

UNIVERSITY OF EDUCATION, WINNEBA
COLLEGE OF TECHNOLOGY EDUCATION, KUMASI

CRAFTSMEN'S VIEW ON MOTIVATION TO INCREASE PRODUCTIVITY AT
THE CONSTRUCTION INDUSTRY IN LEDZOKUKU KROWOR
MUNICIPALITY IN GHANA



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AUGUST, 2014

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A Dissertation in the Department of CONSTRUCTION AND WOOD
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to the School of Graduate Studies, University of Education, Winneba in partial
fulfilment of the requirements for the award of Master of Technology (Construction)
degree.

AUGUST, 2014

DECLARATION

STUDENT'S DECLARATION

I **Aboagye Simon** declare that this Dissertation, with the exception of quotations and references contained in the published works which have all been identified and duly acknowledged, is entirely my own original work, and it has not been submitted, either in part or whole, for another degree elsewhere.

SIGNATURE.....

DATE.....

SUPERVISOR'S DECLARATION

I hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for supervision of Dissertation as laid down by the University of Education, Winneba.

NAME: **DR. NONGIBA A. KHENI**

SIGNATURE.....

DATE.....

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DEDICATION

This research work is dedicated to Aboagyes' family for their endless support.



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ABSTRACT

Productivity in the Ghanaian construction industry is largely unmeasured due to the inaccessibility of data for its determination. This has been a result of the difficulties in stressing the positive side of worker motivation. The low motivation of construction workers has contributed significantly to the declining productivity that cannot be determined in the construction industry. The aim of the study is to explore factors affecting the motivation of construction operatives in the construction industry of Ghana using Ledzokuku Krowor Municipality as a case study. The study adopted a quantitative research approach involving the administration of survey questionnaires to a purposive sample of 109 artisans. Data analysis was carried out using principal component analysis and descriptive statistics. The findings revealed eight key critical factors that affect motivation on craftsmen productivity in the construction industry in Ghana. The said factors included; supervision based on leadership by example, orientation for new employee, worker participation in decision making, communication, promotion, teamwork, equity and bonus at the end of project or year. Based on the findings, the study recommends management should; given workers opportunity to undertake challenging task under close supervision, not compromising quality, precision and timely delivery and be made to the consequence when these requirements are not met, give workers clear line of communication between management and workers, ensure that good teamwork is established through collaborations, both on and off site by assigning task to groups of workforces with qualified and competent supervisors, institute bonus and incentive packages for the workers at end of a project or year, deal with the workers with equity, fairness and respect. There is assertion that people will be better motivated if they are treated equitably and demotivated if treated inequitably. Inequity feeling causes unpleasant

tension which motivates the person to remove or reduce the level of tension and perceived inequity, ensure that workers due for promotion are promoted in order for the workers to give of their best to increase productivity, ensure that workers are part of the decision making process and as such their views are welcomed in the company, give orientation to newly employ or recruit in the construction industry.



CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The construction industry plays a major role in the development and achievement of goals of a country. Construction is one of the largest industries and contributes about 10% of gross domestic product (GDP) in industrialize countries (Noven, 2005). The industry, more than any others is affected by various kinds of risks. According to Agyarkwa–Baah (2007), in Ghana, risks in construction contracts are dealt with in a completely arbitrary way by adding 10% contingency onto the estimated cost of a project.

In Ghana, efficient construction projects can provide solid platform for reviving the Ghanaian economy and for building a more balance and independent economy. However, projects performance in Ghana has suffered since the coming into being of the nation. This according to Sambasivian and Soon (2007) results in time overrun, cost overrun disputes, litigation and abandonment of projects. Several works on providing construction services in Ledzokuku Krowor Municipal Assembly of Ghana has seen a considerable progress since the coming into being of the Assembly in 2007. For a number of reasons, the performance of construction projects has not been impressive fundamentally because of the attitude of the assembly itself. Factors such as time, cost, quality, client satisfaction; productivity and safety have affected the assembly in devise ways. This goes a long way to reduce the productivity as well output of the industry couple with delay in construction project. Productivity in the Ghanaian construction industry is largely unmeasured due to the unavailability of data for its determination. There are many realistic reasons which reduce productivity such as amendment of drawings and designs. In addition, there are

other difficult reasons affecting construction projects performance in Ledzokuku Krowor Municipal Assembly (LEKMA). Delay to construction projects is normally implicated in terms of its adverse effect on project cost estimated and programmes (AL – Tabtabai and Diekmann, 1992).

While individual organizations have been measuring their performance for many years, there has been little consistency in the data and the way it has been published. The performance can be measured by key indicators for education. The purpose of key performance indicators is that client wants their projects delivered: on time, on budget, free from defects, efficiently, right first time, safely, so client expects continuous improvement from their construction team to advance result on the reduction of project cost and time. In addition, the key performance indicator can be used for bench marking purposes and will be a key component of any organization move towards achieving best practice. Clients for instance access the suitability of potential contractors for a project by asking them to provide information about how they will response to a range of indicators.

Studies by Akintoye and Macleod (1997) prove that project performance could be improved considerably through the use of risk management. This is simply because 70%-90% of problems uncounted on most projects are predictable and preventable (Akintoye and Macleod, 1997). Any risk analysis on projects will take this into consideration which will increase the chance of completion successfully. Problems still persist with all these changes in place, there are difficulties in areas as mentioned earlier (Time, safety, defect etc.). So to effectively manage construction project, there is the need to determine the factors causing delays and affecting performance in other to guide against the effect of these and to ensure that projects remains cost effective and delivered in time.

According to Ghana Statistical Service (2006), the construction industry contributes an average of 8.5% of Gross Domestic Product (GDP) and it employed about 2.3% of economically active production in 2002 (Amankwaa, 2003). The construction industry provides means of production for other industries or commodities to be consumed. It is against this fact that the present study is investigating the factors responsible for performance of the construction site and recommending measures to minimize them is of importance.

1.2 Statement of the Problem.

Productivity in the Ghanaian construction industry is largely unmeasured due to the inaccessibility of data for its determination. This has been a result of the difficulties in stressing the positive side of worker motivation (Shun,2004). These have generated frequent attempts over the years to enhance workers' motivation as it is essential to eliminate the negative side of motivation which may be more psychological (Akoi-Gyebi, 2009). According to Shun (2004), management is often frustrated by the absence of motivation generated by the end of the year bonuses. Foremen, who form part of worker strength, are often unable to motivate the average craftsman today (Business Roundtable, 1989) as cited in (Akoi-Gyebi, 2009). There is therefore the need for craftsmen and other subordinates to be motivated by providing them with the right conditions and opportunity. A correlation exists between worker motivation and performance therefore; there is the need for worker to always feel motivated in order to increase performance. It is shown from previous studies (Karum & Marosszeky, 1999; Lehtonam, 2001; Sampson and Lera, 2002) that, the failure of any project is mainly related to the problems and failure in performance.

According to Thomas et al. (2004), an unsatisfactory work environment can have an adverse effect on worker motivation that tends to make minimal effort towards work thereby lowering performance. This has contributed dwindling productivity that has been a major problem confronting the construction industry today which has led to the declining productivity every year for the past decades and Ghana for that matter the Municipal Assembly of Ledzokuku Krowor are not exceptional. Aggregate productivity measurements and studies have shown long-term decline with little improvement. Thomas D, et al (2002). Various studies in literature shows that motivation in the construction industry accounts for increased productivity. This requires a study into various ways of encouraging the use of motivation in construction industry to increased productivity of operatives.

Furthermore, despite the fact that, there are more research relating to this topic; “The use of motivation to increase productivity at the construction industry in Ghana”, nevertheless, those works does not focus on the perspective of the operatives, for that matter; this research seeks to bridge the theoretical gap on the role of the operatives respect to motivation’s literature as well as a practical gap. Regardless of this situation, not much is encountered in the literature regarding empirically documented works about this topic vis-à-vis other approaches in Ledzokuku Krowor Municipal Assembly (LEKMA) of Ghana. This void in literature needs to be filled in order to increase our understanding of nurturing the use of motivation strategies to improve the productivity of Ghanaian construction industry. In view of this, the present study was undertaken to assess the roles of motivation in improving productivity on construction sites of Ledzokuku Krowor Municipal Assembly (LEKMA) of Ghana which will help to provide a basis to minimize the low productivity with respect to the workers of the municipality.

1.3 Aim and Objectives

The aim of the study is to explore factors affecting the motivation of construction operatives in the construction industry of Ghana using Ledzokuku Krowor Municipality as a case study. The specific objectives of the study are as follows:

- to identify factors affecting the motivation of site operatives in the construction industry in the Ledzokuku Krowor Municipality;
- to make recommendations for enhancing the motivation of craftsmen in the construction industry.

1.4 Research Question

- What are the key factors affecting the motivation of site operatives in the construction industry?
- What is the way forward for enhancing the motivation of craftsmen in the construction industry?

1.5 Significance of the Study.

This study is expected to provide the construction industry with useful information on how to use motivation to improve workers performance or productivity. It is also hoped that findings of the study would also add to the already existing literature in the field of motivation in the construction industry. Therefore, future researchers can make use of the findings of the study in the form of literature review to enrich their researches.

Also, this study would be useful to policy makers with regard to workplace motivation issues. Policy makers can make use of the findings in policy formulation and implementation on motivation practices for improved work situations.

The result of the study will help stake holders in the construction industry to see how best performances at the site and on project are improved.

The study will draw all stakeholders such as clients (assembly), contractors and construction operatives' attention to the importance of motivation.

1.6 Limitations and Delimitations of the Study

1.6.1 Delimitation

Issues' concerning the use of motivation in improving the performance of construction work are a broad subject and varies, meaning it is not possible for any single study to capture all such issues. The scope of the study was therefore to identify the motivational variables that could help improve performance of construction craftsmen in the Ledzokuku Krowor Municipality. The findings of the study should be generalised with caution in the light of this fact.

1.6.2 Limitation

Every research work is saddled by constraints and this study is not exceptional. The study was constrained by time, money, getting vital information from departments and also getting research topic and so on.

1.7 Organization of the Study

The study was organized in six chapters, chapter one deals with the introduction. The second chapter of the study covers the review of related literature. The third chapter focuses on the methodology adopted for the study and explains how the study was conducted this include the research design, study area data collection and analysis procedures. Chapter four discusses data collection and their analysis. Chapter five discusses the major findings of the study. Finally, chapter six deals with summary of the findings, conclusion, and recommendations. Suggestions further studies are also stated in this chapter.



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the review of related literature. It comprises six main sections namely; an introduction, meaning of motivation, types of motivation, importance of motivation, concept of motivation, theories of motivation, factors that influence motivation and impact of motivation on productivity.

2.2 Meaning of Motivation

According to the business dictionary, it is internal and external factors that stimulate desire and energy in people to be continually interested and committed to a job, role or subject, or to make an effort to attain a goal. Motivation assaults from the interaction of both conscious and unconscious factors such as the intensity of desire or need, incentive or reward value of the goal, and expectations' of the individual and his or her peers. These factors are the reasons one has for behaving a certain way. An example is a student that spends extra time studying for a text because he or she wants a better grade in class.

In management, it is describe as ways in which a managers' promotes productivity in their employees. Herzbeg, F(1959). Offer people confuse to idea of 'happy' employees with motivated employees. These may be related, but motivation actually describes the level of desire employees feel to perform, regardless of their level of happiness. Employees who are negatively motivated to perform will be more production, more engaged and feel more interested in their work. When employees fed these things, it helps them and there by their managers, be more successful.

It is a managers' job to motivate employees to do their work effectively. It is the contemporary (immediate) influences on the direction, vigour and persistence of action (Atkinson, 1964). Jones on his part stated that how behaviours gets started, is energized, is sustained, is directed, is stopped, and what kind of subjective reaction is present in the organism where all this is going on (Jones, 1995).

Motivation has to do with a set of independent variables relationships that explains the direction amplitudes and persistence of an individual behaviour, holding constant the effect of aptitude, skills and understanding of the task, and the constraints operating in the environment (Campbell and Pritchard, 1976).

Buchman (2006) tried to make clear distinction between motivation and motive. In his view "motive is learned influences on human behaviour that leads us to pursue particular goals because they are valued. It is of the view that, motivation could be of as the degree to which an individual wants and chooses to engage in certain behaviours. Motivated workforce results in:

- increased in output caused by extra effort from workers.
- improved quality as staff take a greater pride in their work.

- a higher level of staff reduction works are keen to stay with the firm and also reluctant to take unnecessary days off.

2.2.1 Types of Motivation

Motivation basically comes in two forms intrinsic and extrinsic motivation. Herzberg, F (1959). According to Herzberg, human beings are not the same so it is important to understand the different type motivation for effective motivating of your employees. Such understanding will enable you better categorize your team members and apply the right motivation for them. You will find each member different and each member's motivational needs will be varied as well. Some people respond best to intrinsic which means "from within" and will meet any obligation of an area of their passion. Quite the reverse, others will respond better to extrinsic motivation which in their would, provides that difficult tasks can be dealt with provided. There is a reward upon completion of the task.

2.2.1.1 Intrinsic Motivation

This motivation means that the individual motivational stimuli are coming from within. (Oxford dictionary) To Herzberg, individuals has the desire to perform a specific task, because its results are in accordance with his belief system to fulfil a desire and therefore importance is attached to it.

- Acceptance: We all need to feel that we, as well as our decisions are accepted to our co-workers.
- Curiosity: We all have to desire to respect the know
- Honour: We all need to respect the rules and the ethnical.

- Independence: We all need to feel we are unique.
- Order: We all need to be organized.
- Power: Desire to be able to have influence.
- Social contact: Desire to have social interactions.
- Social status: The desire to feel important.

2.2.1.2 Extrinsic Motivation

Extrinsic motivation means that the individuals motivation stimuli are coming from outside (oxford dictionary). In other words, our desire to perform a task are controlled by an outside source. Even though the stimuli are coming from outside, the result of performing that tasks will still be rewarding for the individual performing the task.

Extrinsic motivation is external in nature. The most well-known and the most debated motivation is money. Other examples include: Herzberg F,(1959)

- employee of the wealth award
- benefit package
- bonuses
- organized activities

2.2.2 Importance of Motivation

Motivation is very important for any organization because of the following benefits.

Puts human resource into action.

Every concern requires physical, financial and human resource to accomplish the goals. It is through motivation that the human resource can be utilized by making full use of it. This can be done building willingness in employees to work. This will help the coming in securing best possible utilization of resources. Akoi-Gyebi, E.A (2009)

Improves Levels of Efficiency of Employees.

The level of subordinate or an employee does not only depend upon his qualification and abilities. For getting best of his work performance, the gap between ability and willingness has to be filled which helps in improving the level of performance of subordinate. This will result into;

- increase in production.
- reducing cost of operations, and
- improving overall efficiency.

Leads to Achievement of Organizational Goals

The goals of an enterprise can be achieved by only when the following factors take place;

- there is a best possible utilization of resource.
- there is co-operation work environment.
- The goal can be achieved if co-ordination and co-operating takes place simultaneously which can be effectively be done through motivation. Herzberg F(1959)

Leads to Stability of Workforce

Stability of workforce is very importance from the point of view of reputation and goodwill of a concern. The employees can remain loyal to the organization only when they have a feeling of participation in the management. This will lead to good public image in the industry which will attract competent and qualified people into a concern. As it is said, “old is gold” which suffices with the role of motivation here, then older the people, more the experience and their adjustment into a concern which can be of benefit to the company. Akoi-Gyebi E.A(2009).

Builds Friendly Relationship

Motivation is an important factor which brings employees satisfaction. This can be done by keeping into mind and framing and incentive plan for the benefit of employees. This could be initiating the following;

- monetary and non-monetary incentives.
- promotion opportunities for employees.
- disincentives for inefficient employees in order to build a cordial, friendly atmosphere in a concern, the about step should be taken by a manager. This world help in a;
 - i) Effective co–operation which brings stability
 - ii) Industrial dispute and unrest in employees will reduce
 - iii) The employees will be adaptable to the changes and there will be no resistance to the change.

iv) This will help in providing a smooth and sound concern in which individuals interest will coincides with the organizational interest.

v) This will result in profit maximising through increased productivity.

The above can be summarized as motivation to workers and to employers to workers.

- Helps him / her to achieved personal goals.
- If an individual is motivated, he / she will have job satisfaction.
- Motivation will help in self – development of individuals.
- An individual would always gain by working with a dynamic team

2.3 Concept of Motivation

The underlying concept of motivation is some driving force within individuals by which they attempt to achieve some goal in order to fulfil some need or expectation. In a job where there is little pleasure in the work itself or it offers little opportunity for advancement in career, personal challenge or growth, many people may be motivated primarily if not exclusively, by money. The performance is a product of both ability and level of motivation i.e. $\text{Performance} = f(\text{ability} \times \text{motivation})$.

Organisational success is dependent upon members being motivated to use their full talents and abilities, and directed to perform well in the right areas. According to Mullins (2005), a major international study by proud foot Consulting revealed that, the most important reason for productivity loss was poor working morale. This includes absence of positive team spirit, low motivation, and poor sense of belonging, people feeling

undervalued and poorly rewarded. It is in view of these that Allen and Helms (2001) suggested that different types of reward practice may more closely complement different generic strategies and are significantly related to higher levels of perceived organisational performance (Mullins, 2005). With a positive motivation philosophy and practice in place, productivity, quality and service should improve because motivation helps people towards achieving goals, gaining positive perspective, creating the power for change, building self-esteem and capability, and managing their development and helping others. Mullins as cited in Kreitner et al. (1999) is of the view that, motivation is a necessary contributor for job performance; it is not the only one. Along with ability is also a combination of level of skill; knowledge about how to complete the task; feelings and emotions; facilitating and inhibiting conditions not under the individual's control. Farren (2000) stated the 12 basic human needs that have been around since the beginning of recorded history namely:

- Family
- Health and well-being
- Work / career
- Economic
- Learning
- Home / shelter
- Social relationships
- Spirituality
- Community
- Leisure
- Mobility
- Environment / safety.

2.4 Factors Affecting Motivation

According to Herzberg, various ways in which managers can influence employees' motivation are as follows:

- **Monetary factors:** some staff work harder if offered higher pay.
- **Non monthly factors;** other staff respond to incentives that have nothing to do with pay, e.g. improved working condition or chance with promotion (BBC – GCSE)

2.4.1 Payment Methods

Okoi-Gyebi also opine that, management can motivate workers by paying a fair wage. Payment method includes;

- **Time rate:** staff motivate are paid for the number of hours worked.
- **Overtime:** staff are pay extra for the working buy and normal hours.
- **Percentage:** Staffs are paid for the number of items provided.
- **Performance related pay:** staff get a bonus for meeting target set by their manager.
- **Profit sharing:** staff receive a part of any profit made by the business.
- **Salary:** staff are paid monthly no matter how many ours they work.
- **Fringe benefits:** are payments in kind e.g. Company or staff discount.

2.4.2 Non-Payment Motivation

Managers can motivate staff using factors other than any through:

- **Job rotation:** staffs are switched between different tasks to reduce monotony.
- **Job enlargement:** staffs are given more task to do of similar difficulty.
- **Job enrichment:** staffs are given more interesting and challenging tasks.
- **Empowerment:** staff are given the authority to make decisions about how they do their job.

Putting groups of workers in a team who are responsible together for completing a certain task.

In their book the motivation to work, (Herzberg et al., 1959) state 'one of the major reasons for measuring motivation is to answer the question "which does the worker want from his job? Answers to this question are important to industry in that they offer due to management in their reverencing hunt for ways of in whitening workers.

Herzberg et al. (1957, p. 60) on their book motivation to work, an accountant told of a working for a few hours with a representative from the company's district office showing him what was done in the accountant's department. Their visitor later told the accountant's boss that he was impressed with the presentation and that he thought the accountant was doing a good job. The boss passed along the compliment. This came as quick a surprise since the accountant had worked for this company for years and this was the first time he had been recognized by anything but praises. "Biggest thing" he said "was the personal satisfaction with the job done and then a part on the back".

One of the main challenges for the construction industries is keeping employees highly motivated and turned into the company's goals Okoi Gyebi (2009). When managers try to improve formal or almost military standards on their workers in order to maintain productivity, they may end up provoking rebellious or hostile reactions. The harder the managers pushed the less the work is getting done. And even hardworking staff members can fall into slumps that affect the productivity of an entire project (Sane & Miskell, 1994). Workers should at least be in the know of new appointments and the company if possible should be from within them. This helps motivate workers to know that their good works is being watched.

A new manager appointed for a project site will always be at the site by six 6 am, even toughed work does not start until 8:30am. This let most workers to come early as their manager may not entertain lateness (Sane and Miskell, 1994). In this book motivation at work states that managers are taught first to identify the strength and weakness of staff members, then how to boost morale and increase and maintain productivity by using motivational strategies.

Managers can motivate workers by providing a working environment that satisfies workers inner needs while achieving organized objectives that will benefit everyone. In order to determine these needs, managers must listen and observe. When the climate of the work place changes, it is critical to determine causes and reoriented the staff. By listening and observing your will be able to assess the damage, isolate the offender and plan effective strategies. Proper timing and technique will make your efforts successful. Train yourself to be sensitive to change needs and interaction a motivated group is a productive group.

2.5 Effect of Motivation

According to Van-Dijk, and Kluger (2004), when people fail, they sometimes “give up” and sometimes they try harder or “gird their loins”. In a parallel view when people succeed, they sometimes “bask in their glory” or sit on their laurels and sometimes they double their effort”. Both of these feedback sign effect motivation. Motivation directs behaviour towards particular goals. Motivation determines the specific goals toward which learner’s strive (Machr & Meyer, 1997; Pintrich et al., 1993). Thus, it affects the choice people make.

Motivation leads to increased effort and energy directly related to their needs and goals (Csikszentimihaly & Makamura, 1989; Mehr, 1984, pintrich et al., 1993). Motivation means initiation of and persistence activities workers are more likely to begin a task they actually want to do. They are also more likely to continue working at it until they’ve completed it, even if they are occasionally interrupted or frustrated in the process (Larson, 2000; Mechur, 1984; Wigfield, 1994).

Motivation determines which consequences are reinforcing and punishing. The more learners are motivated to achieve academic success, the more they will be proud of an A and upset by a low grade. Students who are most motivated to learn and excel in classroom activities turn to be our highest achievers (Gottfried, 1990; Schiefele, Krapp & Winkerler, 1992; Walberg & Uguraglu, 1980).

2.6 Theories of Motivation

The various strategies of motivations are dictated by established theories of motivation. Motivation is said to vary over time and according to circumstance. The following are the theories of motivation:

- Content Theories
- Process Theories

2.6.1 Content Theories

These theories attempt to explain the specific things which actually motivated the individual at work. These theories are concerned with identifying people's needs and their relative strengths and the goal they pursue in order to satisfy these needs. These theories place emphasis on the nature of the needs and what motivates individuals. The basis of these theories is the belief that the content of motivation consists of needs (Mullin, 2005). It is essentially about taking action to satisfy needs, and identifies the main needs that influence behaviour. An unsatisfied need therefore, creates tension and a state of disequilibrium and in order to restore balance, a goal that will satisfy the need should be identified, and a behaviour pathway that will lead to the achievement of the goal is selected. Not all needs are important to an individual at a time; some may provide a much more powerful drive towards a goal than others. This is dependent on the background and the present situation of the individual. The complexity of needs is further increased because there is no simple relation between needs and goals. The same need can be satisfied by a number different goals and the stronger the need and the longer its duration, the broader the range of possible goals (Armstrong, 2006). The various postulated content theories are:

- Maslow's hierarchy of need theory
- Alderfer's need modified theory
- Herzberg's two-factor theory

- McClelland's achievement motivation theory
- McGregor Theory X and Theory Y

2.6.1.1 Maslow's Hierarchy of Needs Theory

Maslow (1943) made a basic proposition that people want beings. This proposition was based on the way people are always looking for more wants, and their wants are dependent on what they already have. With this he suggested that human needs are arranged in a series of levels, a hierarchy of importance. He identified eight innate needs of man, including the need to know and understand, aesthetic needs, and the need for transcendence. However the hierarchy is usually shown as ranging through five main levels from the lowest need being physiological, through safety needs, love needs and esteem needs to the highest level of needs being self-actualisation (Mullins, 2005). This theory states that when a lower need is satisfied, it is no longer a strong motivator and hence the demand for the next higher need becomes dominant and the individual's attention is turned towards satisfying this higher need. It states that only unsatisfied needs motivate an individual (Mullins, 2005; Armstrong, 2006). Irrespective of the demand for satisfaction of higher needs, it has been established that self-actualisation being the highest level can never be satisfied (Armstrong, 2006).

Physiological needs: - It is the basic need of life. It comprises the need for relief from thirst, hunger, physical drive, oxygen, sexual desire.

Safety needs: - This includes safety and security, freedom from pain or threat of physical attack, protection from danger or deprivation, the need for predictability and orderliness.

Love: - It is sometimes referred to as social needs and includes affection, sense of belonging, social activities, friendship, and both the giving and receiving of love.

Esteem: - It is also often referred to as ego and includes self-respect which involves the desire for confidence, strength, independence and freedom. In addition is esteem of others which involves reputation or prestige, status, recognition, attention and appreciation.

Self-actualisation:- This is the development and realisation of one's full potential. Maslow saw this level as what humans can be, they must be, or becoming everything that one is capable of becoming. It is the need for develop potentialities and skills, to become what one is believes one is capable of becoming (Mullins, 2005; Armstrong, 2006; Bloisi et al., 2003).

Maslow (1943) claimed that the hierarchy is relatively universal among different cultures, but recognises that there are differences in an individual's motivational content in a particular culture. He further pointed out that a need not be fully satisfied before the arisen on subsequent need and cited about 85% satisfaction in physiological needs, 70% in safety, 50% in love, 40% in esteem needs, and 10% in self-actualisation (Mullins, 2005). He suggested that most people have these basic needs in the hierarchical manner and also stated that the hierarchy is not a fixed order as some individuals will have theirs in the reverse way. This he cited examples as:

- Self- esteem may seem to be more important than love to some people and is the most common reversal of the hierarchy. This is because the most loved person is strong, confident or inspires respect.
- For some creative individual, the drive for creativity and self-actualisation may arise despite lack of satisfaction of more basic needs.
- People who have experienced chronic unemployment may have higher level needs lost in them since they will continue to be satisfied at lower levels only.

- People deprived of love from childhood may experience the permanent loss of love needs.
- A need which has continued to be satisfied over a long period of time may be undervalued. People who have never suffered chronic hunger underestimate its effect and regard food as unimportant. Therefore people who are dominated by higher-level need, this may assume greater importance than more basic need.
- People with high ideals or values may become martyrs and give up everything else for the sake of their belief (Mullins,2005)

Stum (2001) as quoted by Mullins (2005) studied the dynamics between an individual and the organisation, and proposed a new worker / employer social contract that enables organisation to improve worker commitment and retention. The five levels of workforce needs hierarchy are shown in performance pyramid:

- Safety / security: - The need to feel physically and psychologically safe in the work environment for commitment to be possible.
- Rewards: - The need for extrinsic rewards in compensation and benefits.
- Affiliation: - The intrinsic need for a sense of belonging to the work team or organisation.
- Growth: - Addressing the need for positive individual and organisational change to drive commitment.
- Work / life harmony: - The drive to achieve a sense of fulfilment in balancing work and life responsibilities.

2.6.1.2 Alderfer's Need Modified Theory

Alderfer's (1969) modified need hierarchy theory was developed from Maslow's hierarchy need theory. It condensed the five levels of need in the hierarchy need into three levels: existence; relatedness; and growth which emerged the other name as ERG theory.

- **Existence needs:** - They are concerned with sustaining human existence and survival, and it covers physiological and safety needs.
- **Relatedness needs:** - This focused on the relationships with the social environment and it encompasses love, affiliation and a meaningful interpersonal relationships safety and esteem needs.
- **Growth needs:** - It is concerned with the development of potential, and cover self-esteem and self-actualisation.

Alderfer (1969) suggested that the individual progresses through the hierarchy from existence needs, to relatedness and to growth needs as the lower needs become satisfied. The activated need in his view is more than one and therefore, suggested that individual need is more of continuum than hierarchical. Alderfer postulated a two-way progression and cited a frustration-regression process as the downward trend. He said the lower level needs become the focus of the individual's effort when continuous frustration is experienced in the quest for higher level needs. He further suggested that lower level needs need not to be completely satisfied before the emergence of a higher level. The ERG theory states that an individual is motivated by one or more set of needs. In this sense if a person's quest for a need is blocked, then attention should be focused on the satisfaction of needs at other levels (Mullins, 2005).

Table 2.1: Relation between Maslow's and Alderfer's theories of motivation (Mullins2005)

Maslow's hierarchy of needs	Alderfer's ERG theory
PHYSIOLOGICAL	EXISTENCE
SAFETY	
LOVE	RELATEDNESS
ESTEEM	
SELF - ACTUALISATION	GROWTH

2.6.1.3 Herzberg's Two Factor Theory

Herzberg (1959) researched into job-related satisfaction and dissatisfaction and came out with a need-based model intended to provide direct managerial application. He in this study carried out interviews with accountants and engineers using the critical incident technique. The technique is used to gather facts (incidents) from domain experts or less experienced users of the existing system to gain knowledge of how to improve it and the interviews were focus on two questions:

- What made them feel good about their job?
- What made them feel bad?

The responses to the above questions reveal two different factors affecting motivation and work and concluded that:

- Job satisfaction and job dissatisfaction derive from different sources.
- Removing the source of dissatisfaction will not cause a person to be motivated to produce better results.

He in this sense of view blended the two premises into the dual-factor explanation of motivation and referred to them as:

- **Hygiene factors:** - these are the basic factors surrounding the job and can trigger dissatisfaction when not adequate. The factors include job security, working condition, quality of supervision, interpersonal relationships, adequacy of pay and fringe benefits. These factors are extrinsic or external and when present produces a neutral feeling with realisation that the basic maintenance needs are taken care of and trigger dissatisfaction when lacking.
- **Motivators:** - According to Herzberg, an individual feels the potential for satisfaction if he or she is able to marshal momentous work motivation. These are intrinsic and unique to every individual. It includes then concluded that, job challenge; responsibility, opportunity growth, and recognition provide feelings of satisfaction (Mullins, 2005; Bloisi et al, 2003).

2.6.1.4 McGregor Theory X and Theory Y

McGregor (1960) constructed a philosophy based on differing managerial practice and presented a sharp contrast between two different sets of managerial assumptions about

people and identified them as theory X and theory Y which represents two extreme ends of a continuum of beliefs.

Theory X set of assumptions about human behaviour suggest that people act to realise basic needs and, hence, do not voluntarily contribute to organisational aims (Bloisi et al., 2003). McGregor made an assumption that individuals are indolent, self-centred, resistant to change, lack ambition, dislike responsibility and are naive (McCaffer et al., 2005). Managers are, therefore, to direct and modify worker behaviour to meet organisational needs by persuading; rewarding, punishing and controlling those who do not naturally strive to learn and grow.

On the contrary, **Theory Y** view of worker behaviour sees people as motivated by higher order growth needs. It is, therefore, the task of management to facilitate individuals to act on these needs and grow in their job. Management's essential task is to structure the job environment to allow people achieve their higher-order individual goals and accomplishing the organisational objective. McGregor saw theory Y as a way to align workers' goals with that of the organisation (Bloisi et al, 2003).

2.6.1.5 McClelland's Achievement Motivation Theory

McClelland (1988) achievement theory focused on the relationship between hunger needs and the extent to which imagery of food dominated thought processes and identified four main arousal-based, and socially developed, motives:

- The Achievement motive;
- The Power motive;
- The Affiliative motive; and

- The Avoidance motive.

The initial three motives correspond to Maslow's self-actualisation, esteem and love needs. The relative intensity of these is dependent on the individual and it also varies between different occupations. With the perception that managers are higher in achievement than affiliation, McClelland saw the achievement need (n-Arch) as the most significant for the success and growth of any nation. He used **Thematic Apperception Test (TAT)** and subjective judgement and identified four achievement needs:

- **A preference for moderate task difficulty:** - Individual prefers moderate task difficulty as an incentive and this serves as the best chance to do better. Tasks which are too difficult and risky reduce the chance of success and of gaining need satisfaction. Contrary to this, when the tasks are too easy and safe, there is little challenge in task accomplishment and little satisfaction.
- **Personal responsibility for performance:** - Individuals prefer to attain success through their own efforts rather than teamwork or factors outside their control. Satisfaction is derived from the accomplishment of the task and not from recognition from others.
- **The need for feedback:** - Individuals have a clear and unambiguous feedback on how they perform. Feedback should be within reasonable time to enable individual to assess them to determine success or failure in their accomplishment of goals from which they derive satisfaction from.
- **Innovativeness:** - They always seek moderately challenging tasks and tend to be moving on always to more challenging things. There is a constant search for variety and for information to find new ways of doing things. These make them restless and avoid routine, and also tend to travel more.

The extent of achievement motivation varies between individual. Two categories of achievers were identified namely:

- **People with high achievement motivation:** These categories of people are normally challenged by opportunities and work hard towards a goal. Money is not an incentive to high achievement motivated people but rather as a feedback on their performance. With this motive they tend not to stay for longer period in organisations that do not pay them well for good performance. Money in this context may seem to be important to them but value it as a symbol of successful task performance and goal achievement.



- **People with low achievement motivation:** - This category of people does not care much and have little urged for achievement. These people value money more as an incentive for performance (Mullins, 2005).

McClelland (1988) further suggested that effective managers need to be successful leaders and to influence other people. More so, they should possess a high need for power and score high on inhibition. The power in this context is directed to the organisation and concern for group goals and is being exercised on behalf of other people. The theory suggested that n-Ach is not hereditary but as result from environmental influence and has the possibility of training people to develop a greater motivation to achieve. Four steps in attempting to develop achievement drive:

- Striving to attain feedback on performance.
- Developing models of achievement by seeking to emulate people who have performed well.
- Attempting to modify their self-image and to see themselves as needing challenges and success.
- Controlling day dreaming and thinking about them in more positive terms (Mullin, 2005).

2.6.2.1 Process Theories

These theories are extrinsic theories and they attempt to identify the relationships among the dynamic variables which make up motivation and the actions required to influence behaviour and action. They provide a further contribution to our understanding of the complex nature of work motivation (Mullins, 2005). Process theory on the other hand is also known as cognitive theory because it is concern with people's perceptions of their working environment, the ways in which they interpret

and understand. According to Guest, process theory provides a much more relevant approach to motivation than Maslow and Herzberg which he suggests, have been shown by extensive research to be wrong. Cognitive theory can certainly be more useful to managers than need theory because it provides more realistic guidance on motivation techniques (Armstrong, 2006). The process theories are:

- Expectancy theory
- Goal theory
- Equity theory

2.6.2.2 Expectancy Theory

Expectancy Theory is a generic theory of motivation and cannot be linked to a single writer. Motivation based on expectancy theory focuses on a person's beliefs about the relationships among effort, performance and rewards for doing a job. There have been different versions of which some are complex. Recent approaches to expectancy theory have been associated with works of Vroom (Mullins, 2005).

2.6.2.3 Vroom's Expectancy Theory

Vroom (1964) criticised Herzberg's two-factor theory as being too dependent on the content and context of the work roles of workers and offered an expectancy approach to the study of motivation (Bloisi et al., 2003). This theory therefore aimed at work motivation and based on three variables namely **valence; instrumentality and expectancy**. This theory was centred on the idea that people prefer certain outcomes from their behaviour over other (Mullins, 2005). He proposed that individuals will be motivated to achieve a desired goal as long as they expect that their actions will achieve the goal (Bloisi et al., 2003).

Valence as a variable of this expectancy theory is the feelings about a specific outcomes or an anticipated satisfaction from on outcome. It can further be explained as the attractiveness of, or preference for a particular outcome to an individual. This is derived from their own right but usually derived from the other outcomes to which they are expected to lead of which accumulation of wealth from money is an example (Mullins, 2005).

Instrumentality is another variable from which the valence of outcome is obtained and it gives distinction between first-level and second-level outcomes. **The first-level** outcomes are performance-related and it refers to quantity of output or the comparative level of performance. In this level of performance, individual perform well without thought to expected consequences of their actions. Contrary the **second-level** outcomes are need related and it is attained through achievement of first-level outcomes (achievement of high performance), (Mullins, 2005).

Expectancy is defined as a momentary belief concerning the likelihood that a particular act will be followed by a particular outcome (Armstrong, 2006). It is a relationship between a chosen course of action and the associated predicted outcome. Individuals with this develop perception of the degree of probability that the choice of a particular action will really lead to a desired outcome (Mullins, 2005).

2.6.2.4 Goal Theory

Goal theory plays a key part in performance management process and was evolved from the largely discredited management-by-objective (MBO) approach. It was postulated by Locke and Latham (1979) and they stated that motivation and performance are higher when individuals set specific goal, when accepted goals are difficult, and when there is feedback on performance. The basic premise of this theory

is that people's goals or intentions play an important part in determining behaviour. Goals guide people's response and action by directing work behaviour and performance, and lead to certain feedback. Locke stressed that goal setting is viewed as a motivational technique rather than a formal theory of motivation. Erez and Zidon (1984) emphasised the need for acceptance of and commitment to goal. This emphasis was based on findings that, as long as they agree, demanding goals lead to a better performance than easy ones. Erez (1977) also stressed on the importance of feedback as Robertson et al.,(1992) pointed out: "Goals inform individuals to achieve particular levels of performance, in order for them to direct and evaluate their actions; while performance feedback allows the individual to track how well an individual has been doing in relation to the goal, so that, if necessary adjustment in effort, direction or possibly task strategies can be made" (Armstrong, 2006). Individuals with specific and difficult goals perform better than those with vague and easier goals. This goes to confirm Gratton (2000) stretch goals which are ambitious, highly targeted opportunities for breakthrough improvement in performance. Mullins (2005) suggested that "at present goal-setting is one of the most influential theories of work motivation applicable to all cultures".

Goal theory has a number of practical implications:

- Specific performance goals should be identified and set in order to direct behaviour and maintain motivation
- The set goals should be challenging but at a realistic level
- Complete, accurate and timely feedback and knowledge of results is usually associated with high performance.
- Goals can be determined either by superior or individuals themselves.

2.6.2.5 Equity Theory

Adams (1963) considered this theory from perceived equitable rewards which are variations in satisfactions in Porter and Lawler (1968) expectancy model. This theory looked at the perception people have about the treatment being given them in relation with others. Equity deals with fairness compared to others and it involves feelings, perceptions and comparative process. The theory states that people will be better motivated if they are treated equitably and demotivated if treated inequitably (Armstrong, 2006). There exists equity when the ratio of an individual's total outcomes to total inputs equal the perceived ratio of other people's total outcome to total input. An inequity feeling causes unpleasant tension which motivates the person to remove or reduce the level of tension and perceived inequity. Adams identified six feedbacks to inequity:

- **Changes to input:** An individual may increase or decrease the level of inputs through quantity, quality, absenteeism, or working extra without pay.
- **Changes to outcome:** An attempt by an individual to change outcome such as pay, working conditions, status and recognition without change in input.
- **Cognitive distortion of input and outcomes:** People may distort cognitively, their inputs or outcomes to achieve the same results. He further suggested that although it is difficult for individuals to distort facts about themselves, it is possible to within limits to distort the utility of those facts.
- **Leaving the field:** It is the situation where an individual finds a more favourable balance by absenteeism, request for transfer, or resigning altogether from the job or organisation.

- **Acting on others:** A person may try to bring changes in others by lowering inputs or accepting greater outcomes or force others to leave the job.
- **Changing the object of comparison:** This is the change in reference group with whom comparison is made (Mullins, 2005). Adam further postulated two forms of equity:
 - **Distributive equity:** This is concerned with the fairness with which people feel they are rewarded in accordance with their contribution and comparison with others.
 - **Procedural equity:** This is also known as procedural justice and it refers to the perception workers have about the fairness with events such as performance appraisal, promotion and discipline are being operated. Tyler and Bies (1990) identified five factors which contribute to perceptions of procedural fairness:
 - i. Adequate consideration of an worker's viewpoint
 - ii. Suppression of personal bias towards the worker
 - iii. Applying criteria consistently across workers
 - iv. Providing early feedback to workers concerning the outcome of decision
 - v. Providing workers with an adequate explanation of the decision made(Armstrong, 2006).

Kreitner et al., (1999) as cited in Mullin (2005) suggested at least seven practical implications of equity theory:

- it provides managers with another explanation of how beliefs and attitudes affect job performance.
- it emphasises the need for managers to pay attention to worker's perception of what is fair and equitable.

- managers benefit by allowing workers to participate in making decisions about important work outcomes
- workers should be given the opportunity to appeal against decisions that affect their welfare.
- workers are more likely to accept and support organisational change when they believe it is implemented fairly.
- managers can promote co-operation and teamwork among group members by treating them equally.
- workers denied justices at work are turning increasingly to arbitration and the courts (Mullins, 2005).

2.7. Craftsman's View on Motivation

A craftsman is a person who works at a trade or a handicraft or a highly skilled worker. Among the craftsmen is the foreman, he or she is a craftsman with an extensive skill and experience level with the ability to manage jobsite with multiply employees and subcontractors.

2.7.1 The Role of Foremen

Clarke and Morris (1980) as cited by Mojahed (2005), study on of U.S workers to determine attitudes towards productivity was established that involvement in decision-making, recognition through financial rewards, and job security are important motivational factors for workers to work harder to give out their best. However in the study of impact of non-financial incentives on bricklayers' productivity in Nigeria, job security was assigned the least importance by both management and the bricklayers. The issue of low priority placed on job security might be due to the transient and ad-hoc

nature of labour (Olabosipo et al, 2004). Zakeri et al. (1997) in a survey of construction operatives in Iran also revealed that, fairness of pay, incentives or financial rewards, on-time wage payment, good working facilities, and safety were the most important motivational factors.

Kaming et al., (1997) on the other hand researched into Indonesian construction operatives and revealed that, fairness of pay, good relation with workmates, overtime payments, bonuses, and good safety programs were the motivational factors that exist on Indonesia projects. Furthermore, disrespect from supervisors, little accomplishment, lack of cooperation among workmates, and unsafe working conditions were seen to be demotivates (Mojahed, 2005). Further to the above, research into demotivating factors influencing the productivity of civil engineering projects in Hong Kong showed that foremen changes and incompetence were rated low. These was because workers took considerable pride in the work they accomplish and having work to be redone can be extremely dissatisfying (Thomas et al., 2003). However, it has been established in the study of relationship between project leadership, team composition that, with the exception of the profession or background of a project leader, qualification, leadership style and team composition were found to correlate positively with the overall project performance (Odunsami et al., 2003).

It is estimated that 6.5% excess of cost is observed through poor safety practices in construction (Haliigan et. al., 1994). It can be inferred that record more than 6.5% of cost through accidents if safety is not adhered to. Occupational injuries can harm the reputation of firms, decrease productivity and in effect results in huge cost. According to Kazaz and Ulubeyi (2006), the cost of all accidents and work-related illness in the United Kingdom amount to 2-3% of total gross domestic product of the country. In the research into drivers of productivity among construction workers in Turkey, Kazaz and

Ulubeyi (2006) revealed that the construction sector has the highest total accidents on the job with 10.48%. According to Worker Health and Worker Safety Charter of Turkey, a doctor needs to be engaged on site if workers strength of the organisation is at least 50 but the principle is generally followed when the number is much greater than 50. Managers, therefore, agree that employing a doctor on site do not only have the legal implication but rather economics as well as workers spend only 10-15 minutes in on-site consultation than a full day (Kazaz and Ulubeyi, 2006). Workers working in an environment where accidents or injuries frequently occur will always be extremely cautious at work and this will affect individual performance. There is, therefore, the need for adequate safety plans for workers that will change attitudes on work enhance performance and this will affect overall productivity.

2.8 Application of Motivation

Motivation should be well applied to get us intended outcome. According to Abraham Mceslow there is a two factor theory to the application of motivation. The application may either cause satisfaction or dissatisfaction among workers. The common mistakes managers make is to underestimate how well the staffs know them, and their expectations. Your role is to absence each worker and plan individual strategies to maximize productivity by elevating and maintaining a high level of motivation if employees are fully aware of the strategies being implemented to motivate them and increased their productivity they may resort this manipulations and resist your efforts. The key to successful motivation is to implement techniques in a subtle way efforts must seem sincere and spontaneous.

Employee needs vary of course but must require the following items;

- security

- desirable type of work
- desirable company
- friendly co – worker
- good Supervisor
- advancement
- recognition
- good work Condition
- good benefit
- good pay

Although at times it may seem an overwhelming task to meet these needs, there are managerial techniques you can implement that will help you achieve this goal.

2.9 Factors Influencing Motivation

According to an online article by (Brain Tracy, 2014) there are four factors that exist in every organization and determine the levels of motivation of the staff. Whether positive or negative, these four include;

- leadership Style
- the reward System
- organizational Climate
- the structure of the work

2.9.1 Leadership Style

This is a key factor in determine how people feel about the company and how motivated they are. At times, just changing the leader changes the psychological climate of the company and, in turn, the whole performance of people in the

organization. The appropriate leadership style depends on the goals and objectives of the organization, the people with the company and the external environment.

A second leadership style is collegial, where one person may be in charge of a department but function at the same level and with the same knowledge and skills as his/her co-workers. Other leadership styles that have been identified are feeling, selling, persuading, and participating. Each of these styles is appropriate depending on whether the employee is new or experience, and whether there is ample time or urgency in completing the task. Sometimes, the manager is required to use different style for different people under different circumstances.

2.9.2 The Reward System

Every organization is characterized by a particular type of reward structure, often different from person to person and department to department. LeBoeuf (2004) is of the view that “what gets rewarded gets done”. If you want more of something in an organization, simply increase greater records for that behaviour.

It is quite common for companies to identify their most profitable product and services, and then increase the percentage of commission that sales people will receive for selling those specific products and services.

2.9.3 Organizational Climate

According to Ryan (1970) organizational Climate is deliberately created and manufactured by management. It largely consist of the way that people treat each other up and down the opine that goals must be set for employee to achieve them within a relatively appreciable time line.

2.9.4 Structure of the Work

Some work is inherently motivational, requiring creativity, imagination and high levels of energy work that involves communicating, negotiating and interacting with other people in order to gain their co-operation to the job, done quickly and well brings out the best energies of the individual (Harper, 1967).



CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter dealt with the research design, population, sample and sampling techniques, research instruments, procedure for data collection and method that were used to analyse the data collected.

3.2 Research Design

The study adopted a quantitative research approach. A survey design attempts to describe some of a population or an existing phenomenon (dealing with the present) by selecting unbiased sample of individuals to take part in interviews (Borg & Gall, 1989). Osuala (2005) states that surveys are oriented towards the determination of the status of a given phenomenon rather than towards the isolation of causative factors survey differs from case studies in that surveys are generally based on large cross sectional sample, while case studies are oriented to the more intensive and longitudinal study of a smaller sample.

The survey design was found to be appropriate because it is concerned with conditions or relationship that exist, practices that prevails, beliefs points of view or attitudes that are held, process that are going on, effects that are being felt or trends that are developing (Cohan & Manion, 1994).

According to Dayle (2004), surveys are good for asking peoples about their perceptions, opinions and ideas or views, though they are less reliable to find out how people actually behave. A survey design is considered most appropriate for the study to seek information for constructors, owners and construction workers in the Ledzokuku Krowor Municipality. It is also the considered appropriate as the approach helped the researcher to investigate workers perception on the use of motivation to improve performance in the construction industries.

3.3 Population and Sampling

3.3.1 Population

The target population of the study comprised all permanently employed site operatives (carpenters, masons, steel bender, plumber, electrician, tilers, painters, store keeper, welders) of all contractors duly registered with the Ledzokuku Krowor Municipal Assembly as at June 15, 2015. The total number of the contractors was 43.

3.3.2 Sampling Frame

The sampling frame is a list of items or people from which a statistical sample is taken from (Danso, 2008). The target respondents of the study comprise all artisans such as project managers, project engineers and foreman of the 43 registered construction companies with Ledzokuku Krowor Municipal Assembly. The list of employees was obtained from the registered contractors of the Assembly. In all 500 employees were identified.

3.4 Sampling and Sampling Technique

3.4.1 Determination of Sampling Size

The target population comprised 500 operatives' of the 43 construction firms permanently registered with Ledzokuku Krowor Municipal Assembly. However, a sample was taken due to the relative short period for completion of the study, as well as resource constraints and the fact that a representative sample could be generalised for the entire population (Creswell, 2003). The Kish (1965) formula, which gives a procedure for calculating minimum sample size, was applied for this study. Assaf et al., (1999, 2001), Abdul-Hadi (1999), Aziz (2013) and Enshassi (2010), among others have used this equation in their studies. The sample size deduced from Kish (1965) survey sampling is shown as calculated below;

$n' = 1 + \frac{N^2}{n}$ Where

n = Sample Size from finite population

N = Total Population

n' = Sample Size from infinite population calculated from; $n' = S^2 / V^2$, Where

V = Standard error of sample population equal to 0.05 for the confidence level 95%,

$t = 1.96$

S^2 = Standard error variance of population elements,

$S^2 = P(1 - P)$; Maximum at $P = 0.5$.

The sample size of the Architectural firms with good standing can be calculated from the afore mentioned equations as follows;

$n' = \frac{N^2}{n} + 1 =$

$\frac{N^2}{n} = P(1 - P)$

Where $P = 0.5$

$$Z = 0.5 (1 - 0.5)$$

$$Z = 0.5 \times 0.5$$

$$Z = 0.25$$

Z , let $\alpha = 0.05$ level of confidence.

$$Z = (0.05)^2$$

$$Z = 0.0025$$

$$Z' = Z^2 Z = 0.25 \times 0.0025$$

$$Z' = 100$$

$$100 + (100 \times 0.0025) = 83 \text{ operatives.}$$

Therefore, the minimum number of operatives for this survey by the Kish (1965) formula was eighty-three (83) operatives in the construction firms in Ledzokuku Krowor Municipal Assembly. Thirty (30%) of eighty-three (83) was added for non-respond questionnaires, which increased the minimum sample size to one hundred and nine (109) operatives.

3.4.2 Sampling Technique

The technique applied for the selection of the artisans is purposive sampling. This technique is used because Erbil et al. (2010) has indicated that, the purposive sampling technique allows the researcher to select the individual who have good knowledge on the subject in discussion. The craftsmen are responsible for the day to day activities at the site and with this it is expected that respondent will demonstrate good knowledge about motivation issues. The procedure for the sampling according to

Wilmot (2005) is that, group the respondent according to pre-selected criteria relevant to a particular research questions and let them respond. Here according to Wilmot (2005), the sample size of respondent at the time of application of the technique may or may not be necessary. Based on this, on each of the selected 43 construction sites, depending on who is available, either the project engineer or manager or the artisans will be asked to respond to questionnaires.

3.5 Data Collection

Questionnaire was used to collect data for the present study. According to Avoke (2005), a questionnaire is an instrument that is designed to collect data for decision making in research. Wilson and Mclean (1994) cited by Cohan, Manion and Morrison (2007) established that questionnaire is widely used and it is a useful instruments for collecting survey information, providing structured often numerical data, being able to be administered without the presence of the researcher and often being comparatively straight forward to analyse. Close ended questionnaire were used for the study because it is easy for respondents to answer questionnaire and also easy to analyse data.

The questionnaire was divided into two parts. The first part sought information on the demographic profile of the respondents as well as the profile of their firms; names of companies, gender, number of years of experience in the construction industry, position of respondent, educational background.

The second part of the questionnaire sought information on the factors factors affecting the motivation site operatives in the construction industry in the Ledzokuku Krowor Municipality. These factors were ranked based on a rating scale of 1 to 5 where “1= Strongly Disagree and 5= Strongly Agree”.

3.6 Pre-Testing of Questionnaire

Prior to the major survey, a pilot survey was undertaken. The pilot study is a trial run that can help the researcher to smoothen out the survey instrument to ensure that the participants in the main survey did not have trouble in completing the questionnaire. Using simple random sampling techniques, the research instruments were pre-tested using a sample of 15 randomly selected construction operatives in the Municipality. All 15 respondents were included in the main survey. The pilot questionnaires (fully addressed) were hand delivered after which it was retrieved. A covering letter explaining the purpose of the pilot study accompanied the questionnaires.

3.6.1 Validity

Validity refers to whether the questionnaire or survey measures what it intends to measure (Pilot & Hungler 1985). While there are very detailed and technical ways of proving validity, there are some concepts that are useful to keep in mind. The overriding principle of validity is that it focuses on how a questionnaire or assessment process is used. Reliability is a characteristic of the instrument itself, but validity comes from the way the instrument is employed.

In statistics a valid measure is one which is measuring what it is supposed to measure. Validity implies reliability (consistency). A valid measure must be reliable, but a reliable measure need not be valid. Validity refers to getting results that accurately reflect the concept being measured.

The researcher assessed the statistical validity of the questionnaire by principal component analysis. The researcher had validity of 0.770 and this result means that the questionnaire were very accurate for factor analysis.

3.6.2 Reliability

Reliability of an instrument is the degree of consistency with which it measures the attribute it is supposed to be measured or/and, it is a property of the measuring instrument (Polit & Hungler, 1985). Period of two weeks to a month is recommended between two tests (Burns & Grove, 1987). The reliability of a questionnaire is the ability of the questionnaire to give the same results when like-minded people in similar circumstances fill it out. The researcher conducted reliability tests on the pilot study sample using Alpha- Cronbach's Method. This method is used to measure the reliability of the questionnaire between each field and the mean of the whole fields of the questionnaire. The normal range of Cronbach's coefficient alpha value between 0.0 and + 1.0, and the higher values reflect a higher degree of internal consistency. The researcher achieved Cronbach's coefficient alpha results 0.969 and this results means the instruments were consistent and reliable for factor analysis. This result is considered high and these results ensure the reliability of the questionnaire.

3.6.3 Exploratory factor analysis

The (KMO) and Bartlett's test were used to check the degree of inter-correlation among the variables and the appropriateness of factor analysis (Field, 2005). Bartlett test of sphericity was used to check for the presence of correlation among the variables and provides the probability that correlation matrix has significant correlation among at least, some of the variables as an accession of (Hair, Anderson, Tatham & Black, 2007;

Field, 2005; SPSS 6th edition).

Kaiser-Meyer-Olkin (KMO) measure was performed to check the degree of inter-correlation among the items and the appropriateness of factor analysis. Kim and Mueller (1978) and SPSS 6th edition suggested that KMOs in the range of 0.5-0.6 are considered poor, those in the range of 0.6-0.7 are average, those in the range of 0.7-0.8 are considered good, 0.8-0.9 are great and values greater than 0.9 are superb. The KMO values obtained were greater than 0.7, which indicated that, the data is adequate and appropriate for factor analysis.

3.7 Data Analysis

Quantitative data were gathered for the study using questionnaires. After cleaning up the data from the construction site questionnaire survey and rectifying the few errors that were identified in the filling of the questionnaires, the data were coded and fed into SPSS 21.0 for Windows. Analysis was undertaken to generate a descriptive picture of the data gathered. Descriptive statistics and Principal component analysis were used to analyse the quantitative data obtained from the constructional site questionnaire administration by SPSS 21.0.

The analysis (presented in the next chapters) is organised under themes derived from the data and the research questions that guided the entire investigation.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF RESULTS

4.1 Introduction

This chapter presents the views from respondents which were elicited to find out the strategies to increase productivity at the worksite in construction industry in Ghana. Primary data were collected through questionnaires to address the objectives of the study which were to: identify factors affecting the motivation site operatives in the construction industry in the Ledzokuku Krowor Municipality and to make recommendations for enhancing the motivation of craftsmen in the construction industry.

4.2 Response Rate

From Table 4.1, 109 questionnaires were distributed to construction firms in the Ledzokuku Krowor Municipality of Ghana. 74 questionnaires which constitute (67.9%) were returned; out of which 72 were useable. 2 questionnaires representing (1.8%) were found to be invalid for analysis because of improper filling yielding an effective response rate of approximately 66.1%. This response rate is considered adequate, as according to Oladapo (2005), Newman and Idrus (2002), Ellhag and Boussabaine (1999) and others, have indicated that a response rate of 30% is good enough in construction studies.

Table 4.1: Percentage of questionnaires distributed and responses received

Respondents	Questionnaires Distributed	Responses Returned	Screened out Responses	Percentage of Response
Constructional Firms	109	74	2	66.1%

Source: Field Work (2016)

4.3 Demographic Characteristics

This section presents the demographics of respondents. It includes gender, age of respondents, academic qualification, working experience, and age of respondents' companies. The demographics of the respondents was essential to the study since they play significant roles in the development of people's perceptions about a particular issue as well as how they respond to issues.

4.3.1 Gender of Respondents

The respondents were asked to indicate their gender by ticking the appropriate column they belonged. The purpose was to find out the number of males and females who actually participated in the study. Table 4.2 shows that out of the 72 respondents who participated in the study, majority 55 of the respondents representing 76.4% were males, while the remaining 17 respondents representing 23.6% being females. Naturally, males and females have different attitudes and views toward events at the work place (Singer, 1996).

Table 4.2: Respondents based on Gender

Gender	Frequency	Percentage (%)
Male	55	76.4
Female	17	23.6
Total	72	100.0

Source: Field Work (2016)

4.3.2 Age of Respondents

Table 4.3 depicts the age distribution of respondents who participated in the study. The purpose was to find out the average age of the architects who are actively involved in the operations within the organisation. A close look at the Table shows that 3 respondents representing 4.2% were less than 20 years; 11 respondents which constitute 15.3% fall within the age brackets 21-30 years; 27 representing 37.5% fall within the age brackets 31-40 years. 20 respondents representing 27.8% fall within 41-50 years, 8 respondents which constitutes 11.1% fall within the age bracket 51-60 years while the remaining 3 representing 4.2% were above 60 years. The data shows that majority of the employees in the organisation fall within 31-40 years. This implies that the respondents were matured enough to give answers which are accurate.

Table 4.3: Respondents based on Age

Age	Frequency	Percentage
Under 20 years	3	4.2
21-30	11	15.3
31-40	27	37.5
41-50	20	27.8
51-60	8	11.1
Above 60	3	4.2
Total	72	100

Source: Field Work (2016)

4.3.3 Highest Academic Qualification of Respondents

The respondents were asked to indicate their educational background. The purpose was to find out the educational/academic qualifications of employees who participated in the study. Table 4.4 shows responses elicited, 1 respondent representing 1.4% have obtained Ordinary level certificates; 18 respondents which constitute 25% were Senior High Certificate holder; 21 respondents forming 29.2% were Junior High Certificate holder. Again, 12 respondents forming 16.7% were National Vocational

Training institute Certificate holder while the remaining 20 respondents representing 27.8% have Construction Technician Certificate. The data shows that majority of the employees have attained some level of education whose opinions and views are guided and well informed.

Table 4.4: Respondents Based on Academic Qualification

Qualification	Frequency	Percentage
Ordinary Level Certificate	1	1.4
Senior High Certificate	18	25
Junior High Certificate	21	29.2
National Vocational Training institute Certificate	12	16.7
Construction Technician Certificate	20	27.8
Total	72	100.0

Source: Field Work (2016)

4.3.4 Job Title of Respondents

Table 4.5 displays the job title of the artisans in the company. From the Table, 19 respondents which constitute 26.4% were carpenters; 11 respondents which constitute 15.3% were masons; 10 respondents which constitute 13.9% were store keepers; 6 respondents forming 8.3% were welders; 8 respondents which constitute 11.1% were steel binders; also 4 respondents forming 5.6 were plumbers. Again, 8 respondents forming 11.1% were electricians, then 3 respondents forming 4.2% were tillers. Finally, 3 respondents forming 4.2% were painters.

Table 4.5: Respondents based on Job title

Position	Frequency	Percentage
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Carpenters	19	26.4
Masons	11	15.3
Store Keepers	10	13.9
Welders	6	8.3
Steel bender	8	11.1
Plumbers	4	5.6
Electricians	8	11.1
Tilers	3	4.2
Painters	3	4.2
Total	72	100.0

Source: Field Work (2016)

4.3.5 Working Experience of Respondent

Table 4.6 depicts the working experience of employees who participated in the study. The objective was to determine how long and consistent employees have worked in the organisation. The data gathered shows that 18 respondents representing 25.0% have worked under 5 years in the organisation; 11 respondents representing 15.3% have worked between 5-10 years in the organisation; 7 respondents representing 9.7% have worked above 10 but less than 15 years in their company. Again, 25 respondents which constitute 34.7% have worked between 15-20 years; also 8 respondents representing 11.1% have above 20 but less than 30 years working experience while the remaining 3 respondents representing 4.2% have above 30 years working experience. The available data shows that majority (4.2%) of the employees have been working for between 5-10 years and therefore have acquired the necessary competencies and consistency in their work.

Table 4.6: Respondents Based on Experience

Experience	Frequency	Percentage (%)
Under 5 years	18	25.0
5-10 years	11	15.3

Above 10 but less than 15 years	7	9.7
15-20 years	25	34.7
Above 20 but less than 30 years	8	11.1
Above 30 years	3	4.2
Total	72	100.0

Source: Field Work (2016)

4.3.6 Employment Status of Respondents

Table 4.7 below displays the employment status of respondents in the survey research. From the Table, 55 respondents forming 76.4% were full time workers and 17 respondents forming 23.6% were part time workers.

Table 4.7: Respondents based on Employment Status

Employment Status	Frequency	Percentage
Full time	55	76.4
Part time	17	23.6
Total	72	100.0

Source: Field Work (2016)

4.4 Factors Analysis of Critical Factors that Affect Motivation on Craftsmen Productivity in the Construction Industry in Ghana

Factor analysis was used to assess the critical factors that influence motivation on craftsmen productivity in the construction industry in the Ledzokuku Krowor Municipality of Ghana. In the preliminary analysis, the Kaiser-Meyer-Olkin (KMO) test of sampling adequacy achieved a high of 0.770. The Bartlett test of sphericity shows overall significance of the correlation matrix at the 0.000 significance level. Principal components extraction with varimax rotation was employed. The Kaiser criterion (eigenvalue >1) was employed in conjunction with evaluation of scree plots. The screen test indicates that only 8 factors should be considered. In Table 4.8, the rotated component matrix indicates that, 24 out of the original 37 variables could be the underlying themes using a cut-off point of 0.60. Factor retention was by the eigenvalue

1.0 criterion, suggesting that only factors that account for variances greater than one should be included in the factor extraction. The thirty-eight items obtained a Cronbach alpha (α) value of 0.969 thereby satisfying the reliability scale. All the 37 factors had communalities of 1.00 (as shown in Table 4.10), indicating their appropriateness for the factor analysis. The 37 significant factors were further reduced to 7 component factor patterns.

According to Table 4.8, factor 1, Supervision based on leadership by example emerged the highest with a factor loading of (0.901), followed by “Orientation for new employee (0.884)”, “Worker participation in decision making (0.839)”, “Communication (0.829)”, “Promotion (0.818)”, “Teamwork (0.793)”, “Equity (0.790)”, “Bonus at the end of project or year (0.783)”, “Employee training (0.766)”, “Love and belongingness (0.739)”, “Identification with goal (0.661)”, “Unrealistic deadline for project set by client (0.636)”, “Material shortage on site (0.608)”. For factor 2, “Rework due to construction error (0.807)” emerged the highest, followed by “Inadequate site planning (0.793)”, “Poor buildability (0.725)”, and “Inadequate site staff (0.706)”. For factor 3, “Waiting for other crew (0.823)” came top, followed by “Transportation (0.607)”. For factor 4 had “Contractor staff absenteeism (0.869)”, “Poor weather condition (0.676)” and “Salary (0.613)”. Factor 5, “Congestion (0.703)” emerged the highest, followed by “Constant disruption of work (0.626)”. For factor 6 had “Disrespect from co-workers (0.705)”. Finally, factor 7 had “Project confusion (0.705)”.

The initial eigenvalues (see Table 4.9) indicates that, if all the factors are ranked, factor 1 account for 48.417% of the variance, factor 2 accounts for 9.066% of the variance, factor 3 accounts for 6.072% of the variance, factor 4 accounts for 4.551% of the variance, factor 5 accounts for 3.760% of the variance, factor 6 accounts for

3.255% of the variance, factor 7 accounts for 3.010% of the variance. Together, the seven identified factors accounted for 78.130% of the variance. Results of the factor analysis indicate a high level of construct validity of the measure of 0.770.

Given that, most of the variables in factor 1 are more or less linked to welfare of employee the researcher decided to name this factor as welfare of employee related. Issues in factor 2 could also be linked to workmanship of employees; hence, factor 2 was termed workmanship of employees related. Factor 3, plant and equipment related. Issues in factor 4 are associated with staff and weather; hence, it was named staff and weather related. Factor 5, site planning related. Factor 6 was named disrespect from co-workers related. Issues of factor 7 could be linked project confusion, so the researcher named this project confusion related.

Factor analysis enabled the 37 critical factors to be placed under seven (7) components as follows:

Component 1: Welfare of employee mechanism variances

Supervision based on leadership by example, orientation for new employee, worker participation in decision making, communication, promotion, teamwork, equity, bonus at the end of project or year, employee training, love and belongingness, identification with goal, unrealistic deadline for project set by client, material shortage on site

Component 2: workmanship of employees' mechanism variances

“Rework due to construction error, inadequate site planning, poor buildability and inadequate site staff

Component 3: Plant and equipment mechanism variances

Waiting for other crew, transportation

Component 4: Staff and weather mechanism variances

Contractor staff absenteeism, poor weather condition and salary

Component 5: Site planning mechanism variances

Congestion, improper site planning and constant disruption of work

Component 6: Disrespect from co-workers mechanism variances

Disrespect from co-workers

Component 7: Project confusion mechanism variances

Project confusion

Table 4.8: Rotated Component Matrix^a

Factors	Component						
	1	2	3	4	5	6	7
Material shortage on site (materials getting finish while working)	.608	.092	.482	.172	.169	-.010	-.032
Detail set of drawings not deliver in bulk leading to the work done in bits or small section	.585	.401	.592	-.030	.014	.147	-.098
Inadequate site planning (site layout which leads to difficulty in movement)	.229	.793	.070	.072	.035	.037	.068
Late payment of interim certificate	.494	.176	.425	.034	.423	-.283	-.183
Rework due to construction error (making corrections on wrong work done)	.101	.807	.086	.004	.303	-.258	.078
Workers strike due to unpaid work	.538	.400	.588	.019	-.064	.165	.145
Unrealistic deadline for project set by client (deadline that is not easy to attain)	.636	.177	.468	-.090	-.001	.290	-.152
Slow response of consultant's site staff attending to inspection work	.265	.584	.414	.054	.148	.348	-.203
Inadequate site staff (less labour for a task leading to excessive work load)	.236	.706	.112	.297	.018	.355	-.019
Waiting for other crew (waiting for gang of different trade to finish before another can continue)	.197	.240	.823	-.064	.136	.109	-.014
Poor weather condition	.013	.353	.219	.676	.353	-.248	.056
Poor buildability (design which is difficult to construct)	-.032	.725	.300	.245	.220	-.030	.137
Contractor staff absenteeism (crew members not being present for work)	.183	.106	.023	.869	-.042	.170	-.021
Safety plans (availability of first aid, provision of safety kits etc.)	.562	.153	.488	.237	.163	.044	.091
Provision of equipment for work (adequate equipment to work with quick replacement and repairs of broken down and old equipment)	.573	-.047	.462	.298	.074	.200	-.016
Transportation (vehicle at your disposal, allowance for transportation, transportation from a location to site and back)	.471	-.003	.607	.413	.015	.104	.216
Salary (pay, wage etc.)	.568	.354	-.025	.613	.118	.050	.066
Bonus at the end of project or year (showing appreciation at the end of the project and year)	.783	.114	.295	.236	.004	-.041	.227
Overtime (provision of extra money after normal working time)	.407	.530	.083	.261	.005	.341	.327

Teamwork (everyone contributing in the work, all hands on deck)	.793	.284	.076	.257	.053	.242	-.023
Worker participation in decision making (making suggestions)	.839	.107	.236	.086	.066	.129	.075
Work based on contract (finish and go)	.555	.395	-.080	.361	.241	.171	.196
Supervision based on leadership by example	.901	.105	.068	.100	.141	.190	.008
Love and belongingness	.739	.156	.384	.216	-.039	-.010	.066
Employee training (introduction into new ideas, further studies, workshops etc.)	.766	.084	.240	.074	.058	.002	.346
Orientation for new employee (introduction to old staff, introduction into the policies of the company)	.884	.222	.148	-.019	.117	.191	-.001
Constant disruption of work (frequent changes in design and specifications)	.312	.331	-.013	.395	.626	.081	-.090
Project confusion (identification of source on instruction)	.265	.165	-.087	-.004	.071	.145	.705
Working with unqualified persons (working with incompetent and non-confident workers)	.582	.183	.189	-.043	.464	.343	-.172
Promotion (elevation, from mason to mason foreman)	.818	.296	.201	.158	.142	.025	.166
Disrespect from co-workers (use of abusive language from colleagues, impolite speeches etc.)	.324	.105	.228	.056	.084	.705	.260
Equity	.790	.128	.085	.263	.312	.086	.139
Communication (easy flow of information, being well communicated)	.829	.103	.141	-.023	.103	.177	.266
Opportunity to undertake challenging task task (Being given goal to work towards it through your own directives)	.359	.019	.106	.296	.547	.424	.244
Identification with goal (Being honoured for a particular attained target)	.661	.078	.219	.105	.215	.170	.480
Medical care (Having a particular hospital to attend in case of illness or subsidising the cost of hospital bills)	.495	-.088	.171	.151	.067	.353	.287
Congestion (overcrowding in a work area, improper site planning)	.029	.451	.159	-.100	.703	.001	.341

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 17 iterations.

Source: Field work (2016)

Table 4.9: Total Variance Explained

Compo nent	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumula tive %	Total	% of Variance	Cumula tive %	Total	% of Variance	Cumula tive %
1	17.914	48.417	48.417	17.914	48.417	48.417	11.648	31.482	31.482
2	3.354	9.066	57.482	3.354	9.066	57.482	4.531	12.245	43.727
3	2.247	6.072	63.555	2.247	6.072	63.555	3.831	10.353	54.080
4	1.684	4.551	68.106	1.684	4.551	68.106	2.882	7.790	61.870
5	1.391	3.760	71.866	1.391	3.760	71.866	2.260	6.108	67.978
6	1.204	3.255	75.121	1.204	3.255	75.121	1.997	5.398	73.376
7	1.114	3.010	78.130	1.114	3.010	78.130	1.759	4.754	78.130
8	.949	2.566	80.696						
9	.880	2.378	83.074						
10	.766	2.069	85.143						

11	.615	1.662	86.806
12	.569	1.537	88.343
13	.495	1.337	89.680
14	.459	1.240	90.920
15	.380	1.028	91.949
16	.347	.939	92.888
17	.343	.928	93.815
18	.299	.807	94.622
19	.262	.708	95.330
20	.236	.638	95.967
21	.199	.539	96.506
22	.181	.489	96.996
23	.172	.465	97.461
24	.153	.413	97.874
25	.140	.379	98.253
26	.109	.295	98.548
27	.102	.277	98.825
28	.089	.240	99.065
29	.073	.198	99.263
30	.063	.171	99.435
31	.053	.144	99.578
32	.046	.125	99.703
33	.033	.090	99.792
34	.027	.074	99.866
35	.024	.064	99.930
36	.017	.045	99.975
37	.009	.025	100.000

Extraction Method: Principal Component Analysis.

Source: Field work (2016)

Table 4.10: Communalities

	Initial	Extraction
Material shortage on site (materials getting finish while working)	1.000	.670
Detail set of drawings not deliver in bulk leading to the work done in bits or small section	1.000	.886
Inadequate site planning (site layout which leads to difficulty in movement)	1.000	.699
Late payment of interim certificate	1.000	.748
Rework due to construction error (making corrections on wrong work done)	1.000	.834
Workers strike due to unpaid work	1.000	.849
unrealistic deadline for project set by client (deadline that is not easy to attain)	1.000	.770
Slow response of consultant's site staff attending to inspection work	1.000	.770
Inadequate site staff (less labour for a task leading to excessive work load)	1.000	.782

Waiting for other crew (waiting for gang of different trade to finish before another can continue)	1.000	.808
Poor weather condition	1.000	.819
Poor buildability (design which is difficult to construct)	1.000	.744
Contractor staff absenteeism (crew members not being present for work)	1.000	.831
Safety plans (availability of first aid, provision of safety kits etc.)	1.000	.670
Provision of equipment for work (adequate equipment to work with quick replacement and repairs of broken down and old equipment)	1.000	.679
Transportation (vehicle at your disposal, allowance for transportation, transportation from a location to site and back)	1.000	.819
Salary (pay, wage etc.)	1.000	.845
Bonus at the end of project or year (showing appreciation at the end of the project and year)	1.000	.821
Overtime (provision of extra money after normal working time)	1.000	.745
Teamwork (everyone contributing in the work, all hands on deck)	1.000	.843
Worker participation in decision making (making suggestions)	1.000	.804
Work based on contract (finish and go)	1.000	.726
Supervision based on leadership by example	1.000	.894
Love and belongingness	1.000	.770
Employee training (introduction into new ideas, further studies, workshops etc.)	1.000	.780
Orientation for new employee (introduction to old staff, introduction into the policies of the company)	1.000	.904
Constant disruption of work (frequent changes in design and specifications)	1.000	.770
Project confusion (identification of source on instruction)	1.000	.628
Working with unqualified persons (working with incompetent and non-confident workers)	1.000	.772
Promotion (elevation, from mason to mason foreman)	1.000	.870
Disrespect from co-workers (use of abusive language from colleagues, impolite speeches etc.)	1.000	.742
Equity	1.000	.842
Communication (easy flow of information, being well communicated)	1.000	.832
Opportunity to undertake challenging task task (Being given goal to work towards it through your own directives)	1.000	.766
Identification with goal (Being honoured for a particular attained target)	1.000	.807
Medical care (Having a particular hospital to attend in case of illness or subsidising the cost of hospital bills)	1.000	.516
Congestion (overcrowding in a work area, improper site planning)	1.000	.850

Extraction Method: Principal Component Analysis.

Source: Field work (2016)

4.5 The Influence of the Identified Motivational Factors having on Craftsmen Productivity in the Construction Industry

When principal component analysis was carried out, the following factors emerges the most critical factors that influence craftsmen productivity in the construction industry in Ledzokuku Krowor Municipality of Ghana. They are; supervision based on leadership by example, orientation for new employee, worker participation in decision making, communication, promotion, teamwork, equity, and bonus at the end of project or year. These factors as shown in Table 4.8 will be discussed thoroughly in the next chapter.

4.6 Discussion of Findings

4.6.1 Critical Factors that Affect motivation on craftsmen productivity in the Construction Industry in Ghana

In order to examine critical factors that influence motivation on craftsmen productivity in the construction industry in Ghana, questionnaire was designed to ask a number of questions from respondents which were project managers, architects, project engineer and artisans to determining the critical factors that influence motivation on craftsmen productivity in the construction industry in Ghana. On this objective, the study shown that, 24 extractions were made out of 37 factors. The factor extraction was under 7 components, therefore resulting in 7 major variables themes.

Issues of “factor 1” were linked with employee welfare on site with 13 sub factors under it. The respondents agree with the 5 likert scale responses. Welfare of employees in the construction site in Ghana motivates the workers to give off their best. When the employee sees that the management of the industry cares about their welfare

by given them orientation, allowing them to participate in decision making, communication, given them promotion, teamwork, equity, given them bonus at the end of project or year, employee training, love and belongingness, identification with goal, unrealistic deadline for project set by client etc. then the workers will be prepared to even die for the company.

Again, issues of “factor 2” were linked with workmanship of employees’ with four sub factors under it. The respondents agree with the 5 likert scale responses. This means that good workmanship by the artisans in the construction industry will enable the management of the company achieved the desire results and it will also increase productivity. Good workmanship by the artisans will enable the company to win more contracts in the future. This can be achieved when the artisans are given the necessary tools and equipment and also given enough motivation and encouragement. Management of the company should recruit more staff to help speed the construction work to avoid unnecessary delay which will results in liquidation and ascertained damages.

Furthermore, issues of “factor 3” were linked with plant and equipment on site with 13 sub factors under it. The respondents agree with the 5 likert scale responses. Construction Company which has the needed plant and equipment help speed up construction activities. Waiting for gang of different trade to finish before another can continue results in unnecessary delayed. Management of the company should be able to get the workers all the necessary tools and equipment required for their work. As enshrined in the section 9 of the labour act of 2003 that “employers should provide work and appropriate raw materials, machinery, equipment and tools” to employees to facilitate their work.

Moreover, factor “4” which, deals with “staff and weather” indicates how staff absenteeism, salary of workers and poor weather affects productivity at the worksite. Inadequate pay and wages of artisans can affect productivity at the worksite as workers will result to not being present for work (absenteeism) and strikes. This in conformity with the assertion by Zakeri et al. (1997) in a survey of construction operatives in Iran that, fairness of pay, incentives or financial rewards, on-time wage payment, good working facilities, and safety were the most important motivational factors. Kaming et al (1997) also revealed that, fairness of pay, good relation with workmates, overtime payments, bonuses, and good safety programs were the motivational factors that exist on Indonesia projects. Then also poor weather condition such as constant or persistent rainfall and others can also affect productivity as workers will unable to work.

Again, factor “5” which, deals with “site planning” presupposes that improper site layout which leads to difficulty in movement and this creates overcrowding at the site. Improper site planning makes movement with respect to vehicle and plant at the site make very difficult. When this happens, workers will not feel comfortable working at the site and this will eventually results in delay and it will reduce productivity. Again, Workers working in an environment where accidents or injuries and improper site planning frequently occur will always be extremely cautious at work and this will affect individual performance.

Also, factor “6” which, deals with “disrespect from co-workers” suggests the use of abusive language from colleagues, impolite speeches etc. The use of abusive language among workers during construction work demeans workers and makes them feel inferior. Productivity will decrease when there is disrespect among co-workers in the construction industry. Fellow workers in the construction industry should be treated with respect in order to increase productivity.

Finally, factor “7” which, deals with “project confusion”. Misunderstanding that ensues between workers and management slow down productivity. Agitation that rocks between workers and management can be as a result of poor condition of service, low salary and bonus, lack of free flow of information, worker participation in decision making process, inability to interpret designs and working drawings and others. Project confusion or misunderstanding can resort to strike and unnecessary delay in projection completion date. The end result is that there will liquidation ascertain damages which will be awarded to the contractor by the client.

4.6.2 The Influence of the Identified Motivational Factors having on Craftsmen Productivity

The eight key factors that influence craftsmen productivity that emerges from the principal component analysis are as follows; supervision based on leadership by example, orientation for new employee, worker participation in decision making, communication, promotion, teamwork, equity, and bonus at the end of project or year.

4.6.2.1 Supervision Based on Leadership by Example

Supervision based on leadership by example emerges the first critical motivational factor that affects craftsmen productivity in the construction industry. Leadership has been shown to be an important factor in successful project execution in a number of studies (Odusami et al, 2003). It is not necessarily getting the requisite tool with which to work which motivates but being with subordinates to partake in solving work problems and ensure that the right thing is accomplished without always issuing instructions. This motivates supervisors or superiors and subordinates. In a research

into bricklayer's motivation and productivity, good supervision was found to be the most significant variable influencing rate of bricklayings (Olomolaiye, 1990). This indicates that whenever a leader sets good example or workers feel supervisors are part of them based on the supervisor's involvement in some of the daily work schedule, they will have the motivation to work harder and this will boost their performance and hence increase productivity. Again, at times, just changing the leader changes the psychological climate of the company and, in turn, the whole performance of people in the organization. The appropriate leadership style depends on the goals and objectives of the organization, the people with the company and the external environment. A second leadership style is collegial, where one person may be in charge of a department but function at the same level and with the same knowledge and skills as his /her co-workers. Other leadership styles that have been identified are feeling, selling, persuading and participating. Each of these styles is appropriate depending on whether the employee is new or experience, and whether there is ample time or urgency in completing the task. Supervisors should therefore be knowledgeable in the roles assigned them and be involved in solving problems by which subordinates will have confidence in them and, hence, be motivated.

4.6.2.2 Orientation for new Employee

Orientation is the introduction of new staff to old staff, introduction into the policies of the company, dos and don'ts of the company to new employees of the company. Orientation emerged the second most critical influential factors that affect craftsmen productivity in the Ledzokuku Krowor Municipality of Ghana. Orientation a newly employed craftsman helps them to fellow laid down rules and regulations governed the company and also to familiarized themselves with respect to the company

norms. This is in effect helps craftsmen to know much about the company policies and programmes and also helps to mitigate mistakes.

4.6.2.3 Worker Participation in Decision Making

Workers in a company are motivated to work harder when his/her views are welcome or accepted. When a craftsmen feel that he/she is part of the decision making process of the company, then he/she will be prepared to die for the company. Again, craftsmen will be demotivated when he/she feels that he/she is not part decision making process of the company. This indicates that whenever a leader sets good example or workers feel they are part of them based on the supervisor's involvement in some of the daily work schedule, they will have the motivation to work harder and this will boost their performance and hence increase productivity. This assertion is in conformity to the study by Clarke and Morris (1980) that to determine attitudes towards productivity, it is established that involvement in decision-making, recognition through financial rewards, and job security are important motivational factors for workers to work harder to give out their best.

4.6.2.4 Communication

Communication is one of the critical influential motivational factors that affect productivity in construction industry in Ghana. Communication means free flow of information from the top management down to the artisans. It is believed that a good flow of communication of knowledge and policy within an organization will enhance workers' awareness and behaviour towards productivity.

4.6.2.5 Promotion

One of the most critical factors that affect productivity is promotion. Promotion is when craftsmen are elevated from the current rank to higher rank. Promotion can be an increased in rank or salary. This assertion is in conformity to the study by LeBoeuf (2004) that “what gets rewarded gets done”. If you want more of something in an organization, simply increase greater records for that behaviour. It is quite common for companies to identify their most profitable product and services, and then increase the percentage of commission that sales people will receive for selling those specific products and services.

4.6.2.6 Teamwork

Teamwork is one of the critical factors that affect productivity because a sense of team spirit is more conducive, motivational and productive for workers than fragmented atmosphere. Teamwork generates friendship among workmates outside working hours. It enables workmates to share ideas and find solutions to problems encountered on a task assigned should it recur. Construction works are interdependent in the sense that the various activities depends on the successful completion of the others. The absence of teamwork may lead to the sabotaging of works of other gangs especially contract workers who wish to complete on time. In addition, teamwork increases competitiveness by:

- improving worker motivation and commitment,
- improving productivity,
- improving quality and encouraging innovation and
- taking advantage of the opportunities provided by technological advances (Mullins, 2005).

A research on Turkey society which is a developing country like Ghana, and has many languages, religions, and ethnic groupings revealed that, well established teamwork was seen as having even greater significance to productivity (Aynur & Serdar, 2006). Due to the mobility of workers in the construction industry which can be similar in Ghana, different sets of construction workforce are engaged and, hence, a good teamwork will enhance motivation and productivity. Construction workers are attached to a crew or a project for a definite period and have a responsibility to work together in a shared environment and this can be achieved when workers are comfortable in their relationships with workmates and management (Aynur & Serdar, 2006). Workers are motivated with the benefits of well-established teamwork. The flow of communication, improvement in worker confidence and trust and clarity in expressing ideas in discussions are some of the benefits of good teamwork. In addition less skilled workers will always be motivated to learn from the skilled workers in a team within which they find themselves. Strong teamwork, in addition, contributes to the formation of unionised bodies. This goes to affirm project managers' perception in a study of drivers of productivity among construction workers that it is an unwise strategy to attempt to establish very strong relationships among workers since such relationships strengthen the collective bargaining power when negotiating pay deals (Aynur and Serdar, 2006).

4.6.2.7 Equity

Equity deals with fairness compared to others and it involves feelings, perceptions and comparative process. The theory states that people will be better motivated if they are treated equitably and demotivated if treated inequitably (Armstrong, 2006). There exists equity when the ratio of an individual's total outcomes

to total inputs equal the perceived ratio of other people's total outcome to total input. An inequity feeling causes unpleasant tension which motivates the person to remove or reduce the level of tension and perceived inequity. That assertion is conformity by Adams six identified feedbacks to inequity:

- **Changes to input:** An individual may increase or decrease the level of inputs through quantity, quality, absenteeism, or working extra without pay.
- **Changes to outcome:** An attempt by an individual to change outcome such as pay, working conditions, status and recognition without change in input.
- **Cognitive distortion of input and outcomes:** People may distort cognitively, their inputs or outcomes to achieve the same results. He further suggested that although it is difficult for individuals to distort facts about themselves, it is possible to within limits to distort the utility of those facts.
- **Leaving the field:** It is the situation where an individual finds a more favourable balance by absenteeism, request for transfer, or resigning altogether from the job or organisation.
- **Acting on others:** - A person may try to bring changes in others by lowering inputs or accepting greater outcomes or force others to leave the job.
- **Changing the object of comparison:** This is the change in reference group with whom comparison is made.

4.6.2.8 Bonus at the end of Project or Year

Showing appreciation at the end of the project or year to craftsmen will motivate them to increased productivity at the construction industry. This can be additional money that will be added to the worker's salary at the end of the project or year as a

result of hard work. This will ginger the worker to work harder in future project to help increased productivity in the industry.



CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary of the main findings, conclusions and recommendations of this research. The area for further research is also discussed at the end of this chapter. It begins with how it was carried out and then touches on the summary of the main findings of the work

5.2 Summary of Findings

This section outlines the main findings and outputs of the study. The research objectives are revisited to highlight the extent to which they were accomplished through the various phases of the research. It is divided into two sub-sections to facilitate an appropriate correspondence of the outcomes with the specific objectives enumerated in chapter one.

5.2.1 Objective: The Study was to Critical Factors that Affect Motivation on Craftsmen Productivity in the Construction Industry in Ghana

An extensive literature review was carried out on the critical factors that affect motivation on craftsmen productivity in the construction industry in Ghana. The first objective to the study was identifying the critical factors in the construction industry in Ghana. This objective has been fulfilled in that; 37 factors motivation on craftsmen productivity in construction sites were empirically identified from literature. The findings indicated that, the eight most highly ranked influential factors to be considered to improve rework at construction sites are:

- supervision based on leadership by example,
- orientation for new employee,
- worker participation in decision making,
- communication,
- promotion,
- teamwork,
- equity,
- bonus at the end of project or year

5.2.2 Objective2 To develop recommendation for enhancing the motivation of craftsmen in the Ledzokuku Krowor Municipality in Ghana.

5.3 Conclusions

Based on the findings of the study, the following conclusions are drawn:

- The analysed results proved that the eight critical factors that affect motivation on craftsmen productivity in the construction industry in Ghana are; supervision based on leadership by example, orientation for new employee, worker participation in decision making, communication, promotion, teamwork, equity and bonus at the end of project or year

5.4 Recommendation

Based on the findings the following recommendations are drawn:

- workers should be given the opportunity to undertake challenging task under close supervision, not compromising quality, precision and timely delivery and be made to the consequence when these requirements are not met.
- there should be a clear line of communication between management and workers. Also regular interactions should be organised to recognised workers so as to motivate others to work harder to be recognised one day.
- management and immediate supervisors should ensure that good teamwork is established through collaborations, both on and off site by assigning task to groups of workforces with qualified and competent supervisors.
- management should institute bonus and incentive packages for the workers at end of a project or year. This will ginger the worker to work harder in future project to help increased productivity in the industry.

- management and supervisors should deal with the workers with equity, fairness and respect. There is assertion that people will be better motivated if they are treated equitably and demotivated if treated inequitably. Inequity feeling causes unpleasant tension which motivates the person to remove or reduce the level of tension and perceived inequity.
- management should ensure that workers due for promotion are promoted in order for the workers to give of their best to increase productivity. For companies to identify their most profitable product and services, and then increase the percentage of commission that sales people will receive for selling those specific products and services.
- management should ensure that workers are part of the decision making process and as such their views are welcomed in the company. To determine attitudes towards productivity, it is established that involvement in decision-making.
- management should give orientation to newly employ or recruit in the construction industry. Orientation for newly employed craftsman helps them to fellow laid down rules and regulations governed the company and also to familiarized themselves with respect to the company norms.

5.5 Suggestions for Future Research

Further research should be conducted on the challenges associated with the use of motivation on craftsmen productivity at the construction industry in the Ledzokuku Krowor Municipality.



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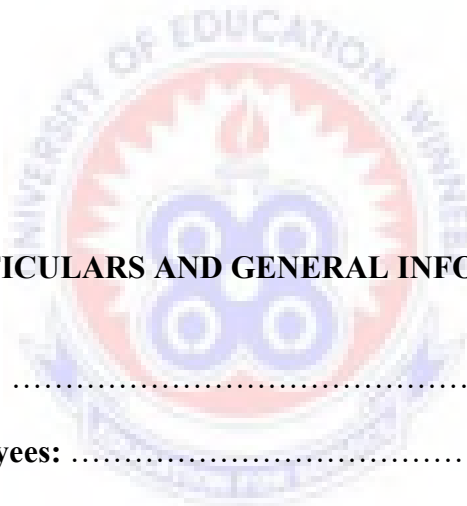
APPENDICES I

QUESTIONNAIRE FOR SITE OPERATIVES

The research is being undertaken by Aboagye Simon, a second year MTECH student university of Education, Winneba-Kumasi campus. I am conducting this research as part of partial fulfilment of the award of Master of Technology Degree in Construction Technology. It is aimed at finding the factors that have led to the declined in productivity in the construction industry for the past decade and recommend strategies for motivation that will facilitate the improvement of productivity. Your organisation has been chosen for a survey. The study is for learning purposes and as such I would appreciate your voluntary cooperation to complete the questionnaire. Your responses will not be disclosed to any person.

Yours faithfully

Aboagye Simon.



SECTION A: PARTICULARS AND GENERAL INFORMATION ABOUT RESPONDENT

i. Name of Company:

ii. Number of Employees:

iii. Location of Company.....

1. What is the age category you belong? *(Please tick)*.

Under 20 years	<input type="checkbox"/>	21 – 30 years	<input type="checkbox"/>
31 – 40 years	<input type="checkbox"/>	41 – 50 years	<input type="checkbox"/>
51 – 60 years	<input type="checkbox"/>	Above 60 years	<input type="checkbox"/>

2. Please indicate your gender. *(Please tick)*

Male	<input type="checkbox"/>
Female	<input type="checkbox"/>

3. What is your current job title? *(Please tick)*.

Project Manager	<input type="checkbox"/>	Steel bender	<input type="checkbox"/>
Foreman	<input type="checkbox"/>	Plumber	<input type="checkbox"/>

Quantity Surveyor		Electrician	
Site Manager		Painter	
Project Engineer		Tiler	
Architect		Other please state	

4. What is the number of years you have been working in the construction industry? *(Please tick)*

Under 5 years	<input type="checkbox"/>	5 – 10 years	<input type="checkbox"/>
Above 10 but less than 15 years	<input type="checkbox"/>	15 – 20 years	<input type="checkbox"/>
Above 20 but less than 30 years	<input type="checkbox"/>	Above 30 years	<input type="checkbox"/>

5. What is your highest academic qualification?

PhD	<input type="checkbox"/>	Senior Secondary School	<input type="checkbox"/>
HND		N.V.T.I	
First Degree		C.T.C.	
Masters	<input type="checkbox"/>	Others (specify)	<input type="checkbox"/>
Junior Secondary School	<input type="checkbox"/>		

6. Please indicate the nature of your employment with the current company? *(Please tick).*

Full time employment	<input type="checkbox"/>
Part time employment	<input type="checkbox"/>
Other (please specify)	

SECTION B: THE SECTION SEEKS YOUR EXPERT OPINION ON THE INFLUENCE AND FACTORS AFFECTING THE MOTIVATION SITE OPERATIVES IN THE CONSTRUCTION INDUSTRY

12. To what extent do you agree on the following factors that normally affect motivation and productivity at work in the construction industry. *Please rate using a scale of 1-5 where 1 represents strongly disagree, 2 represents disagree, 3 represents uncertain, 4 represents agree and 5 represents strongly agree.*

No	Factors that affect motivation and output of work	1	2	3	4	5
FA1	Material shortage on site (materials getting finish while working)					

FA2	detail set of drawings not deliver in bulk leading to the work done in bits or small sections)					
FA3	Inadequate site planning(site layout which leads to difficulty in movement)					
FA4	Late payment of interim certificate					
FA5	Rework due to construction error (Making corrections on wrong work done)					
FA6	Workers strike due to unpaid work					
FA7	Unrealistic deadline for project set by client (deadline that is not easy to attain)					
FA8	Slow response of consultant's site staff attending to inspection work					
FA9	Inadequate site staff. (less labour for a task leading to excessive work load)					
FA10	Waiting for other crew (waiting for gang of different trade to finish before another can continue)					
FA11	Poor weather condition					
FA12	Poor buildability design (design which is difficult to construct)					
FA13	Contractor staff absenteeism (Crew members not being present for work) Job security (Permanent job, Job all the time, payment of SSNIT etc.)					
FA14	Safety plans (Availability of first aid, provision of safety kits etc.)					
FA15	Provision of equipment for work (Adequate equipment to work with, quick replacement and repairs of broken down and old equipment)					
FA16	Transportation (Vehicle at your disposal, allowance for transportation, transportation from a location to site and back)					
FA17	Salary (Pay, wage, etc.)					
FA18	Bonus at the end of project or year (showing appreciation at the end of the project and year)					
FA19	Overtime (Provision of extra money after normal working time)					
FA20	Teamwork (Everyone contributing in the work, all hands on deck)					
FA21	Worker participation in decision making (Making suggestions)					
FA22	Work based on contract (Finish and go)					
FA23	Supervision based on leadership by example					
FA24	Love and belongingness					
FA25	Employee training (Introduction into new ideas, further studies, workshops etc.)					
FA26	Orientation for new employee (Introduction to old staff, introduction into the policies of the company)					

FA27	Constant disruption of work (Frequent changes in design and specifications)					
FA28	Project confusion (identification of source of instruction)					
FA29	Working with unqualified persons(working with incompetent and non-confidence workers)					
FA30	Promotion (elevation, example from mason to mason foreman)					
FA31	Disrespect from co-workers (use of abusive language from colleagues, impolite speeches etc.)					
FA32	Equity (Fair treatment)					
FA33	Communication (Easy flow of information, being well communicated)					
FA34	Opportunity to undertake challenging task (Being given goal to work towards it through your own directives)					
FA35	Identification with goal (Being honoured for a particular attained target)					
FA36	Medical care (Having a particular hospital to attend in case of illness or subsidising the cost of hospital bills) Accommodation (Provision of physical accommodation, package as subsidy to rent apartment)					
FA37	Congestion (overcrowding in a work area, improper site planning) Canteen for employee (having a place within the premise where food are given at break for free or at a reduced price)					

APPENDICES II

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No of Items
.969	.968	37

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.770
Approx. Chi-Square	2936.415
Bartlett's Test of Sphericity Df	666
Sig.	.000

