selected by CTCL	38	3.92	.882
Quality of transport infrastructure and local labor market are the location constraints and objectives that face the current CTCL sites	38	3.97	.753
Fundamentals of warehouse construction site selection process were followed during the selection of the current CTCL site	38	3.92	.784
The two decisive determinants (Agglomeration and infrastructure )where used to select current CTCL warehouse construction site	38	3.89	.831
Valid N (listwise)	38		

**4.5.2 Warehouse Construction Human Resource**

The second objective was to investigate how warehouse construction human resource influences warehouses construction performance at Chai Trading Company Limited.

**4.5.2. Effects of warehouse construction human resource on warehouse construction performance.**

The study sought to establish the effects of human resource management on warehouse construction process. Several statements were fronted to which the respondents were to indicate the extent of agreement with the statement. The study then computed mean and standard deviation to aid in the analysis. Most of the respondents agreed that there is proper human resource planning during project implementation at CTCL with a mean score of 3.57 and a standard deviation of 1.202 having a

significant implication that recruitment of qualified and well skill personnel plays a vital role of making the company to make exorbitant profits. Most of the respondents agreed that the selection methods used to acquire warehouse construction project team at CTCL are free, fair and frequently revised with a mean score of 3.61 and a standard deviation of .974. Most of the respondents agreed that CTCL as an organization have an effective personnel/HRM project strategy with a mean score of 3.53 and a standard deviation of 1.006. The statement above has a significant role whereby in any project work to be effectively done there must be competent HRM that facilitate the personnel issues in terms of recruitment, salaries and other motivational aspects. Most of the respondents had a neutral opinion that a good proportion of the CTCL warehouse construction project workforce is usually assessed via regular formal appraisal system with a mean score of 3.21 and a standard deviation of 0.991.

**Table 4.3: Effects of warehouse construction human resource on warehouse construction performance.**

Descriptive Statistics			
	N	Mean	Std. Deviation
There is proper human resource planning during project implementation at CTCL	38	3.57	1.202
The selection methods used to acquire warehouse construction project team at CTCL are free, fair and frequently revised.	38	3.61	.974
CTCL as an organization have an effective personnel/HRM project strategy	38	3.53	1.006
A good proportion of the CTCL warehouse construction project workforce is usually assessed via regular formal appraisal system	38	3.21	.991
Valid N (list wise)	38		

**4.5.3 Warehouse Stakeholder Management**

The third objective was to establish the influence of warehouse stakeholder management in warehouses construction performance at Chai Trading Company Limited.

**4.5.3 Effects of warehouse stakeholder management on warehouse construction performance.**

The study sought to establish the effects of warehouse stakeholder management on warehouse construction performance. Several statements were fronted to which the respondents were to indicate the extent of agreement with the statement. The study then computed mean and standard deviation to aid in the analysis. Most of the respondents

agreed that to a big extent the following methods are effective in engaging with stakeholders meeting, social contact negotiations, workshops with a mean score of 4.21 and a standard deviation of 0.741. This is where most projects before beginning there must such factors incorporated in place to facilitate completion and quality construction of any warehouse. Most of the respondents agreed with the opinion that predicting the influence need and expectation of stakeholders is very effective in managing stakeholders with a mean score of 4.18 and a standard deviation of 0.801. Stakeholders in any project implementation

plays vital role of either policy making or management aspect which are all significant decisions that be considered in any successful project work construction. Most of the respondents agreed with opinion that all key attributes of the stakeholders in CTCL's warehouse construction project where evaluated before and during the project implementation with a mean score of 3.97 and a standard deviation of 0.822 which implies that stakeholders in warehouse construction project have a significant role to play of ensuring the started project has been completed within the set scheduled time frame.

**Table 4.4: Effects of warehouse stakeholder management on warehouse construction performance.**

	N	Mean	Std. Deviation
To a big extent the following methods are effective in engaging with stakeholders meeting, social contact negotiations, workshops	38	4.21	.741
Predicting the influence need and expectation of stakeholders is very effective in managing stakeholders.	38	4.18	.801
All key attributes of the stakeholders in CTCL's warehouse construction project where evaluated before and during the project implementation	38	3.97	.822
Valid N (listwise)	38		

#### 4.5.4 Organizational Structure

The fourth objective of the study was to establish the influence of organization structure on warehouses construction performance at Chai Trading Company Limited.

#### 4.5.4 Effects of Organization Structure on Warehouse Construction Performance.

The study sought to establish the effects of organization structure on warehouse construction performance at CTCL. Several statements were fronted to which the respondents were to indicate the extent of agreement with the statement. The study then computed mean and standard deviation to aid in the analysis. Most of the respondents agreed that the size of CTCL determines its type of

organization structure with a mean score of 4.13 and standard deviation of 0.704. Organization structure plays a key role to many companies in terms strategizing on the best policies and systems to be implemented in order for the organization to achieve its targets and objectives. Most of the respondents agreed that the goals of CTCL determines its type of organization structure and project objectives with a mean score of 4.13 and a standard deviation of 0.811 which implicates higher response rate. Therefore in order for organization to achieve their organizational goals they have to invest much in best organization structured systems that initiate profits margins and minimization of costs.

**Table 4.5: Effects of organization structure on warehouse construction performance**

Descriptive Statistics			
	N	Mean	Std. Deviation

The size of CTCL determines its type of organization structure	38	4.13	.704
The goals of CTCL determines its type of organization structure and project objectives	38	4.13	.811
Valid N (listwise)	38		

#### 4.5.5 Warehouse Construction Performance

Finally the study was to evaluate warehouse construction performance at CTCL as a dependent variable affected by the other four independent variables already dealt with. The warehouse construction performance is always evaluated on a regular basis at CTCL. In this statement most respondents have agreed with a mean score of 3.66 and standard deviation of 0.938 which signifies higher response rate. Most of the respondents agreed that the process of warehouse construction

performance evaluation at CTCL is very effective with a mean score of 3.79 and a standard deviation of 0.741. Most of the respondents agreed that there is optimal use of resources during warehouse construction process at CTCL with a mean score of 3.82 and a standard deviation of 0.766. Most of the respondents agreed with opinion that warehouse construction projects are always finished within budget and schedule with a mean score of 3.82 and a standard deviation of 0.834 signifying higher response rate.

**Table 4.6: Effects of warehouse construction performance**

Descriptive Statistics			
	N	Mean	Std. Deviation
The warehouse construction performance is always evaluated on a regular basis at CTCL.	38	3.66	.938
The process of warehouse construction performance evaluation at CTCL is very effective.	38	3.79	.741
There is optimal use of resources during warehouse construction process at CTCL.	38	3.82	.766
Warehouse construction projects are always finished within budget and schedule.	38	3.82	.834
Valid N (list wise)	38		

#### 4.6 Correlation Analysis

The correlation analysis is one of the most common and most useful statistics. A correlation is a single number that describes the degree of relationship between two variables (Wilcox D. W, 2010). For the study a Pearson's correlation analysis was conducted at 95% confidence interval

and 5% confidence level 2-tailed between each of the four variables and every other variable. The analysis was also repeated between the dependent variable and each of the four independent variables. Table 4.15 below indicates the correlation matrix obtained.

**Table 4.7 Correlation Matrix Table**

Correlations					
	Warehouse Construction Performance	Warehouse construction site	Warehouse Human Resource	Warehouse Stakeholder Management	Organization Structure
Warehouse Construction Performance	1				
Warehouse construction site		1			
Warehouse Human Resource			1		
Warehouse Stakeholder Management				1	
Organization Structure					1

Warehouse Construction Performance	Pearson Correlation	1	.482**	.770**	.521**	.418**
	Sig. (2-tailed)		.002	.000	.001	.009
	N	38	38	38	38	38
Warehouse construction site	Pearson Correlation	.482**	1	.375*	.081	.398*
	Sig. (2-tailed)	.002		.020	.627	.013
	N	38	38	38	38	38
Warehouse Human Resource	Pearson Correlation	.770**	.375*	1	.309	.261
	Sig. (2-tailed)	.000	.020		.059	.113
	N	38	38	38	38	38
Warehouse Stakeholder Management	Pearson Correlation	.521**	.081	.309	1	.078
	Sig. (2-tailed)	.001	.627	.059		.641
	N	38	38	38	38	38
Organization Structure	Pearson Correlation	.418**	.398*	.261	.078	1
	Sig. (2-tailed)	.009	.013	.113	.641	
	N	38	38	38	38	38

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

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

The results of the study was measured using the Pearson correlation scale where a correlation value in the interval of 0.0 – 0.3 indicated no correlation, 0.3 – 0.5 indicated weak correlation, 0.5 – 0.7 indicated fair correlation, and above 0.7 indicated strong correlation. Flashaw (2011) supported this study by establishing the following: Warehouse construction human resource had a weak positive correlation with the other three independent variables in the study; There was a weak positive correlation between organization structure and warehouse construction site while it had no correlation with warehouse stakeholder management; Warehouse construction site had no correlation with warehouse stakeholder management and finally there was a fair positive correlation between warehouse construction performance and three independent variables in the study as indicated in table 4.14 above apart from the warehouse construction human resource which was a strong correlation at 0.77.

#### 4.7 Regression Analysis

In statistical modeling, regression analysis is a statistical process for estimating the relationships among variables. It includes many techniques for

modeling and analyzing several variables, when the focus is on the relationship between a dependent variable and one or more independent variables (Marshall, C., 2012).

##### 4.7.1 Coefficient of Determination

Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (warehouse construction performance) that is explained by all independent variables. From the findings as indicated in table 4.15 below, a value of 0.870, in the results indicate a good level of prediction. The 'R Square' column represent the coefficient of determination which was obtained as 0.757. It means that 75.7% of warehouse construction performance is attributed to combination of the four independent factors investigated in this study. It also means that the other factors which have not been part of this study represents 24.3% of the determinants of warehouse construction performance. These factors should be studied.

**Table 4.8 Coefficient of Determination**

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change
1	.870 <sup>a</sup>	.757	.727	1.27626	.757

**a. Predictors: (Constant), Warehouse Stakeholder Management, Organization Structure, Warehouse Construction Human Resource, Warehouse Construction Site.**

**b. Dependent Variable: Warehouse Construction Performance.**

#### 4.7.2 Analysis of Variance (ANOVA)

It is a statistical method used to test differences between two or more means. It may seem odd that the technique is called "Analysis of Variance" rather than "Analysis of Means." In testing the significance level, the statistical significance was considered significant

if the p-value was less or equal to 0.05. The significance of the regression model is as per Table 4.16 below with P-value of 0.00 which is less than 0.05. This indicates that the regression model is statistically significant in predicting factors affecting warehouse construction performance at CTCL.

**Table 4.9 Analysis of Variance**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	167.011	4	41.753	25.633	.000 <sup>b</sup>
	Residual	53.752	33	1.629		
	Total	220.763	37			

a. Dependent Variable: Warehouse Construction Performance

b. Predictors: (Constant), Warehouse Stakeholder Management, Organization Structure, Warehouse Construction Human Resource, Warehouse Construction Site.

#### 4.7.3 Multiple Regression Analysis

This is an extension of simple linear regression. It is used when we want to predict the value of a variable based on the value of two or more other variables. The variable we want to predict is called the dependent variable or sometimes, the outcome, target or criterion variable.

**Table 4.10 Multiple Regression Analysis**

Coefficients <sup>a</sup>					
Model	Unstandardized Coefficients			Standardized Coefficients	
	B	Std. Error		Beta	t
					Sig.

1	(Constant)	61.32	2.554		2.401	.022
	Warehouse Construction Site.	.199	.112	.175	1.781	.084
	Warehouse Construction Human Resource.	.481	.084	.559	5.713	.000
	Warehouse Organization Structure.	.265	.141	.177	1.877	.069
	Warehouse Stakeholder Management	.454	.128	.320	3.542	.001

**a. Dependent Variable: Warehouse Construction Performance**

The regression equation was:

The formula below was used to predict successful implementation of warehouse construction strategy at CTCL by varying the four independent variables.

$$Y = 61.32 + 0.199X_1 + 0.481X_2 + 0.265X_3 + 0.454X_4$$

Where;

Y = the dependent variable (Warehouse Construction strategy)

X<sub>1</sub> = Warehouse construction site selection factors

X<sub>2</sub> = Warehouse human resource management

X<sub>3</sub> = Organization structure

X<sub>4</sub> = Warehouse stakeholder management

The regression equation above has established that taking all factors into account (warehouse construction site, Warehouse construction human resource, organization structure and warehouse stakeholder management) to be constant at zero, the warehouse construction performance at CTCL will be 61.32. The findings presented also shows that taking all other independent variables at zero, a unit increase in warehouse construction site will lead to a 0.199 increase in the scores of warehouse construction performance at CTCL; a unit increase in warehouse construction human resource will lead to a 0.481 increase in warehouse construction performance at CTCL; a unit increase in organization structure will lead to a 0.265 increase in the warehouse construction performance at CTCL and a unit increase in warehouse stakeholder management will lead to a 0.454 increase in the warehouse construction performance. This therefore implies that all the four variables have strong positive relationship with warehouse construction performance which is the dependent variable.

**SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

**5.1 Introduction**

This chapter summarizes the findings in line with the objectives, draws conclusions and makes the necessary recommendations. Areas of further study that may enrich the study are also suggested.

**5.2 Summary of Findings**

The main objective of the study was to establish the factors affecting warehouse construction strategy at Chai Trading Company Limited. The study had a good response rate at 75% and the data collected had a high reliability of 0.777 where 84.21% of the respondents were male and 15.79% were female. The majority of respondents who participated in the study were of the ages between 25-34 at 42.11%. Most of the respondents had educational level of first degree and above which added up to 65.79%. 47.37% had worked between 6-10 years, while 57.89% were at middle management position in the organization.

**5.2.1 Warehouse Construction Site**

The results of the study showed that warehouse construction site influences warehouse construction performance to a great extent. This conclusion was attributed by 65.8% of the respondents. Most of the respondents agreed that Miritini is the most suitable

warehouse construction sites selected by CTCL that stores and keeps goods as they wait to be exported to other countries with a mean of 3.92 and a standard deviation of 0.882. Most of the respondents agreed that Quality of transport infrastructure and local labor market are the location constraints and objectives that face the current CTCL sites with a mean score of 3.97 and a standard deviation of 0.753.

This clearly implies that before any construction of a warehouse significant strategies should be given priority in order to enhance smooth storage facility. Most of the respondents agreed that fundamentals of warehouse construction site selection process were followed during the selection of the current CTCL site with a mean score of 3.92 and a standard deviation of 0.784. Most of the respondents also agreed that the two decisive determinants (Agglomeration and infrastructural) were used to select current CTCL's warehouse construction site with a mean of 3.89 and a standard deviation of 0.831 which was in agreement with Fechner (2010), who stated that there are two decisive determinants involved in the process of selecting location for modern warehousing facilities. According to Tozay (2012), in real life there exist many factors that directly or indirectly affect the selection of site location. This has been clearly demonstrated by the outcome of the study.

### 5.2.2 Warehouse Construction Human Resource

The results of the study showed that warehouse construction human resource influenced the warehouse construction performance to a great extent. This conclusion was attributed by 39.5% of the respondents. Most of the respondents agreed that there is proper human resource planning during project implementation at CTCL with a mean score of 3.57 and a standard deviation of 1.202 having a significant implication that recruitment of qualified and well skill personnel plays a vital role of making the company to make exorbitant profits.

Most of the respondents agreed that the selection methods used to acquire warehouse construction project team at CTCL are free, fair and frequently revised with a mean score of 3.61 and a standard deviation of 1.006. Most of the respondents agreed that CTCL as an organization have an effective personnel/HRM project strategy with a mean score of 3.53 and a standard deviation of 1.006. The above results agrees with PMBOK (2012) which explains that resource management is the efficient and effective deployment of an organization's resources when they are needed. Management of

human resources involved in warehouse construction, is part of a wider PHRM.

### 5.2.3 Warehouse Stakeholder Management

The study indicated that the majority of the respondents (at 42.1%) felt that warehouse stakeholder management influenced the warehouse construction performance to a great extent. Most of the respondents agreed with the opinion that to a big extent the following methods are effective in engaging with stakeholders: Meetings, social contact, negotiations, workshops with a mean score of 4.21 and a standard deviation of 0.741. Most of the respondents agreed with the opinion that predicting the influence need and expectation of stakeholders is very effective in managing stakeholders with a mean score of 4.18 and a standard deviation of 0.801.

Stakeholders in any project implementation plays vital role of either policy making or management aspect which are all significant decisions that be considered in any successful project work construction. Most of the respondents agreed with opinion that all key attributes of the stakeholders in CTCL's warehouse construction project were evaluated before and during the project implementation with a mean score of 3.97 and a standard deviation of 0.822 which implies that stakeholders in warehouse construction project have a significant role to play of ensuring the started project has been completed within the set scheduled time frame. The above results of the study agreed with Heravitorbati, et al., (2011), cited Aktin and Skitmore (2008) theory.

### 5.2.4 Organizational Structure

Most of the respondents agreed that the size of CTCL determines its type of organization structure with a mean score of 4.13 and standard deviation of 0.704. Organization structure plays a key role to many companies in terms strategizing on the best policies and systems to be implemented in order for the organization to achieve its targets and objectives. Most of the respondents agreed that the goals of CTCL determines its type of organization structure and project objectives with a mean score of 4.13 and a standard deviation of 0.811 which implicates higher response rate. Therefore in order for organization to achieve their organizational goals they have to invest much in best organization structured systems that initiate profits margins and minimization of costs. Most of the respondents had opinion of neutral mind that the mission of the organization determines the organization structure with a mean score of 3.63 and standard deviation of 0.819.

### 5.2.5 Warehouse Construction Performance

The warehouse construction performance is always evaluated on a regular basis at CTCL. In this statement most respondents have agreed with a mean score of 3.66 and standard deviation of 0.938 which signifies higher response rate. Most of the respondents agreed that the process of warehouse construction performance evaluation at CTCL is very effective with a mean score of 3.79 and a standard deviation of 0.741. Most of the respondents agreed that there is optimal use of resources during warehouse construction process at CTCL with a mean score of 3.82 and a standard deviation of 0.766. Most of the respondents agreed with opinion that warehouse construction projects are finished within budget and schedule with a mean score of 3.82 and a standard deviation of 0.834 signifying higher response rate.

### 5.3 Conclusions

From the study warehouse construction site as a variable has a significant influence and fair correlation on warehouse construction performance. Therefore most management in various organizations are advised to consider this factor as vital in terms of top priority issue for sustainability of the warehouse. Warehouse construction human resource as a factor has a strong correlation and significant influence to warehouse construction performance. Human resource department plays a significant role in any organization in terms of ensuring they have adequate personnel who are qualified and able to perform roles and tasks assigned to them. The study also revealed that 75.7% of warehouse construction performance is attributed to combination of the four independent factors investigated in this study. It also means that the other factors which have not been part of this study represents 24.3% of the determinants of warehouse construction performance.

### 5.4 Recommendations

The study recommends the consideration of the selected factors affecting warehouse construction performance at CTCL as a remedy to the current warehouse construction dilemma. The strategic factors affecting warehouse construction model was recommended as a useful design for increasing efficiency and effectiveness. It is recommended that managers should study and select the factors that best affects warehouse construction strategy at CTCL in order to achieve maximum performance. It also recommends that the other factors which have not been part of this study representing 24.3%

of the determinants for warehouse construction performance be researched on in future.

#### 5.4.1 Policy Implications

From the study, it came out clear that all the factors had a significant positive effect on warehouse construction performance. The study will assist policy makers in coming up with policies geared towards improving warehouse construction. The study will assist intellectuals and be a reference for future studies and practitioners undertakings on factors affecting warehouse construction performance at CTCL.

#### 5.4.2 Managerial Implications

The findings of this research reveals positive implications for managers at Chai Trading Company Ltd on the factors affecting warehouse construction performance. The implications are that managers need to investigate the stated warehouse construction performance factors at CTCL. Managers are recommended to come up with policies and structures that supports best warehouse storage as facility.

### 5.5 Areas of Further Research

This study focused factors affecting warehouse construction performance at CTCL. Since only 76% of results was explained by the independent variables in this study, it is recommended that a study be carried out on other factors that affect warehouse construction performance.

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