UNIVERSITY OF GHANA

THE IMPACT OF PORT LABOUR SYSTEM ON EMPLOYEE’S PRODUCTIVITY IN TEMA PORT

BY

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JULY, 2014
DECLARATION

I, RICHARD KLUDZI, hereby declare that this dissertation “PARTICIPATION OF PRIVATE STEVEDORE IN THE PORT OF TEMA” consists entirely of my own work produced from research undertaken under supervision and that no portion of this work has been submitted in support of an application for another degree or qualification to this or any other university or institution of learning, except for the permissible references from other sources, which have been duly acknowledged in the text.

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DEDICATION

This is dedicated to my lovely wife and son; Mrs Antoinette Kludzi and Mawume Kofi Kludzi respectively. Again to my siblings, especially Gloria Kludzi, my parents Mr. & Mrs. Raphael and Rebecca Kludzi and to the Youth Ministry of Global Evangelical Church, Comm. 4, Tema.
ACKNOWLEDGEMENT

I am grateful to God Almighty for seeing me through this project up to this stage. Thanks to my family, friends and colleagues for their contributions, pieces of advice and encouragement throughout this work. My appreciations also goes to my supervisor; Mr. Alfred Ofori-Abebrese for his guidance to see this work done and to Maxwell Mamonkose for his assistance.
ABSTRACT

This dissertation was aimed at studying the participation of Private Stevedoring Companies (PSCs) in Port of Tema with the specific objective of identifying the differences in stevedoring operations between private and public stevedores, enquiring about the impact the participation of PSCs on the performance with respect to cargo handling and finding out the challenges confronting PSCs in the Port of Tema and how they mitigate them.

Using qualitative research method and research instruments of questionnaires and personal interviews amongst the samples from the public stevedoring company, 10 PSCs, 5 major shipping lines/agencies and 50 shippers operating in the Port of Tema, it was found (amongst others) that although the activities of the private stevedores, excluding MPS stevedore, do not appear to perform better than the other stevedoring companies, their emergence has created the room for GPHA to concentrate on its share of handling 25% stevedoring to develop at a satisfactory rate to the extent of having the opportunity to rent out equipment and machineries.

The study recommended amongst others that all the PSCs should be encouraged to pool resources together in a partnership towards investing into equipment and machineries, and automation to help solve the challenge of inadequate logistics for operation and the difficulty in renting equipment and machineries.
# TABLE OF CONTENT

Declaration i  
Dedication ii  
Acknowledgement iii  
Abstract iv  
Table of Content v  
List of Tables viii  
List of Figures ix  
Abbreviations x 

## CHAPTER ONE 1

1.1 Background 1  
1.2 Problem Statement 3  
1.3 Research Objectives 4  
1.4 Research Questions 4  
1.5 Significance of the Research 5  
1.6 Scope and Limitation of the Study 5  
1.7 Organisation of the Study 6 

## CHAPTER TWO (LITERATURE REVIEW) 7

2.1 Introduction 7  
2.2 The Historical Development of GPHA 7  
2.2.1 The Emergence of Private Participation in the Port of Tema 10  
2.2.1.1 Public Service Port 11  
2.2.1.2 Tool Port 11  
2.2.1.3 Land Lord Port 11  
2.2.1.4 Private Service Port 12  
2.2.2 The Scope of Private Stevedoring in the Port of Tema 14  
2.3 Port Operation Activities 15  
2.3.1 Quay Transfer Operations 16
2.3.2 Yard or Storage Operations  
2.3.3 Gate Operations  
2.4 Port Performance Measurement  
2.4.1 Ship Performance Indicators  
2.4.2 Cargo Performance Indicators  
2.4.3 Berth Performance Indicators  
2.4.4 Labours Performance Indicators  
2.5 Performance of the Port of Tema  
2.4.1.1 Measurement of Performance at the Port of Tema  

CHAPTER THREE (METHODOLOGY)  
3.1 Introduction  
3.2 Study Area  
3.3 Population and Sample  
3.3.1 Sampling Procedure  
3.3.2 Population, Sample Size and Sampling Method  
3.4 Research Design  
3.5 Research Instruments  
3.5.1 Primary Data  
3.5.1.1 Personal Interviews  
3.5.1.2 Questionnaires  
3.5.2 Secondary Data  
3.6 Data Analysis  
3.7 Data Reliability and Validity  
3.8 Field Challenges  

CHAPTER FOUR (PRESENTATION OF DATA AND ANALYSIS)  
4.1 Introduction  
4.2 Findings from Questionnaires  
4.2.1 Rate of Responses to the Questionnaires  
4.2.2 Years of Work Experience of Respondents
### 4.3 Responses from Questionnaires

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.3.1 The Provision of Stevedoring Operations in the Port of Tema</td>
<td>40</td>
</tr>
<tr>
<td>4.3.1.1 The use of Labour by Stevedoring Companies in the Port of Tema</td>
<td>43</td>
</tr>
<tr>
<td>4.3.1.2 The use of Equipment and Machineries by the Stevedore Companies</td>
<td>45</td>
</tr>
<tr>
<td>4.3.2 The use of Stevedoring services at the Port of Tema</td>
<td>47</td>
</tr>
<tr>
<td>4.3.2.1 The differences between the use of GPHA and Private Stevedores</td>
<td>48</td>
</tr>
<tr>
<td>4.3.3 Impact of the Emergence of Private Stevedore on Cargo Handling in the Port of Tema</td>
<td>49</td>
</tr>
<tr>
<td>4.3.4 Challenges Facing Private Stevedore in the Port of Tema</td>
<td>51</td>
</tr>
</tbody>
</table>

### 4.4 Responses from Personal Interviews

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.4.1 Differences between GPHA stevedore and Private stevedore</td>
<td>53</td>
</tr>
<tr>
<td>4.4.2 Impacts of Private Stevedore on Cargo Handling and Port Performance</td>
<td>54</td>
</tr>
<tr>
<td>4.4.3 Challenges facing Private Stevedoring Companies in the Port of Tema</td>
<td>54</td>
</tr>
</tbody>
</table>

### CHAPTER FIVE (FINDINGS)

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1 Introduction</td>
<td>56</td>
</tr>
<tr>
<td>5.2 Summary</td>
<td>56</td>
</tr>
<tr>
<td>5.3 Conclusion</td>
<td>57</td>
</tr>
<tr>
<td>5.4 Recommendations</td>
<td>57</td>
</tr>
</tbody>
</table>

References 59

Appendix I 62

Appendix II 65

Appendix III 67
LIST OF TABLES

Table 2.1: Performance Statistics of the Port of Tema from 2004 to 2013  
(figures in metric tonnes)  23

Table 3.1: Population, Sample and Research Instruments  30

Table 4.1: Rate of Responses to Questionnaires  38

Table 4.2: The Average Vessel Capacity handled by GPHA Stevedore  40

Table 4.3: The Average Vessel Capacity handled by Private Stevedoring Companies  41

Table 4.4: The average cargo throughput for GPHA Stevedore per day  42

Table 4.5: The average cargo throughput for Private Stevedore per day  42
LIST OF FIGURES

Figure 2.1: Trend in Performance of Cargo Throughput from 2003-2013 24

Figure 2.2: Trend in Performance of Ship calls from 2003-2013 25

Figure 4.1: Years of Work Experience of Respondents 39

Figure 4.2: The use of both GPHA and Private Stevedores 47

Figure 4.3: Impact of Private Stevedore on Cargo Handling 50

Figure 4.4: Rate of likeness of Port of Tema by virtue of Private Stevedoring Operations 51

Figure 4.5: The Challenges facing the Private Stevedoring in the Port of Tema 52
# ABBREVIATIONS

<table>
<thead>
<tr>
<th>ABBREVIATIONS</th>
<th>MEANING</th>
</tr>
</thead>
<tbody>
<tr>
<td>GGP</td>
<td>Ghana Gateway Project</td>
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<td>GPHA</td>
<td>Ghana Ports and Harbours Authority</td>
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<tr>
<td>GRC</td>
<td>Ghana Railways Company</td>
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<tr>
<td>KPI</td>
<td>Key Performance Indicator</td>
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<tr>
<td>MPS</td>
<td>Meridian Port Services</td>
</tr>
<tr>
<td>PSCs</td>
<td>Private Stevedoring Companies</td>
</tr>
<tr>
<td>STS</td>
<td>Stevedore Time Sheet</td>
</tr>
<tr>
<td>STT</td>
<td>Ship Turnaround Time</td>
</tr>
<tr>
<td>TEU</td>
<td>Twenty foot Equivalent Unit (TEU)</td>
</tr>
<tr>
<td>UNCTAD</td>
<td>Development</td>
</tr>
</tbody>
</table>

United Nations Convention on Trade and Development
CHAPTER ONE
INTRODUCTION

1.0 Introduction

A port can possibly become a wheel of an economy if it runs efficiently. Presently the function of a port is not only limited to cargo handling but has expanded to a logistical platform. The efficiency of a port is important in international trade since a seaport is the nerve of foreign trade of a country.

A seaport is the compulsory transit point for the bulk of foreign trade, permitting the import of goods, which a country does not itself produce in sufficient quantity and the export of items which the country has a surplus or has a competitive edge to produce contributing to the development of its economy. Besides, a port is also a place for the provision of further services, which add value to the products transported and thus helps the increasing demand of trade.

The globalization of world economies have brought about tremendous increase in exchanges of goods across the world. The world trade also accelerated as cost of shipping has decreased due to economy of scale and the development of technology in shipping. This rise in global shipping volumes resulted from what Feenstra (1998) aptly described as the ‘disintegration of production and the integration of world trade’. This has encouraged global manufacturers to vertically disintegrate their Fordist production systems into geographically dispersed and flexibly organized supply chain systems. The geographical extension and dispersion of manufacturing have been conceptualized by development economists as the rise of Global Value Chains (Kaplinksy, 2004), by
economic geographers as Global Production Networks (Dicken et al, 2001) and what transport economists would call Global Supply Chains (Robinson, 2002). Regardless of the conceptualization, it can be stated that this generic process of economic globalization has increased the demand for global transport services enormously. Ports serve as terminals for such well-organized international trade networks.

Ports produce a combination of public and private services. Public services include those that are inherently non-divisible and non-consumable, such as public safety, security, and a healthy environment on one hand, and coastal protection works necessary to create port basins on the other hand. Private goods are both consumable and divisible and their use entails a minimum of economic externalities.

Large ports offer particularly attractive locations for seed industries and distribution-intensive enterprises. Several notable port-centered industrial clusters have developed over the last 50 years, for instance, those in Dubai, Colon, Norfolk, Rotterdam, Yokohama, Antwerp, Hamburg, Marseilles, and Houston, to name but a few. From the 1950s, the larger European ports targeted refineries and chemical industries for collocation and co-development, with considerable success.

Just as central governments and port authorities play key roles in the port communities, so too do private port operators (such as stevedoring firms, cargo handling companies, and terminal operators). Port operators typically pursue conventional microeconomic objectives, such as profit maximization, growth, and additional market share (World Bank, 2007).
To achieve their objectives, the port operators engage services of certain workers either on permanent or casual basis. These workers may be termed port labourers. Port labour from crane and equipment operators to tally clerks is one of the keys to success or failure in today’s competitive port and international trade environment. Too often port labour is blamed for a port’s failure to play an appropriate and productive role in port operations and its nation’s economic development (World Bank, 2007).

Labour generally refers to employees in any enterprise. Port labour on the other hand is quite difficult to define unless it is put in a framework of a certain jurisdiction or country concerned. With Port labour, the interest is in the dock labour or personnel charged with the core duty of working vessels and the handling of cargo and not the administrative staff or support staff. Therefore the term port labour and dock labour are often used interchangeable in this study. It may have a vague definition in countries without legislation concerning dock labour. Also, certain countries which have legislation might not have a definite or explicit definition for it. Nonetheless, some countries which have succeeded in defining it, either do so broadly by including not just the stevedores but also workers in warehouses and industries in the port cluster which require similar skills e.g. Belgium (Aryee, 2012). Others also have a narrow definition, which considers only stevedores as dock labour (Notteboom, 2010).

The port labour are organized in well definable tasks and systems. Port labour system refers to the way labour is organized in the port to achieve goals such as cargo loading and off-loading. It determines practical arrangement on the work floor, labour pools and qualifications required for such work. Port labour systems are necessitated by a need for improvement in performance of the port or general economic reforms as a result of
improving competitiveness due to Globalization. This is more conceptual and may be
designed to achieve competitiveness of port and its affiliate companies as prevailed in
Australia and Taiwan (Chu, 2007) or as part of measures to stimulate the economy in
general as in the case of Ghana.

The labour system is to further improve labour productivity over the period they have
undergone several reforms. The key issues that could possibly often appear in port labour
system relate to the definition of dock work, the legal status of the dock worker, the
functioning of labour pools, practical arrangements at the work floor and the
categorization and qualification of dock workers.

The principal areas of interest for port labour include, but are not limited to: Stable and
fulfilling employment; Reasonable incomes; Decent working conditions; Social security
and pension provision; Education and vocational training; Health; safety; and the
environment; Workplace democracy; Freedom from discrimination on the basis of race,
religion, social status, or gender; Freedom from corruption and coercion.

The success of any enterprise—the port being no exception—is hugely reliant on its human
resource or human capital despite the growing application of technology. However,
human resource particularly port labour is also known to be the most difficult resource to
manage especially in enterprises where constant work is not guaranteed as used to be the
case in the port sector. It is now possible to fairly estimate the arrival of ships but
technological advancement requires that the labour force is also highly skilled (Aryee,
2012). The flexibility, productivity, quality and cost efficiency of dock workers contribute
to the competitiveness of port-related and logistics companies and the wider economy (Notteboom, 2010).

1.1 Background to the study

The Ghana Dock Labour Company (GDLC) operates at the Tema Main Harbour. GDLC was formed in 2002 as a response to diffuse agitation by the casual dock workers on March 5, 2002.

The privately run Ghana Dock Labour Company (GDLC) is responsible for providing labour to all Stevedoring companies and port operators. The GDLC is a brain child of maritime and dockworkers union. The Maritime & Dockworkers Union (MDU) was formed in 1958. Its membership is drawn from the seaports and harbours, shipping, clearing and forwarding agents, and from fishing and water transport enterprises. Currently, the membership of the union is spread across 36 establishments. The current total membership of the union is estimated at 20,000. The MDU, together with some private companies, has set up a company called the Ghana Dock Labour Company to provide employment for casual dock workers. The GDLC employed about 4,800 workers from 2002 to 2006. But with the mechanization of port services and the privatization of three out of the twelve berths to the Meridian Port Services in 2007, the size of the workforce of the GDLC has reduced considerably (Trade Union and Industrial relations in Ghana, 2012).

The GDLC organizes its labour based on the gang system that had long established itself at the port. The gang system bears resemblance to Lourenco-Lindell’s (2002) description of day labour in Bissau, where day workers are organized into groups with headman who
intermediates between the employers and the day workers. The employment relations between the casual workers and the employers are highly informal (Boampong, 2005). In Tema, the port labours are categorized into regular and non-regular casual workers classifications.

The gang system comprises of a group of casual workers and a headman. The headman is the leader of the group. The gang may consist of either 8 dockers at the quay side or 13 dockers on board the vessel including regular members and excluding the headman. The regular casuals are always assured of work whenever their gang is booked for work. In the event that a regular member of the gang is absent, a replacement worker is then called to fill the vacancy until the member returns. One could also graduate from replacement of casual worker to a regular member in situations of permanent vacancy in the gang. The structure of the gang system is hierarchically arranged such that the headman is at the top, followed by the regular members and at the bottom are the replacement workers, whose job allocation are highly irregular and unpredictable compared to regular gang members.

1.2 Research Statement

The organization of port labour is supposed to improve employee efficiency and thus increase productivity at the port. So every port does develop deliberate strategies to improve port labour systems. Hence measurement of port productivity/labour productivity has been in existence for some years now. In this regard, every port seeks to improve its systems and structures in order to increase its productivity and service delivery so as to remain competitive in the midst of sharp competing neighbouring ports. Therefore the
need to continuously monitor and assess the influence of port labour system on port productivity.

1.3 Objective of Research

In this regard it would however be useful to examine how labour systems affect productivity.

Thus the study seeks to interrogate the influence of Tema port labour system on the employee productivity.

1.3.1 Specific Objectives of the Study

In that regards the following specific objectives have been outlined for the study:

1. To determine the impact of labour system on the performance of labour.
2. To examine the factors that enhance port labour satisfaction.
3. To examine challenges that confront port labour.
4. To examine the gross gang productivity from 2004 to 2013.

1.4 Research Questions

1. To what extent has the port labour system affected the performance of port labour?
2. What are the factors that enhance the satisfaction of port labour?
3. What are the challenges that confront the port labour in the port?
4. What are the factors that enhance port labour productivity?

1.5 Significance of the Study

This research will assist managers, especially those responsible for Ports and decision-making, with relevant strategies that need to be adopted and implemented in the
management of port labour. Additionally, this research will make valuable academic contributions to the existing knowledge.

1.6 Scope of the Study

The study strictly considers productivity of labour in terms of measures instituted to enhance labour’s contribution to output. The study considered only those who have valid permission to work in the port. Secondly, respondents included in the pilot study were not included in the study. The study is a descriptive research that uses employees of Ghana Ports and Harbour Authority and Golden Gate Stevedoring Services.

1.7 Organization of the Study

The whole work will be divided into five chapters, with each of them dealing with a particular area. The first chapter introduced the idea and problem followed by the problem statement, objectives and research questions of the study. Chapter two reviewed related literature. The third chapter highlighted the methodology of the study. The fourth chapter looked at the results and discussions of the research. The fifth chapter handled summary of findings, the conclusions and recommendations.
CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter provides an overview of productivity and factors limiting labour productivity as well as port performance and port productivity including employee productivity. The purpose of reviewing literature on productivity, and labour is to have a better understanding of port performance/productivity and labour system as concepts and to examine port labour to see its influence on employees' productivity.

2.1 Port Labour

Labour generally refers to employees in any enterprise. With Port, labour is the personnel charged with the core duty of working vessels and the handling of cargo and not the administrative staff or supporting staff. The term port labour and dock labour are often used interchangeable. Others also have a narrow definition, which considers only stevedores as dock labour (Notteboom 2010).

2.1.1 Port Labour Systems

Port labour systems refer to the way labour is organized in the port to achieve a certain goal. It determines practical arrangement on the work floor, labour pools and qualifications required for such work. They are necessitated by a need for improvement in performance of the port or general economic reforms as a result of improving competitiveness due to Globalization. The success of any enterprise-the port being no exception- is hugely reliant on its human resource or human capital despite the growing
application of technology. However, it is also known to be the most difficult resource to manage (Aryee, 2012).

Port labour is organized along well defined tasks as cargo handling. Cargo handling is a major source of employment to people of all trades. Prior to the 1960s decasualizing dock labour was seen as an ingenious idea. A port can exist solely in responds to market requirement but not for social reasons. Newly built port facilities usually opt for greater mechanization than to entangle themselves with the complexities of issues regarding dock labour.

The vast labour force serving in the port industry covers largely loading and unloading operations, ship operations and services (agencies, pilotage, towage and bunkering), land transport, logistics activities, cargo services (e.g. freight forwarding and customs broking) etc. These activities provide people with wages, salaries and other earnings and are a major source of tax revenues for governments at different geographical levels (Notteboom, 2010).

Port labour is organized in terms of internal and external dimensions. The internal organization, Notteboom (2010) underlines the importance of performance indicators in terms of labour cost and productivity that can influence the outputs of dock labour systems. External organization regards mainly legal and social conditions, required by external parties. However, the competitiveness of a seaport is influenced by the skills of the port-related employees, as well as by the efficiency and effectiveness of loading and discharging activities. Dock labour systems are highly important for the seaports employment level and the value-added created by the port employees.
2.2 Port Performance Measurement

Performance can be defined as the “Capacity to produce positive results” that is, depending on the expectations (Ducruet, 2009). Despite the importance of port performance measurement, there are varied methods that are used to measure port performance. Every port uses measurement methods they considered suitable for its performance (Cullinane, 2002). This is noted by Robinson (1999) who stated that “Measurement always has a natural tendency to be terminal-specific.”

Port performance measurement could be done through evaluating port productivity and port labour productivity.

2.2.1 Productivity

Productivity in general has been defined as the rate at which goods are produced with reference to number of people and amount of materials necessary to produce it. On the other hand, productivity has been defined as the utilization of resources in producing a product or services (Gaissey, 1993). Pelkowski and Berger (2004), uses hours worked, labour force jobs and number of individuals employment as measures of productivity inputs.

Productivity could possibly be the summary of the measure of a quantity and quality of work performance with resource utilization considered. It involves doing a task or job in the best possible way. In order to achieve optimum productivity, it has to deal closely with performance where all the components must be applied especially effectively and efficiently. Sumanth (1984) clarifies the meaning of productivity as a concern with the efficient utilization of resources (input) in producing goods and or services (output).
Public likely confuse productivity with production terms, where the concerned is with the activity of producing goods and or services.

### 2.2.2 Port Productivity

Productivity is the measurement of the volume of output (cargo) handled per unit of time. It is in the choice of the volumes of output such as numbers of cargoes per annum loaded or off-loaded at a port, and the amount of time used. The usual productivity indicators for example ship productivity is measured using the duration of the call in the port as a divisor, which is usually either the total turn-round time, or the time at berth. Also crane productivity is measured in terms of the number of net gross or net crane hours.

In a specific period of time, an optimum number of loaded or unloaded containers can be determined at a port. So when the port performance is measured using loaded/unloaded containers, the current number of loading and unloading operations with the optimum number of operations can be determined. This could determine the extent to which port has performed in comparison with the optimum level. Another indicator of port productivity could be the productivity of the terminal. Terminal productivity illustrates the optimum number of the labour that can be determined according to the time spend for each loading/unloading operation by each container loading/unloading crew for each container, and a comparison can be made according to the optimum and current total number of crew working for the loading/unloading operation. But it should never be neglected that the levels specified in a period of time can vary according to the technology, political situation, environmental situation and etc. (Köseler, 2012).
One way of measuring port container terminal productivity is the vessel operation, which involves discharge and loading of container onto vessel (Kim and Park, 2003). Productivity in port container operation is an important determinant in the cost of providing container stevedoring services. It involves the whole scenario of container terminal when productivity of particular terminal is being questioned by clients. Meyrick and Associates and Tasman Asia Pacific (1998) also noted two partial productivity measures used in port productivity studies. First is annual lifts per employee (labour productivity), and it is defined as the number of container movements (container lifts) per terminal employee. The other is net crane rate (capital productivity), and it is defined as the number of container movements (container lifts) per net crane hour.

Port productivity data are based on some rigidly defined elements. These elements include operating time, crane density; total time a ship spends is in port and crane productivity. These data points are usually based on vessel name, terminal name, ship arrival, ship departure and number of moves (including lift-ons, lift-offs and re-stows). Berth arrival and departure refer to “lines down” and “lines up” that is, the actual arrival and departure of the ship at the berth (Mongelluzzo, 2013).

Though it is possible nowadays to fairly estimate the arrival of ships, technological advancement requires that the labour force is also highly skilled since the flexibility, productivity, quality and cost efficiency of dock workers contribute to the competitiveness of port-related and logistics companies and the wider economy (Notteboom, 2010). Port productivity is also a measure of sea-port operational efficiency (Tongzon & Heng, 2005). Using this measure of port productivity, a number of studies used data on inputs,
out-puts and production function theory, by means of data envelopment analysis, to estimate the most efficient production frontier across a set of sea-ports (Lin and Yang, 2010; Tongzon, 2001; Martinez-Budria, Diaz-Armas; Navarro-Ibanez and Rvelo-Mesa, 1999). The approaches using this method have the advantage of economies of scale derived from econometric evidence but have a drawback that typically assumes constant return to scale (Blonigen & Wilson, 2006).

As reported by De Monie (1987), the measurement of port productivity has been greatly impeded by the following factors:

a. The sheer number of parameters involved.

b. The lack of up-to-date, factual and reliable data, collected in an accepted manner and available for dissemination.

c. The absence of generally agreed and acceptable definition.

d. The profound influence of local factors on the data obtained.

e. The divergent interpretation given by various interests to identical results.

2.3 Factors affecting productivity

Several factors affect the productivity of labour at the sea port. This provides the basis for diversity in labour productivity growth across regions, with production levels showing life-size split between advanced and developing countries (Polat and Arditi, 2005 and Lverson, 2006). Productivity may vary a result of several differences such as:

(i) Differences in production technology,

(ii) Differences in the efficiency of the production process, and

(iii) Differences in the environment in which production occurs (Lovel, 1993).
It is also likely to observe that productivity and efficiency are key expectations of every production decision. Therefore, it is only through sound management that optimum utilization of human and technical resources can be secured. However, there are bottlenecks in the way of achieving the desired objective. For instance, according to Adebayo (2005), cumbersome clearing, system as one of the problems of poor port performance in Nigeria as the cargo clearing system depends on manual paper and physical movement of document to and from various processing centers located within and outside the ports. It can therefore be observed that the system at the port can be the hindering factor of port productivity.

At organizational level, port performance comprises Effectiveness + Efficiency + Port personnel satisfaction (Meletiou, 2006). The efficiency of the system set up at port is facilitated by people. The efficiency of personnel at the port in addition to the efficiency of equipment employed can increase port productivity. However, productivity through people implies the increase of output with existing, or even decreasing, resources (De Monie, 1987). In effect, port performance and productivity cannot be determined by only one indicator or by a single all-encompassing value. The complexity of port operations, and in particular the interaction between various essential elements such as the efficiency with which ships, berthing space, equipment and labour are utilized, make it compulsory to rely on a set of indicators if one wants to arrive at an accurate and meaningful evaluation of a port’s performance (De Monie, 1987).
Better utilized labour with stronger commitment and working on safe jobs also contribute to labour productivity (Wiredu, 1989). Meletiou (2006) states that the development of a positive attitude towards teamwork and of skills is the main strengths of the port-worker

Basic education, diet of the labour force, social overhead such as transportation and sanitation (Heizer and Render, 1999), motivation, team building, training and job security have a significant bearing on the labour productivity (Wiredu, 1989). According to Goldberg and Smith (2007), the benefit of education is that it increases fringe benefits enjoyed by the employee. Education affects worker’s health positively, as higher education typically leads to occupations that involve less health risk and provide greater financial capacity to purchase better housing, nutrition, and health care (Edgerton et al., 2012). According to Bloom and Canning (2000) there are four pathways through which health can affect productivity; namely: a healthy labour force has more physical and mental energy and is less absent often; individuals with a longer life expectancy may choose to invest more in education and receive greater returns from their investments; with longer life expectancy, individuals may be motivated to save more for retirement, resulting in a greater accumulation of physical capital; and improvement in the survival and health of young children may provide incentives for reduced fertility and may result in an increase in labour force participation which may, in turn, result in increased per capita income if these individuals are accommodated by the labour market.

The most frequently stated reasons for productivity inefficiency are fatigue; increased absenteeism; decreased morale; reduced supervision effectiveness; poor workmanship, resulting in higher rework; increased accidents (Horner and Talhouni, 1995). Working
overtime initially result in increased output, but continuing overtime may lead to increased costs and reduced productivity (Hinze, 1999). Consequently, reduced supervision effectiveness at the port reduces the productivity of port labour.

Efficiency of sea-port operations is determined by duration (time) of ship’s stay in a port, quality of cargo handling and quality of service to inland transport vehicle during passage through the port (Blonigen and Wilson, 2006). Quality of cargo handling is in the form of berth throughput (Monie, 2009) and quality of service to inland vehicle is dependent on port infrastructure.

2.4 Analysis Definition and Legal Status of the Dock Worker

According to Aryee (2012), Ghana currently has no legal instrument concerning dock work in particular. Generally, casual labour is prevalent in Ghana. It is on the increase because employers face a high fixed cost in their operations in the event they want to replace manual labour with technology where possible. Consequently, Ghana therefore has been branded a “high-cost, low-wage economy with reduced international competitiveness (Gockel and Vormawor, 2004).

Dock labour is treated as any other working group in the economy. Indeed, the Maritime and Dockworkers Union (MDU) operates under the bargaining agreement of the nationwide umbrella of workers unions, the Trade Unions Congress of Ghana. As a result, dock labour has remained a casual occupation with it attendant economic and social effects. Elsewhere in the world, some ports have had or still have legislation on dock labour in place. These legislations, in certain cases gave a clear cut definition of dock work and dock labour and stipulate certain conditions regarding entry, qualification,
conditions of service e. They may also contain a clause that guarantees wages or frequent
jobs for the Dockers (Aryee, 2012).

In Ghana, there exist no explicit law concerning who the port operators can employ,
however, the port implicitly does not recognize and encourage any form of casual labour,
except those from Ghana Dock Labour Company (GDLC). GDLC is therefore the sole
supplier of casual labour in the port. The stevedoring companies being stakeholders of
GDLC are obliged to hire labour from GDLC. This notwithstanding, it is acceptable for
some of the stakeholders to maintain a mini labour pool of Dockers who they refer to as
their permanent workers for strategic reasons (Aryee, 2012).

Secondly, there is no specific description for menial job in the port that requires the use
of casual labour like cleaners, carriers and sometimes technical skills like machine
operators and drivers (various categories); whose services will have to be used, disposed
of and rehired as and when needed in the port is termed dock work and dock labour
respectively. In the absence of any legislation on port labour any person employed by the
port employers is employed under the general labour conditions as stipulated in the Ghana
labour law, 2003 Act 651.

In Ghana, port labour systems are not decentralized because of low minimum wage level.
Employers therefore opine that other legal commitments such as collective agreements,
termination of labour contracts, conflict resolution, and other regulations governing
formal sector employment are the stumbling blocks to permanent employment (Gockel
and Vormawor, 2004).
2.5 Ghana Dock Labour Company

GDLC is a duly registered Limited Liability legal entity under the Ghana Company's Act 179 to provide employment for casualised dock labour. The employees are members of the Maritime and Dock Workers Union. The stevedoring companies in the port, together with the MDU came together to pool resources to form one labour pool from which all of them will call to make request for labour at will. The stevedoring companies are therefore the basic owners and clients as well (Aryee, 2012). According to Britwum (2010), its membership has declined from 4800 as of 2006, to 3000 by the third quarter of 2008 as the Meridian Port Services (MPS) started its highly mechanized operations in 2007.

The GDLC appears similar to the systems operating some Western countries such as Britain, France, Germany and the Netherlands except that the GDLC is not established by statute just like the Samenwerkende Haven Bedrijven (SHB) in the Netherlands (Notteboom 2010; Dempster, 2010) and while it is jointly owned by the labour union and the stevedoring companies, the union is under represented by virtue of its minority stake in the company.

Also the labour scheme as run by the GDLC does not offer permanent employment with guaranteed wages as in the case of decasualized systems of Belgium and Germany, and to some extent France. It is not funded by government just as is the case in Germany and the Netherlands respectively but a premium is placed on the wages of each man hired by the port employers which is used to run the pool (Aryee, 2012).
2.5.1 Problems of Casual Labour

Casual labour is a feature of emerging industries that are still struggling to understand the amounts of regular labour needed. Dock work basically involved unskilled work requiring no or little previous training, except for the operation of the mechanical devices which at that time accounted for something like 10% of the work (Jensen, 1964).

The advantages of being casual were an increased mobility between Work places and the structural ability to constantly search and find better conditions of employment. Workers would generally choose to be casual only when there was an oversupply of work and an undersupply of workers, and when they had an alternative source of income. Cooper (1982) observes that when demands on their labour power became too strenuous, they were able to organize and strike, crippling production. There are significant social problems that arise from casual labour. The ability to employ casual labour was often as a result of oversupply of unemployed people in a particular town or city.

Casual labourers were also not responsible industrial workers and gained little on a long-term basis from the success of a business venture. Casual dock labour employed to off load cargo from ships, often steal goods off those ships.

2.6. Context and Constituents of the Professions of Dock Workers

Mitroussi and Notteboom, (2014) provide an outline of the distinctive nature of the working environment on ships and at cargo handling facilities in seaports in view of identifying job characteristics along a number of internal and external forces to the professions. This is illustrated on Table 2.1. Table 2.1 provides a summary of the main
job characteristics grouped according to three dimensions: market conditions and required skills, social conditions and structures and working conditions.

Table 2.1: Job Characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Dockworkers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market conditions and required skills</strong></td>
<td></td>
</tr>
<tr>
<td>Fluctuation level in labour demand</td>
<td>High due to peaks in ship arrival patterns, seasonality, economic cycles</td>
</tr>
<tr>
<td>Inter-company competition is moderate in case of dock labour pools (casual work). High in case of fixed permanent personnel</td>
<td>Dependent on qualification needed and terminal type (e.g. difficult for container terminals)</td>
</tr>
<tr>
<td>Change of the nature of work</td>
<td>Increasingly high skilled and technical in need for continuous training</td>
</tr>
<tr>
<td>Basic technical skills needed</td>
<td>Related to specificity of handling equipment</td>
</tr>
<tr>
<td>International standards guiding the profession</td>
<td>Some role for International Labour Organisation (ILO), but standards mostly set at local port level.</td>
</tr>
<tr>
<td><strong>Social conditions and structures</strong></td>
<td></td>
</tr>
<tr>
<td>Gender mix</td>
<td>Very low. Women only found as logistics workers in some ports (i.e. light work such as fruit sorting, quality control)</td>
</tr>
<tr>
<td>Role of labour union</td>
<td>Strong to very strong union membership is often an informal prerequisite to job access</td>
</tr>
<tr>
<td>Group structure at the level of the profession</td>
<td>Dockworker pools are quite common given typical casual nature of dock work</td>
</tr>
<tr>
<td>Group structure formation on the work floor</td>
<td>Gangs led by foremen. Deployment of multiple gangs for handling of one ship</td>
</tr>
<tr>
<td>Multicultural nature of the workforce</td>
<td>Low particularly in cases of closed shops or highly-unionized labour pools</td>
</tr>
<tr>
<td>Employee turnover</td>
<td>Low for permanent employment dock work structure. Gangs tend to be rather constant in composition. Casual workers in pool systems might change terminal regularly but stay in the same port environment</td>
</tr>
<tr>
<td><strong>Working Condition</strong></td>
<td></td>
</tr>
<tr>
<td>Time spent away from family</td>
<td>Limited to duration of shift. Night and weekend work are common.</td>
</tr>
<tr>
<td>Safety record perception on safety</td>
<td>Considered as a dangerous profession</td>
</tr>
<tr>
<td>Exposure to harsh working conditions</td>
<td>Weather, temperature difference, use of heavy equipment</td>
</tr>
</tbody>
</table>
2.6.1 Market conditions and required skills

According to Mitroussi and Notteboom, (2014) as market environment of the shipping industry and seaports change the requirements imposed on dock labor and work on board of vessels also change subsequently. They explained that recent trends globalization, intensified competition, an increasingly diverse and ageing workforce, skill shortages, technological innovation, need for responsiveness and quality of service have influenced labour demand.

Mitroussi and Notteboom, (2014) provide detailed analysis of the role of technology and containerization in market environment of the shipping industry and seaports. They explained that changing technology brought new skill requirements of the workforce and increased the need for skilled dock workers who have the qualifications and experience to operate more specialized ships and handling superstructure. They also emphasized that the need for skilled dock workers is further reinforced by the increased focus of port customers on precision, damage prevention and overall quality of service.

They also explained that the explosive growth in containerized trade led to the recruitment of more permanent employees at container terminals, while the shrinking conventional cargo market still relies much more on casual work. The most talented and skilled port workers typically aim for a high-paying job at a container terminal, thereby putting pressure on conventional general cargo terminals to keep their best dock workers.

2.6.2 Social conditions and structures

The internal organization of dock labour is taking place within a wider setting of social structures and conditions. The dock labour workforce is characterized by a very low
participation of women and a low multicultural mix. Even in traditional maritime countries women have been denied access to maritime academies until recently. In Greece, for instance, women have been accepted as master trainees since 1978 but in limited numbers and only since 2007 without any limitations, while they could not attend engineering in marine academies until 2003 (Giziakis et al., 2009).

The shipping industry has traditionally and contemporarily been a masculine industry both in terms of its employee demography and in terms of its values, assumptions and everyday practices. The masculinity of the industry is very much a matter of image as it is a reality.

Ports can depend on a dock labour scheme based on a centrally managed pool of registered dock workers. The use of registered Dockers through a pool can be mandatory or not. This obligation can be de facto or imposed by law.

Labour unions are typically very visible at the dock labour front, although major differences in union power can be observed across seaports and countries (Turnbull and Wass, 2006). These ports are among the most efficient ports in the world and their labour force is highly skilled, productive, well remunerated and union membership is high.

While differences exist among these ports with respect to how and at what institutional level collective bargaining agreements are negotiated, the trade unions in these ports generally form a united front at the national level, the regional level, in the ports and at a port-company level.
Social dialogue through effective bodies of joint consultation is considered as the key to a sustainable relation between employers and trade unions. A climate of constructive dialogue thus enhances social peace in ports.

The gang system is an important cornerstone in the organization and group structure of dock work. New technologies made it increasingly difficult to maintain a system of gangs of a dozen or so. As a result, gangs now typically count 5 to 8 dock workers.

2.6.3 Working conditions

Dock work is generally considered as dangerous and tough, particularly when it involves the physical handling of goods on board of ships or between quay and yard or warehouse. While night work and weekend work are quite widespread, dock workers only stay away from home for the duration of a shift. Double shifts are highly uncommon and are mostly not allowed due to the dangers linked to fatigue. Dockers working in the open air are exposed to a harsh environment linked to weather conditions, temperature differences between ship, quay and warehouse and the use of heavy equipment and cargoes.

Modern challenges are added to the inherent difficulties of the profession. The modern environment of shipping has brought better, safer and more comfortable working conditions aboard, but it has also produced time and space compression for workers employed on ships. This is due to the speeding up of cargo operations and changes in the spatial layout of modern port cities and the utilization of and access to new port facilities which nowadays tend to be located in remote districts and at a great distance from population centers.
The dearth of studies on the Latin America seaports’ performance led Munisamy and Jun (2013) to study seaports efficiency in this particular region which has experienced significant reforms since the mid-1980s.

2.7 Incentives and Productivity

Generally, incentives are regarded as variable payments made to employees or a group of employees on the basis of the amount of output or results achieved. Alternatively, it could be payments made with the aim of pushing employees’ performance towards higher targets (Banjoko, 2006). Nevertheless, apart from financial incentives, there are also non-financial incentives, which may be relevant to the public sector. In Locke’s (1968) goal setting theory, four of such nonincentives were brought to the fore. These are feedback, time limits to achieve set goals, subordinate’s participation in goal setting, and praise or reproof.

Effective incentive pay systems are based on three assumptions: individual employees and work teams differ in how much they contribute to the organization, not only in what they do but also in how well they do it; the organization’s overall performance depends to a large degree on the productivity of individuals and groups within the organization; to attract, retain, and motivate highly productive workers and to be fair to all employees, an organization needs to reward employees on the basis of their relative productivity (Martocchio, 2006).

In spite of that, compensation as observed by Mohrman and Mohrman (1993); and Montemayor, (1996) attracts and retains risk- taking employees, or employees who possess a high degree of openness to new ideas and creativity in solving daily problems.
Incentives can therefore boost an organization’s learning capability if used for recompensing attitudes oriented towards flexibility and constant improvement (Lei, et al, 1999; O’ Dell and Grayson, 1998; and Stata, 1989).

In a similar vein, Leonard-Barton’s (1992) viewed the organization as a learning laboratory. She notes that employees find incentive systems symbolically important. More specifically, Garvin (1993) points out that if employees know that their plans or ideas will be evaluated and recompensed- in other words, that their knowledge will be applied- they are more likely to show learning-oriented behaviour. For instance, Arthur and Aiman-Smith (2001) found that establishing a gain-sharing plan promotes first-order learning and, subsequently, second order learning. The latter has been described behaviourally as “the search for an exploration of alternative routines, rules, technologies, goals, and purposes” (Lant and Mezias, 1992).

In spite of the advantages associated with the use of incentive schemes, Reilly (2003), in evaluating the success of incentives in the public service, highlights that it would be difficult to establish whether incentive schemes have aided recruitment or retention of employees, but there has been more attention given to whether or not it has improved employee motivation.

However, the size of any form of incentive acts as a motivator of employees. According to Reilly (2003), it is not easy to incentivize the police to catch more criminals, customs and excise officers to increase their detection rate, or ambulances to get to incidents more quickly. A target can be set, but care needs to be taken over the process of reaching the goal. The public might complain about over-enthusiastic police, customs officers, or ambulance drivers (Reilly, 2003). Many employees have doubts about whether their
managers have the skills to exercise their judgment in a fair and consistent manner (Reilly, 2003). IPD (1998) also finds that the accuracy of management perception of a direct link between pay and individual productivity will motivate employees to higher levels of performance. However, according to Thorpe and Homan (2000), such a view flies in the face of research which emphasizes the importance of a whole complex of factors when understanding motivation. Thorpe and Homan, (2000), added that even if the perception of a direct link between pay and productivity were valid, it is doubtful that it would remain unaffected by the influence of workplace pressures, social, economic and political.

2.8 Conclusion

Port labours thus are personnel charged to perform core businesses, cargo loading and off-loading among others, at the port. The term “port labour” is used interchangeably with the term Dock workers. Port labours are assigned to tasks based on their skills, competences, educational background, and availability of job. There are factors as equipment availability, incentive packages, work conditions, educational background, general economic challenges and labour motivation which have significant influence on labour and port productivity.

The performance of ports vary significantly from port to as a result of vast data involved in determining port labour productivity for that matter port productivity.
CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter discusses the method used in the collection of data. It specifically takes a critical look at the research design, population, sample and sampling procedure, research instrument, and data collection procedure and analysis plan.

3.1 Research Design

The researcher used mixed method. Mixed method is a philosophical assumption that integrates qualitative and quantitative research approaches within a simple subject. Its central premise is that, the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone. Furthermore, this decision is supported by the rationale of availing the merits and overcoming the demerits of both approaches as discussed by Creswell (2003), the use of multiple data sets can inform the research, by yielding insight and methodological changes that improve the study and strengthen findings as well as collecting diverse data which best provide an understanding of a research problem.

The study therefore used exploration and descriptive design. The use of this method in this study helped in describing and exploring as much as possible what occurred in the organization as a whole and also in the description of how workers (casual and permanent) cope with the work they do and the nature of employment contract.
3.2 Target Population

The target population of the study consisted of all port labour in Tema port as the study was designed to interrogate the influence of port labour system on employee productivity at Tema port. The accessible population was port labour in Tema Port because they are privy to the information that the researcher wanted. The population for the study was estimated as Five Hundred (500) port labour and Fifty (50) Management personnel. This was determined from registered port labour with Dock Labour Company at the Tema port as unique sampling frame available to draw the sample of the study from. The researcher generated sampling frame from the sample for the study.

3.3 Sample and Sampling Procedure

A sample size of 50 dock labour, selected from estimated dock labour of 500 and 50 management personnel, was used for the study. The sample of 50 port labour and 5 management personnel represent 10% of the population of the study. This is based on assertion of Gay and Airasian (2003) who stated that the sample of 10% to 20% of the target population is often used in descriptive research. The 50 respondents were selected through simple random sampling from port labour whereas 5 selected from management personnel. Large unrepresentative samples can perform as badly as small unrepresentative samples. It is also noted that a survey sample’s ability to represent a population has to do with the sampling frame; that is the list from which the sample is selected. When some parts of the target population are not included in the sampled population, the researchers are faced with selection bias, which prevent the researcher from claiming the sample is representative of the target population. In this regards, the researcher prepared a survey sampling frame which included all stevedoring companies in the port. From this sampling
frame in (Appendix C), two strata of permanent and casual employees were carved. From each stratum a proportionate number of port workers were drawn to make the total sample. Stratified random sampling was used because each of the permanent and casual group of port workers needs to be drawn using simple random sampling and studied to help achieve the objectives of the study. In brief, the selection of each item from the population is controlled by the same probabilities and that successive selections were independent of one another. Secondly, since GPHA has more employees than the selected stevedoring company, the researcher selected 30 respondents from Tema port and 20 respondents from the Golden Gate Stevedoring Services, Advanced Stevedores and Speedline Stevedoring Co. ltd.

The segment of the population that was selected for interview was based on a non-probability sampling, thus the selected respondents were more expected to be selected instead of others (Bryman and Bell, 2007). The researcher selected managers and union leaders of Tema port and Golden Gate Stevedoring Services. Four union leaders were selected and one administrative employee of Tema port and Golden Gate Stevedoring Services were selected.

3.4 Data Sources

Data were gathered from primary and secondly sources. The combination of these data sources provided the opportunity to blend current labour practices at the port vis-à-vis port output.
Primary data are those which are collected for the first time and are always given in the form of raw materials and originals in character. These types of data need the application of statistics methods for the purpose of analysis and interpretation. While secondary data are those which have already been collected by someone and have gone through the statistical machines. They are usually a refined form of the raw materials. When statistical methods are applied on primary data, they are shaped and become secondary data. The primary data for this study were gathered through items contain in the questionnaire used to elicit specific responses from the port labour. The secondary data for the study was port labour productivity from 2004 to 2013 prepared by GPHA.

### 3.5 Research Instruments

The focus of this study is to describe the nature of port labour system, identify its impact on performance. The instruments that were used by the researcher were interview and questionnaire. The use of questionnaire enabled a large number of respondents to be surveyed within a shorter period of time. Again the questionnaire was preferred to other instruments because it is judged the fastest mode of collecting data from the sample. Thereby, it elicited more honest responses as it is also less expensive compared to the other data collection techniques.

The questionnaire, as an instrument, however has some inherent problems. For instance, some of the items could be misinterpreted due to poor wording or differential meaning of terms, which might not elicit the responses expected by the researcher. However, the researcher will see to it that all factors or variables that may influence the validity and reliability of the questionnaire are taken care off.
In developing the questionnaire for the study, the researcher stacked to the rules that Kumar (2005) suggested. Kumar (2005) asserts that in developing questionnaire there are some specific steps that must be taken into consideration and these steps are outlined below:

1. The researcher should clearly define and individually list all the specific research questions.
2. For each specific research question, the researcher listed all the associated questions that were addressed through the study.
3. The researcher should also take each research question identified in step 2 and list all the information required to answer it.
4. The researcher should formulate questions to obtain the information.

Adhering to the guideline that Kumar (2005) provided in writing questionnaires, the researcher developed Validation of Instrument. Reliability is the consistency of measurement, or the degree to which an instrument measures the same way each time it is used under the same condition with the same subjects. In short, it is the repeatability of your measurement. A measure is considered reliable if a person's score on the same test given twice is similar. It is important to remember that reliability is not measured, it is estimated. Validity is also the strength of our conclusions, inferences or propositions. Cook and Campbell (1979) define it as the best available approximation to the truth or falsity of a given inference, proposition or conclusion. To ensure validity and reliability of the instrument, the researcher pilot tested the questionnaire at Atlantic Port Services an organization whose employees had similar characteristics as Tema port and Golden Gate Stevedoring Services. The pretesting helped in revealing ambiguous statements, poorly worded questions that might not be understood by respondents, unclear choices and
double-barreled questions to be taken care of. The outcome of this exercise helped to modify the instrument so as to make it appropriate in collecting the desired data. Ten employees of Keyport Management Company were made to respond to the survey instrument. SPSS computer programme was used to analyses each section of the questionnaire for the strength of the reliability estimate. Interviews were also conducted to confirm some of the responses provided by the sampled respondents.

### 3.6 Data Collection Procedure

The researcher personally administered the questionnaire to the respondents. The researcher briefed the employees as to what the study was about in order to get the needed attention, support and co-operation of the staff. The questionnaires were hand-delivered to all the respondents by the researcher. The researcher then guided the respondents to complete the instrument without inferring with the choice of responses. The assistance just involved the explanation of instructions or terminologies so as to get the most valid data for inclusion in the analysis. Respondents were given one week to complete the instrument. To ensure an effective return rate, follow up telephone calls as well as personal visits were made to encourage the respondents to complete the questionnaires. This led to a situation where most of the questionnaires were retrieved giving a return rate of 100 percent.

### 3.7 Data Analysis

The data collected were edited to eliminate any incomplete response. The valid questionnaires were coded to reflect their corresponding categories in accordance with the following scoring key: Strongly agree-5, Agreed-4, uncertain-3; Disagreed -2 and
Strongly disagree -1; Afterward the scored questionnaires were analyzed using Statistical Product for Service Solutions (SPSS) into the desired descriptive statistics. Since a descriptive sample survey was used in gathering data, it was prudent for the researcher to use the same descriptive method in analyzing the data that were obtained. Descriptive surveys do not typically require complex statistical analysis. Therefore, descriptive statistics (mean, variance, frequencies and percentages) were used in analyzing the data that were gathered. Secondly, conclusions basically on the bases of inferences linking findings to empirical literature where appropriate were made. More so, pie chart, bar graph and tables were used in the presentation and analysis of data.

3.8 Measurement of productivity

3.8.1 Factors Affecting Productivity

Factors affecting terminal productivity can be divided into two categories, namely those that are controllable and those that are uncontrollable. Controllable factors relate to the proficiency of planning, organizing, operating, and maintaining terminal labour, facilities and equipment. Uncontrollable factors can further be divided into those that are ship related and those that are port related. Ship related factors include the type of ships (TEU capacity, cellular/non-cellular) calling at a port, number of moves per call and per bay, type and number of hatch overs, dimensions of the ship (especially width and depth which determine the box path) and stowage plan. Port related factors include the type of facilities and equipment available at the terminal, including the type of cranes employed to handle the ship, whether they are shore-based gantries, shore based mobile cranes and other factors such as type of weather, time of day, etc.”
3.8.2 Measuring Container Terminal Productivity

Despite years of measuring and recording container terminal productivity, there is no uniform methodology to measure productivity. Crane rates are the most common measure used to compare port productivity. While crane is a significant indicator of container terminal productivity, it only forms a part of complex logistical chain of activities that together makes up the total container transport process. Other similar significant productivity indicators are berth utilization, throughput and storage productivity, labour productivity, land transport times and costs.

Efficiency, or at the very least the ease of operation, is affected by the level of throughput, cargo exchange and stow, vessel size and type, technology and the customer focus of management. Extensive research has been conducted to compare container terminal productivity with the best in the world. Some of the most notable research includes: Asbar's (1997) productivity indicators, Sachish's (1996) engineering approach, Iongzon's (1995) use of component analysis and Roll & Hayuth's (1993) use of data envelopment analysis.

3.9 Productivity Indicators

Asbar (1997) suggests the use of the following six productivity measures to indicate productivity of ships and gangs:

i. Port accessibility (the difference between Port lime and Gross Berth time) which reflects the distance and navigation conditions of the port access channel, availability of a pilot and tug, availability of agencies responsible for clearing ships, crews and cargo and the availability of berth
ii. Gross Berth Productivity which indicates the number of container transfers between the ship and the dock divided by ship's Gross Berth time; this measure reflects the shift structure and labour situation.

iii. Net Berth Productivity which is similar to Gross Berth Productivity but uses Net Berth time. This measure reflects the number of gangs/cranes assigned to the ship.

iv. Gross Gang Productivity which indicates the number of container transfers divided by Gross Gang time; this measure reflects labour contract, especially regarding "stand-by" time at the beginning, during and at the end of a shift.

v. Net Gang Productivity which is similar to gross gang productivity but uses Net/Gang time; this measure includes non-productive activities such as handling hatch covers, shifting containers on-board and inserting/removing cones.

vi. Net/Net Gang Productivity which is similar to Net Productivity but uses Net/Net Gang time. This measure reflects the technical capability of facilities and equipment, along with the proficiency of labour," in operating the equipment and the competence of terminal management ill planning and controlling facilities and equipment.

The above measures provide a simple methodology to determine port labour productivity. Despite the importance of port performance measurement, however, it is surprising to note that there are almost no standard methods that are accepted as applicable to every port for the measurement of its performance (Cullinane, 2002). “Measurement will always have a natural tendency to be terminal-specific” (Robinson, 1999). As reported by De Monie (1987), the measurement of port productivity has been greatly impeded by the following factors:
The sheer number of parameters involved;

✓ The lack of up-to-date, factual and reliable data, collected in an accepted manner and available for dissemination

✓ The absence of generally agreed and acceptable definitions

✓ The profound influence of local factors on the data obtained

✓ The divergent interpretation given by various interests to identical results.

For this study however labour productivity analysis was guided by gross gang productivity which indicates the number of container transfers divided by gross gang time. This measure reflects labour contract, especially regarding "stand-by" time at the beginning, during and at the end of a shift.
CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

4.0 Introduction

This chapter presents the results of the study as well as the interpretation of the results. Four research questions were answered using descriptive statistics tools – frequency tables, pie charts and bar chart. Variance analysis was used to analyze port labour productivity (comparing actual output to targets). The response rate to the questionnaires used was 100%. This provided some level of confidence in the responses offered by sampled respondents. Also the readiness of the respondents to offer their opinion was great and impressive since it can affect the credibility of opinions they offered.

4.1 Background Data Analysis

The background data of port labour is represented and analyzed per the results from the study shown in the figures and tables below.

Figure 4.1: Various Job Description of Port Labour.

Source: 2014 Field Survey
Figure 4.1 discusses the positions available in the port for port labour. There are several categories of port labour working in the Tema port. The study reveals that the positions of the workers in the Tema Port include: Winchman, Signalman, Timekeeper, Foreman, Ship supervisor, Forklift operator, Truck/bulldozer/trimmer, Reach Stacker Operator, Crane operator and Straddle carrier operator. The majority of port workers are signalmen, straddle Carriers and time keepers. This is shown in figure 4.1.

![Fig 4.2: Age of Port Labour](source)

**Source:** 2014 Field Survey

Figure 4.2 discusses the age in years of port labour sampled. The majority of sampled port labours (64% comprising 20-29 and 30-39 years groups as shown in fig4.2) are youths. When the age band is extended to 40-49 years’ group, then almost all the workforce (90%) are aged below fifty (50) years. This could partly be attributed to the fact that port labour requires some amount of youthful exuberance and physical strength in execution of port businesses particularly stevedoring activities. Also this could partly due to the nature tasks and busy schedules at the port. 10% of the respondents reported that they were aged from 50 – 59 years. The inference therefore is that port labour tasks require the services of
youthful population. This is in line with Boampong (2005) who noted from his earlier study that demographic characteristics of casual workers at the Tema port showed a preponderance of a youthful population between the ages of 20 and 35.

Figure 4.3: Port labour's Education Background.

Figure 4.3 analyses the educational background of port labour. The results show that all the respondents have one form of education or the other. A port worker has at least basic education certification. The majority of the port labour (48% as shown in figure 4.3 representing 24 respondents sampled) surveyed reported to have completed other educations. The other category said they have Higher National Diploma certification and technical education. A sizeable number of the respondents (44% which stands for 22 of the respondents) have completed University with a degree. A minority of the respondents (8%) also have a non-technical education certificate specifically secondary education. The majority of port labour had secondary, middle and vocational education. This trend shows a change from the old system where dock workers had lower level of education. This could help increase labour productivity. The highly educated port labour usually appear to enter as casual tally clerks, as a way of gaining entry into lucrative sections of the Maritime
business. The activities of this group of port labour are likely to adversely affect productivity. This is because they are likely to build social networks and ready to please others in order to search for work in the port than fully concentrate on their core duties. Thus productivity is likely to be negatively affected.

**Figure 4.4: Port Labour and Organization**

![Bar chart showing the distribution of port labour as permanent or casual workers.]

**Source: 2014 Field Survey**

Figure 4.4 discusses the relationships port labour has with their employer. The findings of figure 4.4 show that the services of port workers are engaged by the stevedoring companies as either permanent workers or casual workers. The study reveals that majority of port labour (74% as shown in figure 4.4 which denote 37 of sampled respondents) were engaged by their employers as casual workers whereas 26% were permanent workers. It is could be inferred however that majority of port labour are casual workers. Boampong (2005) explains that Ghana Dock Labour Company provides employment for casual dock workers. Accordingly, the large number of casual workers engaged by the stevedoring companies does not deviate from the norm at the port. However, one feels that the engagement of the casual workers may negatively affect productivity because the casual
workers may not fully concentrate on the long term activities of the port. This may explain the reasons behind the fluctuation in productivity for some sections.

**Figure 4.4.1: Length of service of casual workers**

So figure 4.4.1 discusses the length of service of a port labour as a casual worker. The findings show that 28(75.7%) of the sampled port labour had worked as casual workers for at least the period of two (2) years. Out of the 28 respondents who had worked for at least two years, 13(46.4% approximately) worked for duration more than three years as casual workers. The minority of the respondents 9(24.3%) worked as casual workers for the duration of at most two (2) years. Consequently, more casual workers work for more years. The casual status is a form of temporal employment. The port labour may feel unsecured; therefore it can affect productivity adversely at the port.

Source: 2014 Field Survey
Figure 4.5 discusses the membership of the sampled respondents. When as whether they belong to any labour union a significant 64% majority answered in affirmative (see figure 4.5). The remaining 18 of the respondents representing 36% said they are not members of any labour union. The 36% category appears to be dominated by those groups of port labour sampled who reported to have been working as casual workers.
Figure 4.6 discusses the length of services, in years, of port labour with their organizations. The results show that majority (54%) of the respondents had worked with their organization for period not exceeding 5 years. Also minority of respondents (6%) worked for stevedoring companies for duration of sixteen (16) to twenty (20) years. The remaining port labour sampled worked for 6-10 years (12%) and 11-15 years (28%). The fact that majority of the respondents ever worked for at most 5 years as port labour could partly be due the dominance of youth among the port labour and partly due to situation where some of port labour sampled were national service personnel as well as casual workers. This is inferred from the results that majority of the sampled respondents (see figure 4.2 above) are aged below 50 years. This confirms the results in Figure 4.6 which show that 54% of the respondents had worked for stevedoring companies for period not more than five (5) years since the majority of them are youths.

![Figure 4.7: Port Labour working Time](source: 2014 Field Survey)

Figure 4.7 analyses the working hours of the sampled respondents. The findings show that most of the respondents (58%) worked a six (6)-day week with 8-hour per day including
½ hour meal break. A minority (12%) reported to have worked throughout the week whereas the 30% of the sampled respondents worked a 5-day week. The findings could be attributed to the fact that port businesses are mostly characterized with weekend work schedules for port labour.

The overtime work schedules may be strategically devised by stevedoring companies at the port so as to increase and sustained desired level of productivity. Despite some increased level of productivity that may be realized as a result of overtime work schedules, Hinze (1999) in his study noted that working overtime initially result in increased output, but continuing overtime may lead to increased costs and reduced productivity. Thus overtime work schedule may not lead to long term and sustained increase in productivity.

**Fig 4.8: Availability of Port Labour**

![Pie chart showing availability of port labour](image)

**Source: 2014 Field Survey**

Figure 4.8 analyses availability of port labour for handling tasks at the port. Almost all the respondents 47(94%) responded in affirmative that port labour are always available upon request for handling their tasks. A minority of the sampled respondents 3(6%) said that port labour are not available upon request. The inference thus is that port labour was
always available when requested and also that high level of unemployment in the country could have made it possible for availability of port labour.

Thus availability of port labour could mean that there is large pool of labour available from which competence work force should be selected from. Hence productivity would be positively affected if time is taken to engage the right caliber of port labour.

**Fig 4.8.1: Assignment of Port Labour to Tasks**

![Graph showing job assignment methods for port labour: rotations versus when work is available.](http://ugspace.ug.edu.gh)

*Source: 2014 field survey.*

Figure 4.8.1 shows the job distribution in the port. The results confirms the availability of port labour and hence their distribution. Basically port labour perform their task either through job rotations or specific work schedules/ when work is available. From the data gathered 34 percent of respondents said that most of their job assignments have been through job rotations. The 66 percent however said that their job assignment have been done through specific work schedules.

Some port managers were of the view that:

Considering the share nature of work at the port, Dock labours are assigned to a particular cargo handling operation depending on the type of cargo and their skill (eg. drivers for RoRo vessels, crane, and forklift drivers for container vessels).
From this data we can infer that the majority job schedules at the port is done per the work available. Therefore employing and retaining suitable port labour that would contribute to the effectiveness and the efficiency of the port productivity and at the same time port labour. The employers of port labour will have to engage labour who have expertise in a particular area of the job assignments since the actions and inactions of labour may affect productivity.

4.2 Descriptive Analysis of Data Gathered to Discuss the Factors That Enhance the Satisfaction of Port Labour

The question that what are factors that enhance the satisfaction of port labour was answered using set of questions set out in the figures below

![Figure 4.9: Salary](Source: 2014 Field Survey)

Figure 4.9 discusses the motivational factors that affect employees’ performance on a task. The sampled port labour were asked to express their opinion on the level of their satisfaction regarding salary / wage they were paid in exchange for the services they rendered to their employers. Majority of the respondents 37 (74%) said they were
somewhat satisfied with their salary. A significant minority of the respondents 1 (2%) was satisfied with their salary. 12 (24%) of the respondents were not satisfied with their salary. It could be inferred that port labour is not satisfied with their salary. Thus extrinsic factors in motivating port labour were not fully exploited to the benefit of the port labour. Fairness considerations appear to affect labour market outcomes on a number of dimensions, including reciprocity meaning that, workers were paid a flat wage and the workers reciprocate the in-kind bonus through quantity of output but not quality. However, relatively few studies have looked at how workers’ relative wages affect effort in part, because relative wages are typically endogenous to a number of workers’ characteristics.

**Figure 4.10: Benefits Given to Employees**

<table>
<thead>
<tr>
<th>Satisfied</th>
<th>Not satisfied at all</th>
<th>Somewhat satisfied</th>
<th>Not satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>24%</td>
<td>40%</td>
<td>20%</td>
<td>16%</td>
</tr>
</tbody>
</table>

**Source: 2014 Field Survey**

Figure 4.10 discusses the motivational factors that affect employees’ performance on a job. The respondents were asked to express their opinion on the level of benefits they received from their organization with respect to their performance. 12 (24%) of the respondents said that they were satisfied with the level of benefits they receive from their organizations. 10 (20%) of the respondents were not forthcoming as to whether they were satisfied with the benefits they enjoyed. In all, 28 (56%) of the respondents were not
satisfied with the benefits they enjoyed. Port management as well as trainers is responsible for creating a conducive environment for labour to perform. However, from the data, we can infer that port labour in Tema Port do not enjoy extrinsic motivation including health and insurance. Thus consistently the findings of the study show that port labour is not satisfied generally with condition of service thereby affecting port labour ability to produce.

![Figure 4.11: Opportunities to Utilize Skills and Talent](image)

Source: 2014 Field Survey

Figure 4.11 analyses the extent to which respondents think their jobs offer them opportunities to utilize their skills and talents. 25 respondents represent 50% of the sample size said that they were satisfied with the extent to which their jobs enable them to utilize their skills and talents. Another 48% said they were somehow satisfied with the opportunities that their job offers them in order to utilize their skills and talents. Any support provided by port management to individual port labour for self-development is likely to contribute to employee satisfaction and generate more motivation. We can infer that the opportunities that are available to port labour are skill enhancing opportunities so
they consider them as intrinsic benefits that do not presently enhance the economic welfare.

**Figure 4.12: Support for Additional Training and Education**

<table>
<thead>
<tr>
<th>Satisfied</th>
<th>Not Satisfied</th>
<th>Not Satisfied at all</th>
<th>Somewhat Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>64%</td>
<td>12%</td>
<td>14%</td>
<td>10%</td>
</tr>
</tbody>
</table>

**Source: 2014 Field Survey**

Figure 4.12 analyses the extent to which respondents are satisfied with training and educational opportunities. When the respondents were asked whether they were satisfied with the support provided for additional training and educational development, the majority of the respondents 32 (64%) of the respondents said that they were satisfied with the training and education they receive on the job. Also, 5 (10%) respondents said that they were somehow satisfied with such opportunities. Since this group of respondents did not exactly say they are not satisfied we can say that they are also satisfied. It is only 13 (26%) of the respondents who said that they were not satisfied with the training and education opportunities. Thus, the inference therefore could be that majority of the port labour sampled were satisfied with training and education support. Since better utilized
labour with stronger commitment contribute to labour productivity (Wiredu, 1989), the organizations at the port ensure that the workers are better equipped through training and education because such investments in people result in substantial gains towards the achievement of the strategic objectives. However, it is important to point out that the provision of opportunities for appropriate training, education and development is one of the proven strategies for port workforce motivation because “training can solve a variety of manpower problems which militate against optimal productivity and performance”, (Kayode, 2001). However if the training needs are not deliberately targeted and goal directed, it may not improve productivity.

**Figure 4.13 Opportunities to Learn New Skills**

![Pie chart showing the distribution of responses to the extent of opportunities to learn new skills.]

**Source: 2014 Field Survey**

Figure 4.13 examines the extent to which port labour agreed that their ability to work harder is influenced by opportunities to learn skills. 27 (54%) said they were satisfied with opportunities to learn new skills. Another 7 (14%) of the respondents said that they were somehow satisfied with the opportunities to learn new skills. However, a total 16 (32%) of the respondents said that they were not satisfied with the opportunities to learn new
skills. The finding underscores the need for training. Horner and Talhouni, (1995) observed that lack of training, results in poor workmanship which in turn result higher rework; increased accidents. So, the opportunities for port labour to learn new skills help to raise the professionalism and social status of dock workers and enhanced their motivation and commitment to productivity and quality of service.

4.3 Descriptive Analysis of Data Gathered to Discuss the Challenges that Confront the Port Labour in the Port.

The tables below also depict analyses and interpretations of the challenges that confronted port labour in discharging of their assigned tasks.

**Table 4.1: Availability of Equipment**

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>45</td>
<td>90</td>
</tr>
<tr>
<td>No</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: 2014 field survey

Table 4.1 shows the response of respondents on the availability of equipment that are required to assist port labour to increase productivity of labour. The data gathered revealed that 90% of the respondents said that their respective organizations have the require equipment to enable them perform. On the contrary, 10% of respondents said that their organizations do not have enough equipment to enable them discharge their responsibilities. Since most of these organizations have the necessary equipment required for the job, it means new skill requirements of the workforce and increased need for skilled dock workers who have the qualifications and experience to operate more specialized
ships and handling superstructure (Mitroussi and Notteboom, 2014). Thus productivity may be improved. But for poor motivation of labour, investment in capital intensive equipment may not contribute to high level of productivity. These challenges were confirmed when some port management staff were interviewed.

Some port managers for example complained that:

Considering the volume of work to be done in order to achieve the annual targets, some issues such as reporting time of dockers; behavior of dockers on quay side due to lack of supervision from the port monitoring department; provision of logistics by GDLC (ie, safety equipment such as reflectors, safety boots, nose masks, hand gloses) which leads to lack of enforcement by the GPHA management and lack of training constitute challenges in managing the port labour and achieving annual productivity target as expected.
Table 4.2: Factors that affect Labour Productivity at Tema Port

<table>
<thead>
<tr>
<th>Items</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congestion</td>
<td>11</td>
<td>22.0</td>
</tr>
<tr>
<td>Lack of equipment</td>
<td>8</td>
<td>16.0</td>
</tr>
<tr>
<td>Lack of experience</td>
<td>1</td>
<td>2.0</td>
</tr>
<tr>
<td>There is so much idle time at the port</td>
<td>4</td>
<td>8.0</td>
</tr>
<tr>
<td>Supervision causes delays</td>
<td>4</td>
<td>8.0</td>
</tr>
<tr>
<td>Payment to port labour do delay</td>
<td>6</td>
<td>12.0</td>
</tr>
<tr>
<td>There are conflicting orders from supervisors</td>
<td>5</td>
<td>10.0</td>
</tr>
<tr>
<td>Violation of safety rules</td>
<td>7</td>
<td>14.0</td>
</tr>
<tr>
<td>Others</td>
<td>4</td>
<td>8.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

*Source: 2014 field survey*

Table 4.2 shows that congestion at the port is a major factor that is likely to affect the productivity of port labour. Other factors such as lack of equipment, lack of experience, idle time, supervision issues, delay of labour payment, non-respect of safety and others have been identified as factors that are likely to affect productivity. According to Horner and Talhouni, (1995) reasons for productivity inefficiency are reduced supervision effectiveness and poor workmanship, which result in higher rework; increased accidents.
Table 4.3: Organization Ethics and Culture

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>11</td>
<td>22.0</td>
</tr>
<tr>
<td>Agree</td>
<td>10</td>
<td>20.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>29</td>
<td>58.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: 2014 Field survey

Table 4.3 discusses the view of respondents on organizational culture and ethics. The study seeks to find if the ethics and organizational culture are a problem confronting port labour. From the data, majority of the respondents 29 (58%) were in disagreement that ethics and culture of the organization are unhealthy. For this set of respondents the ethics and culture of the organization do not pose problem to them. On the contrary, 21(42%) of the respondents were of the view that the ethics and culture of the organization pose a problem to them. We can infer that the measures that employers of port labour have adopted are in line with Brooks’, (2006) position that the improvements in productivity lead to employee commitment as norms, values and objectives help in improving culture of an organization.

Table 4.4: Management Practices

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>8</td>
<td>16.0</td>
</tr>
<tr>
<td>Agree</td>
<td>6</td>
<td>12.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>22</td>
<td>44.0</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>14</td>
<td>28.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: 2014 Field Survey
Table 4.4 discusses the effect of management practices on employees’ morale. 14 (28%) of the respondents said that the kind of management practices that are undertaken in their respective organizations affect their morale to work efficiently. On the contrary, 36 (72%) of the respondents were in disagreement with the assertion. They felt that management practices in their respective organizations do not in any way interfere with their morale for work. Edwards et al (2004) have observed that the success of management practices is firm-specific and these are affected by the prevailing institutional environment.

Table 4.5: Management and Labour Turnover

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Agree</td>
<td>22</td>
<td>44</td>
</tr>
<tr>
<td>Disagree</td>
<td>17</td>
<td>34</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: 2014 Field Survey

Table 4.5 discusses management role in controlling labour turnover at the port. 24 (48%) of the respondents felt the incentive approach to the management of labour turnover problems is a threat to their ability to work efficiently. These respondents might come from the position that as labour leave without any replacement their work load increases thereby over burdening. As their work increase without any commensurate increase in salary they may feel that management is being insensitive to the increasing labour turnover in the organization. On the other hand, 26 (52%) of the respondents felt that management reaction towards labour is good and it does not pose a challenge to them. Because job
dissatisfaction is the leading cause of voluntary turnover and is directly linked to lower productivity and morale, it makes sense to consider and assess it during the recruitment process. Huselid (1995) finds high labour turnover negatively linked to labour productivity in his sample of 968 U.S. firms.

The inference therefore is that labour turnover seems to have significant negative effect on labour productivity. That is, when experienced labour resigns either voluntarily or due to work related factors, productivity turns to suffer in effect. This is because the new labour may take some time to adjust to new working environment. And so, as port labour is highly casualized, the phenomenon of turnover affecting productivity may be an issue of some importance.

Table 4.6: Incentive Scheme

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agreed</td>
<td>25</td>
<td>50</td>
</tr>
<tr>
<td>Agree</td>
<td>19</td>
<td>38</td>
</tr>
<tr>
<td>Disagree</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: 2014 Field survey

Table 4.6 discusses the use of incentives to inspire employees to put up their best in increasing productivity. A very large percentage of respondents were of the view that incentive factors in their respective organizations are general. Only 6 (12%) of the respondents that felt that the level of incentives is not a hindrance to increasing productivity.

Some port managers for example listed some incentives packages available to port labour as considering the share nature of work at the port, port labour must be motivated and
incentivised in order to boost their morale to work harder. So dockers are given bonus when they meet target on time; they are paid bonus at the end of the year by their various organizations; they are entitled to SSNIT contributions; there are welfare schemes and soft loans given by GDCL and They are entitled to overtime payment when they work extra hours.

We can infer that employees have grave reservations for the type of incentive structure in their organizations as compare to port managers. By extension, port labour are dissatisfied with the type of incentives they are given. It is known that motivated employees are more likely to take charge of their own performance, seek ways to improve processes, products and services and contribute positively to their organization’s bottom line success. Productivity may be influenced not only by the direct payoffs associated with a given incentive scheme, but also by the working environment.

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>19</td>
<td>38</td>
</tr>
<tr>
<td>Agree</td>
<td>25</td>
<td>50</td>
</tr>
<tr>
<td>Disagree</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: 2014 Field survey

Table 4.7 attempts to identify how incentives are distributed. The majority of the respondents (88%) were in favour of the statement that there is a mismatch between hired labour and regular labour incentive schemes. Only 6 (12%) of the respondents said that
there is no mismatch in the incentive schemes. Fairness considerations appear to affect labour market outcomes on a number of dimensions.

4.4 Analysis of Tema Port Labour Productivity from 2004 to 2013

The findings discussed above generally show that port labour was largely dominated by casual workers, dissatisfied with conditions of service and have some reservation for certain management practices and organizational ethics and culture. The analyses further reveal that port labour productivity was affected by congestion at the port, weather conditions, late arrival of ship and breakdown of equipment at the port and also lack of motivation. These factors independently and/or interactively are consistent to the explanation for fluctuations of performance of port labour over last ten (10) years of labour as shown in figures 4.14 to 4.16.

**Figure 4.14: Port Productivity Measured as Boxes per Gross Gang Hour in Port**

![Figure 4.14: Port Productivity Measured as Boxes per Gross Gang Hour in Port](image)

*Source: 2014 Field Survey.*

Figure 4.14 displays time series graph for 3-period moving average for boxes per gross gang hour in port from the period of 2004 to 2013. Boxes per gross gang hour showed trough and peak around 2007 and 2010 respectively. For the period under review boxes
per gross gang declined initially from 2004 to 2007 and then from 2011 to 2012. However, the periods of 2007 to 2010 and 2012 to 2013 showed some increases in boxes per gross gang hour. The Linear (Centred Moving Average) clearly pointed to positive slope. This indicated that in the mist of fluctuations in port productivity as measured in terms of boxes per gross gang hour, there was increasing trends around the troughs. Thus, there were increasing trends in port productivity and hence port performance for the period under review. Nonetheless, the fluctuations in the productivity as measured could clearly be a reflection of the presence of myriad uncertainties that perhaps are inherent in port operations.

Figure 4.15: Port Productivity Associated with Boxes Per Ship Hour at Berth.

![Graph showing productivity](image)

Key: 2 on horizontal axis = 2005, 4 = 2007, 6 = 2009, 8 = 2011 and 10 = 2013

Source: 2014 Field Survey.

Figure 4.15 depicts port productivity measured in terms of boxes per ship at berth. From the figure, port productivity as measured in terms of boxes per ship hour at berth showed some declines and improvements. There were marginal declines in boxes per ship hour at berth from 2005 to 2006 and from 2010 to 2012. Meanwhile, 2006 to 2010 had shown sustained and appreciable improvements in boxes per ship hour at berth. Interestingly,
however, the periods of 2003 to 2004 and 2012 to 2013 had seen neither decline nor improvement in boxes per ship hour at berth. There also seem to be some positive relationship between boxes per ship hour at berth and the time (period) under consideration in the mist of boxes per ship hour at berth troughing and peaking at some instances for the considered period of study. The results therefore show that port productivity and performance had seen some improvements.

Figure 4.16: Port Productivity Measured as Boxes per Ship Work Day

![Graph](attachment:image.png)

Key: 2 on horizontal axis = 2005, 4 = 2007, 6 = 2009, 8 = 2011 and 10 = 2013

Source: 2014 Field Survey.

Figure 4.16 displays scatter with straight lines and makers representing port productivity measured in terms of boxes per ship work day. From the figure, boxes per ship work day as shown exhibited troughs and peaks for the considered period. Although, there were some declines in 2004 to 2006 and 2011 to 2012, the remaining periods shows some improvements particularly from 2006 to 2011. The linear (Centred Moving Average) indicated positive slope. This indicated that there is positive relation between boxes per ship work day and year.
The inference from figures 4.14 to 4.16 therefore is that productivity has gone up over the years. This appears to be attributed partly to labour system in the port. The reasons among others seem to be improvement in port labour motivation, aggressive nature of tackling issues of insufficient working space at the quay side which was actually not conducive for work.

More so communication, external influence and manpower planning are other variables likely to influence the productivity of port labour. A dock worker would be able to carry out their “main task” when they are not interrupted by communication that does not fulfill its purpose, e.g. senseless, ineffective meetings, telephone calls, or bad structured databases. The consequence could be time been wasted. However, these seem not to be the case with Tema port. This is because port productivity measures discussed in figures 4.14 to 4.16 have all shown some levels of improvements despite the periods of troughs. The finding supports the work of the New Zealand Treasury, (2009) that external influence positively affects productivity through people, knowledge and capital flows which give rise to valuable knowledge transmission and diffusion.

Finally, manpower planning is also found to be a significant resources likely to influence productivity. Manpower planning in terms of employee training could affect the port labour’s productivity. The findings highlight the views of Ekpo (2001) who sees changes in training (manpower planning) to occur in areas of knowledge, skills and attitude. This will effectively cause productivity of labour to rise.
CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter provides concluding statements on the influence of labour system on employees’ productivity at the Tema port. The conclusions are supported by a summary of the findings from the analysis. The chapter also contains some recommendations aimed at ensuring that the welfare of port labour is well considered in future port labour reviews.

5.1 Summary of Findings

The study revealed that port labour are educated. The majority of port labour hold other forms of educational qualifications other than Higher National Diploma and degree. The majority of port labour are technical employees. These employees are engaged by the stevedoring companies as either permanent workers or casual workers. The casual labour constitute the majority of the port labour. The study also revealed that permanent port labour are members of labour unions.

The study revealed further that many of the stevedoring employees have been at post for not more than five years. The fact that majority of the respondents ever worked for at most 5 years as port labour could partly be due to their casual status. Only a small fraction of the employees have been working at the port for over 16 years.

The port labour sampled reported that they were assigned to tasks based either on rotation or per work schedule. Most of them were assigned to a particular operation per work schedule. A greater percentage of the port labour undertake specific job schedules.
Consequently, the employers of port labour engage labour who have expertise in a particular area of the job assignments.

There were opportunities for port labour to learn new skills to help raise the professionalism and social status of port workers and enhance their motivation and commitment to productivity and quality of service. Though the respective organizations have benefit or incentive packages for their employees, the employees do not think the extrinsic benefits are motivational enough. Not all port labour are satisfied with the level of benefits they receive from their organizations. As much as they also acknowledged that some form of intrinsic motivations exist at the port, they feel that the extrinsic outweighs the intrinsic. Port management as well as trainers is responsible for creating a conductive environment for labour to perform.

Each of the organizations in the port creates opportunities for the employees to utilize their skills and talents. Any support provided by port management to individual port labour for self-development is likely to contribute to employee satisfaction and generate more motivation. The opportunities that are available to port labour are skill enhancing opportunities; these include training and educational opportunities. Since better utilized labour with stronger commitment contribute to labour productivity, it is important to point out that the provision of opportunities for appropriate training, education and development is one of the proven strategies for port workforce motivation because training solves a variety of manpower problems which militate against optimal productivity and performance.

The findings, again, showed that various organizations have necessary facilities or equipment required to assist port labour to undertake their job efficiently and effectively
so as to increase productivity. Since most of these organizations have the necessary equipment required for the job, it means new skill requirements of the workforce and increased need for skilled dock workers who have the qualifications and expertise to operate more specialized equipment used at the port were available at the Tema Port. So to ensure that skills of port labour were relevant, there were refresher courses organized by stevedoring companies to help equip port labour with operational effectiveness and efficiency at the port.

The study also revealed that productivity inefficiency arises from reduced supervision effectiveness and poor workmanship. In addition, the major obstacle for delays at the port is congestion especially at quay side. Also, other factors such as late arrival of ship, weather conditions and breakdown of equipment have been identified as additional factors that are likely to affect productivity.

The kind of management practice and unhealthy organizational culture and ethics of the stevedoring companies did not pose a problem to the port labour. The ethics and organizational culture encouraged the port labour in delivering their services. Furthermore, the kind of management practices that were undertaken by the various stevedoring companies affect the morale of the employees to work efficiently. For instance, the study revealed that management of the various stevedoring companies is in insensitive to labour turnover problems.

Even though, the employees were of the view that incentive factors in their respective organizations seemed to be generally low, yet port labour appeared to be satisfied with the type of incentives they are given. It is known that motivated employees are more likely
to take charge of their own performance, seek ways to improve processes, products and services and contribute positively to their organization’s bottom line success.

The average performance labour base on productivity measured boxes per gross gang output, boxes per ship hour at berth and boxes per ship work day have fluctuated over the past ten (10) years. However, in the mist of the fluctuations, there were instances of periods of significant improvements. This indicated improvement in port productivity over the period under review. The significant factors identified to be responsible for the explanation of the variation include incentive packages, work status of port labour, communication, external influence and manpower training.

5.2 CONCLUSION

Employee productivity at the Tema Port is explained by the communication structure of the organizations working at the port, the external influence, and manpower planning. However, to enhance productivity of the employee, management of the organizations has instituted training and education measures for the employees, procure the necessary equipment to enable the employees deliver. Each of the organizations in the port creates opportunities for the employees to utilize their skills and talent. Also, the kind of management practice and organizational culture and ethics of the stevedoring companies are not issues of much concern to extent that they affect the employee productivity. The ethics and organizational culture and management practices encouraged the port labour in delivering their services.

5.3 RECOMMENDATIONS

The productivity of the employee is very important in the overall productivity of the organization. Without a requisite employee any capital equipment procured for the smooth
functioning of the organization will be a waste. It is in this light that the following recommendations are made.

Constant training and refresher courses should be organized to enhance knowledge of dock labour. Dockers should also be educated on the importance of the use of safety equipment in the port as well as international port regulations.

The benefit structure in each of the organizations should be looked at again. The benefit structure should be designed in a way such that it gives the employees a well-balanced of more extrinsic packages as well as the intrinsic. Any evidence of bias in the administration of incentive schemes will greatly affect employee productivity.

It is true that Republic of Ghana Labour Act, 2003 (Act 651) recognise and spells out the conditions of engagement of casual or temporary workers. And section 75 (1) stipulates that “a temporary worker who is employed by the same employer for a continuous period of six month and more shall be treated under this part as a permanent worker”, Clearly it would be difficult to bring temporary or casual workers employed through labour intermediary agencies under the umbrella of this Act, the reason being that such temporary workers are often in the books of the labour intermediary agencies and are hired off-the books of the employers. So the stevedoring companies should design an exit system that would see the casual labour converted to permanent labour.

In addition the various gang groups, including those operating in warehouses, and the casual workers union of GDLC could be coalesced for public action to exert pressure to demand a better share of the wealth they help to create for their organization. However, the vulnerability of the casual workers and the precariousness of their employment relations make any scaling up action practically difficult unless they receive material support in their lives, for “when the urban poor do engage in scaled-up public action,
either in low-income areas or around workplace or interest-based issues, they may rock the boat” (Beall, 2001). Finally, future researches should consider the impact of port labour reforms on productivity and labour welfare schemes.
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Appendix A: QUESTIONNAIRE
I am conducting a research and would like to seek your assistance. It would take few minutes of your time. I would be most grateful if you complete the attached questionnaire which seeks to examine port labour system and productivity. You are assured of the confidentiality of your responses. Thank you for your time and co-operation.

SECTION A: BACKGROUND INFORMATION

1. Your age in years.
   20-29yrs 1
   30-39yrs 2
   40-49yrs 3
   50-59yrs 4
   60-69yrs 5

2. Education background: (please select the highest level of education you completed)
   Basic Education (from Primary to JHS) 1
   Non-technical Education: Secondary Education 2
   Technical Education: (SEC/TECH) 3
   Degree 4
   Others (specify) .................. 5

3. State your relationship with your organization
   Permanent employee 1
   Intern 2
   Casual employee 3
   National Service Personnel 4

4. Length of Service
   0-5yrs 1
   6-10yrs 2
11-15yrs 3
16-20yrs 4
   Above 20yrs 5

5. How long have you being working as a casual worker at the port?
   1month - 0.5yrs 1
   7months - 1yrs 2
   11months -1.5yrs 3
   19months - 2yrs 4
   Above 20yrs 5

6. Is there a continuing skills enhancement program for a port labour?
   No 1
   Yes: - Short refresher courses held every year to re-train workers in 2
         - Courses to introduce workers to equipment operation in the occasion of
           the procurement of new equipment 3
         - Courses organized by the port authority for new technologies on
           equipment maintenance and operations. 4

SECTION B: EMPLOYMENT INFORMATION

The questions below are about your work life with your organization.

7. What positions of port labour are available in Tema Port?

<table>
<thead>
<tr>
<th>Position/Skills Type</th>
<th>Mark (if available)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winchman</td>
<td></td>
</tr>
<tr>
<td>Signalman</td>
<td></td>
</tr>
<tr>
<td>Timekeeper</td>
<td></td>
</tr>
<tr>
<td>Foreman</td>
<td></td>
</tr>
<tr>
<td>Ship supervisor</td>
<td></td>
</tr>
<tr>
<td>Operator</td>
<td></td>
</tr>
<tr>
<td>--------------------------------</td>
<td>---</td>
</tr>
<tr>
<td>Forklift operator</td>
<td></td>
</tr>
<tr>
<td>Truck/Bulldozer/Trimmer operator</td>
<td></td>
</tr>
<tr>
<td>Reach Stacker operator</td>
<td></td>
</tr>
<tr>
<td>Crane operator</td>
<td></td>
</tr>
<tr>
<td>Straddler carrier operator</td>
<td></td>
</tr>
</tbody>
</table>

8. How are dock labour assigned to a particular cargo handling operation?
   
<table>
<thead>
<tr>
<th>Method</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotation</td>
<td>1</td>
</tr>
<tr>
<td>&quot;First-Come/First-serve&quot; basis</td>
<td>2</td>
</tr>
<tr>
<td>Per work schedule</td>
<td>3</td>
</tr>
<tr>
<td>Others (Please specify)</td>
<td>4</td>
</tr>
</tbody>
</table>

9. Is there any systems and procedures for monitoring compliance to productivity standards, problems encountered, and proposed solutions or actions undertaken?
   
<table>
<thead>
<tr>
<th>Answer</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
</tr>
</tbody>
</table>

10a. Please cite problems/constraints of dock labour’s deployment.

   .................................................................
   .................................................................
   .................................................................
   .................................................................

10b. What solutions or actions (propose) are / to be undertaken / to correct problems?
   
   Specify................................................................
   .................................................................
   .................................................................
   .................................................................
   .................................................................

11. What is your working time?

   A 5-day week with 8-hour shift per day (with $\frac{1}{2}$ hour meal break)   1
A 6-day week with 8-hour shift per day (with $\frac{1}{2}$ hour meal break) 2

A 7-day week with 8-hour shift per day (with $\frac{1}{2}$ hour meal break) 3 [ ]

Others (please specify) ……………………………………………………………………

12. Are port workers for cargo handling always available upon request?
   Yes 1
   No 2

13. Are you a member of any labour union?
   Yes 1
   [ ]
   No 2

14. What are the reasons for inability to meet target productivity level of operation?
   Customs Clearance 1
   Late Of Arrival, 2
   Lack of Cargo Flow 3
   Others (please specify) 4 ………………………………………

SECTION C
RATING YOUR JOB SATISFACTION

1 2 3 4 5
not satisfied Not satisfied somewhat Satisfied extremely satisfied at all satisfied

Using the scale shown above, rate your level of satisfaction with the following aspects of your job.
15. PAY AND PROMOTION POTENTIAL

_____ Salary
_____ Opportunities for Promotion
_____ Benefits (Health insurance, life insurance, etc.)
_____ Recognition for work accomplished

16. USE OF SKILLS AND ABILITIES

_____ Opportunity to utilize your skills and talents
_____ Opportunity to learn new skills
_____ Support for additional training and education

SECTION D

Challenges

Please respond to the following statement in relation to port labour challenges. The key to guide your responses as to your level of agreement or disagreement to each statement is: SA= Strongly Agreed, A = Agree,    D = Disagree, SD = Strongly Disagree

<table>
<thead>
<tr>
<th>17. Challenges of port labour</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is low incentive scheme with my job</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management is insensitive to cause of labour turnover</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are bad management practices in my job which deteriorate my morale</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is a mismatch between hired labour and regular employees’ incentive schemes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethics and culture in the organization is unhealthy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is no clear cut career progression plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I cannot withstand such level of unhealthy organizational politics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION E

Please indicate to what extent the following factors affect labour productivity at your department/organization/ institution. The key to guide your responses 1 = Not applicable 2 = Does not affect it; 3 = somewhat affects it; 4 = Directly affects it.

<table>
<thead>
<tr>
<th>No.</th>
<th>Factors affecting labour productivity in your organization</th>
<th>Data Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>manifold related issues</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td></td>
<td>i. Lack of experience</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii. Disloyalty</td>
<td></td>
</tr>
<tr>
<td></td>
<td>iii. Misunderstanding among labourers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>iv.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>v. Lack of competition between the labourers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>vi. There is so much idle time at the port</td>
<td></td>
</tr>
<tr>
<td></td>
<td>vii. Delays between berthing and first hook are movement so common</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>External influences</td>
<td></td>
</tr>
<tr>
<td></td>
<td>i. Implementation of government laws</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii. Supervision causes delays</td>
<td></td>
</tr>
<tr>
<td></td>
<td>iii. Payments to port labour do delay</td>
<td></td>
</tr>
<tr>
<td></td>
<td>iv. There is training and retraining sessions</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Communications</td>
<td></td>
</tr>
<tr>
<td></td>
<td>i. There are conflicting orders from supervisors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii. Port customers place conflicting orders</td>
<td></td>
</tr>
<tr>
<td></td>
<td>iii. Disputes with clients are recurrent phenomenon</td>
<td></td>
</tr>
<tr>
<td></td>
<td>iv. The instructions given are complex</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Resources</td>
<td></td>
</tr>
<tr>
<td></td>
<td>i. The equipment to work with are lacking</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii. Increase in price of labour</td>
<td></td>
</tr>
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<td></td>
<td>iii. Inadequate transportation facilities for workers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>iv. Violation of safety rules</td>
<td></td>
</tr>
<tr>
<td></td>
<td>v. Insufficient lighting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>vi. Material storage location</td>
<td></td>
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<tr>
<td></td>
<td>vii. Quality of required work</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX B: INTERVIEW GUIDE

SECTION A:
Port Productivity and Management

1. What are management practices in relation to dock labour in Tema port?
2. Is there any systems and procedures for monitoring compliance to productivity standards?
3. Is there any form of communication between Tema port management and the labourers?

SECTION B:
Dock Labour Related Issues

1. How are dock labour assigned to a particular cargo handling operation?
2. What are the reasons for labourers’ inability to meet target productivity level?
3. What are the problems of dock labour deployment? If yes, what are the proposed solutions or actions undertaken?

SECTION C:
Working Conditions

1. What instructional strategies do you often employ in your presentation of lessons?
2. Are there any external factors influencing on productivity in Tema port?
3. Is there any form of incentive scheme for the dock labour?