

UNIVERSITY OF EDUCATION, WINNEBA
COLLEGE OF TECHNOLOGY EDUCATION, KUMASI

**ASSESSING FACTORS INFLUENCING FREQUENT CHANGE OF JOBS BY
SKILLED LABOURERS IN THE CONSTRUCTION INDUSTRY: A CASE
STUDY OF BEREKUM MUNICIPALITY, BRONG-AHAFO REGION**



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DECEMBER, 2016



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

DECEMBER, 2016

DECLARATION

CANDIDATE'S DECLARATION

I, WEMEGA ARNOLD, declare that, this Dissertation with the exception of quotations and references contained in published works which have all been identified and 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 the Dissertation were supervised in accordance with the guidelines on supervision of Dissertation laid down by the University of Education, Winneba.

NAME OF SUPERVISOR: DR. PETER PAA KOFI YALLEY

SIGNATURE.....

DATE.....

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DEDICATION

I am dedicating this dissertation to my brother Mr. Mike Alagbah who understood and supported me throughout my period of study.



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ABSTRACT

The construction industry is the main institution responsible for putting up infrastructural projects. The institution relies on well – functioning and educated skilled labour workers in discharging their duties. There has been frequent change of skilled labour job place in recent times at Berekum Municipality. The aim of this study was to assess factors that cause frequent change of skilled labour job place in construction industry. The study adopted a quantitative design involving the administration of survey questionnaires to a sample of 80 respondents made of supervisors, skilled labor and unskilled labor. The collected data was analyzed using statistical package for social science (SPSS) version 21. The results were presented using percentages and mean values in a Table. The findings of the study suggested that delays in payment of work done, inefficient equipment, rampant accidents, lack of training among others, were the contributing factors of skilled labour turnover. Based on the findings, the study recommends that, there should be organized training for workers, there should also be provision of efficient materials and equipment to prevent accidents and reasonable remuneration should be paid to workers for their work done. Frequent change of skilled labour job place in construction industry would be reduced if proper attention is given to the proposed recommendation

Audrey

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter deals with the background of the study, statement of the problem and the objectives of the study. It also covers the significance of the study, as well as the delimitation and limitation of the study.

1.2 Background of the Study

The problem of the frequent change of skilled labour shortage in the United State and South Africa Construction industry was predicted more than two decades ago. A report written by the Business Round Table (BRT 1983) describes a frequent technical skilled labour change shortage as one of the main challenges the United State Construction industry would be facing the last two or three decade of the century. The report predicted frequent change or shortages of construction skilled labour in both the open-shop environment and the union environment due to contractor's lack of interesting training, incentives/rewards and owners ignorance.

According to Bennett, (2001) the shortage in terms of frequent change of skilled labour shortage is as result of demographic issues, normal attrition and the construction industry with a poor image. However, these factors along with construction users' fixation on cost per hour rather than total cost, have also contributed to degrade skill levels in workers.

Currently, there is an extraordinary struggle for a very ordinary workforce. A more recent study by the construction user round table (CURT 2001) Showed that owner companies considered the frequent change/shortage of technical skilled labour as the

most critical problem today's construction industry is facing. Of the responding companies, drastic frequent change of skilled labor/workers on their project with the sample situation indicated that, trend has worsened over the past few years. One of the three owners of the company reported increased cost, schedule delays and project cancellations owing to frequent skilled labour change/shortages called the impact significantly on their construction industries. The study found that all types of construction projects (i.e. all sizes, all areas and in every craft) are affected by frequent change of skilled labour shortages, however the most affected trades were electricians, plumbers, bricklayers and carpenters.

Recent statistics published by the Bureau of Labour statistic (BLS 2004) indicate that by 2015, there will be a need to replace one thousand and forty nine construction trade jobs. The recent Bureau of Labour statistic data indicate the construction industry is projected to be the largest and fastest source of employment growth among goods producing industries. For example demand for steel workers or welder is expected to have the fastest growth among other skilled labor. Another fast growing occupation is bricklayers and electricians which will experience demand for jobs. Finally, the demand for construction skilled labourers is expected to increase by 2014 and some year to come. Given this projected growth in the need of technical skilled labour construction workers and the poor image of the construction industry, construction employers might face problems funding new entrants to fill these position of finding entrants with all necessary skills. The construction industry in the United Kingdom for example is facing a frequent technical skilled labour change. The United Kingdom construction industry must draw from all labour sources irrespective in South Africa

revealed frequent change of skilled labour shortage of individuals construction company to build and maintain infrastructure in undeveloped areas.

1.3 Statement of the Problem

In recent times, there have been shortages of skilled labor in the construction industry (Singh, 2007). Both the private and the public construction sectors are yelling for skilled labor. However, the limited skilled labour at work frequently is changing for better opportunities somewhere. The skilled labor deficit appears to outstrip supply as a result of the substantial growth in infrastructure investment. The step change in announced private sector projects in 2010 and 2012 resulted in additional skilled labor requirement, the precise nature of which was beyond the scope of the study. Government initiated projects also suggest a significant number of small (by value) municipal, regional and national projects that will require more technical skilled labor to spread over several projects rather than a concentration of skilled laborers in fewer large project or construction industry.

Public corporations are expected to roll out a limited number of overlapping large projects, in addition to several other concurrent stadia, airport, dam, housing and national roads projects. However, the skilled labor/workers requirement for each of these projects is expected to be in the order of 10's for professionals and 100's for artisans, with only Sino Hydro a Chinese Construction Company requiring about 2,000 tradesmen of peak levels of demand for each of its new power station projects and road construction works in the region. The additional construction industries are as follow: Asuo Bomosadu Timber Sawmill Company Limited, Vision Construction

Limited, Jianxi Zhongmei Engineering Construction Company Limited and J. Adom Construction Company Limited.

The study investigates factors that cause frequent change of technical skilled labor change or shortage in the region and municipalities as a whole.

1.4 Aims of the Study

The aim of the study is to find out the factors that cause frequent change of skilled labour shortage in construction industry has any negative factors affecting construction industry.

The following are the specific objectives of the study:

1. To assess the current state of skilled labor force in the construction industry.
2. To assess the Situations contain on site that have influence on turnover of work.
3. To identify the underlying principal causes of frequent change of job by skilled labor in construction industry.

1.5 Significance of the Study

The study will assess the factors that cause frequent change of skilled labour in construction sectors in the Berekum Municipality. It will also find an extremely high rate of frequent technical skilled labour change in the Region as well.

It will again assess the impact on the contractors, owners and construction industries experiencing this situation which is costing them cost and time.

Furthermore the study seeks to identify intervention, the impact of frequent skilled labour change and also the problem the construction companies are facing in addressing these challenges in construction sectors.

1.6 Research Question

The study's research questions were as follows:

1. What are the current condition of skilled labor requirement in the construction industry in Berekum Municipality?
2. What are the situation contain on site that have influence on turnover of work.
3. What are the reasons of frequent change of skilled labour in the construction industry?

1.7 Delimitation of the Study

The study focused no finding out the factor that causes frequent change of skilled labour in Berekum Municipality and its environs district. The few construction industries in the municipality were Vision Construction Ltd, Yedakwa Construction Ltd and Alavanyo Construction Ltd were selected.

The study did not cover all the construction industries in the region as the respondents were randomly selected.

1.8 Limitation

Due to the lack of accessibility of certain areas of the region, the study was conducted in the municipality; the research was also limited to areas accessible with cars and researcher due to financial challenges.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Increase of production was calculated prior to mid-1906's, in the construction industry (Stall, 1983). Later, increase in skilled labour change or shortage has remained of great concern issue in the construction industry all over the world. In 1968, the construction Roundtable was established due to concern about the declined cost of construction resulting from an increase in the frequent change of skilled labour rate and a significant decline in construction production (Thomas and Kramer, 1988). Also in 1965, the United Nations Committee on Housing, Building and Planning (UNC) published a significant manual concerning the effect of repetition on building operations and processes (UNC, 1965). The research discovered the necessity for a rise in frequent skilled labour change was perhaps more severe in the construction industry compared to any sector. It was necessary to implement, as far as possible, industry-wide principles on frequent skilled labour change (act) throughout the construction process. Though, it was known that careful adaption would be required to implement the knowledge and experience gained in the manufacturing industry to the building construction industry (Alacron and Borcharding, 1991).

Past studies and research show the number of factors affecting frequent skilled labour change, there are still anonymous factors needed to be further studied even in developed countries (Makulsawatudom and Emsley, 2002). A study by (Polat and Arditi 2005) stated that policies to rise production are not always similar in each country. Their study identified different factors causing frequent skilled labour change and grouped them according to their characteristics. Such as geographical area,

political factors, ethnic cleansing factors, execution plan, design material, equipment, labour, health and safety, supervision, working time, project factor, quality leadership and coordination, organization, owner/consultant and external factors.

(Adrian, 1987) classified the frequent change of skilled labour factors causing low production as industry-related factors, labour-related factors, essential are the characteristics of the construction industry such as the uniqueness of construction projects, varied locations, adverse and unpredictable weather and seasonality. Labour-related factors include the union's influence, little potential for learning and lack of motivation. Management-related factors usually refer to a lack of management for tools or techniques.

(Olomolaiye et al, 1998) classified the frequent change of skilled labour factors into two categories; external factors the ones outside the control of the organization management and internal factors related to the production factors originating within the organization. From their view point, the nature of the industry, usually the separation of design and construction function, has affected construction labour force through delay in design changes, drawings and following rework or double handling in construction. Construction clients have sometimes been obstructions to construction industry because of their lack of suitable knowledge about construction procedure.

Moreover, being an outdoor industry, construction performance is extremely affected by weather conditions. In addition to the factors discussed, health and safety regulations and codes of practices are other external factors influencing task

operations and production. In the internal category, management inadequacies could result in a waste of resource with consequent losses in labour force, production, adoption of modern technology and training for the labourer would increase production.

According to (Thomas and Sakercan, 1994) built an idea to describe the factor causing skilled labourers force turnover in construction industry. In the models two groups of factors determine the skilled labour force performance, work environment and task to perform, work environment and task to perform. Work-environment factors refer to how well a job placed is organised and accomplished. Work to be done, or work content, relates to work required to perform and includes physical component of work, specification requirements and design details. Past study showed that task to be completed could cause the labour resources by as much as fifteen percent, whereas work environment can cause labour force requirements by an extra twenty-five percent. Base on this factor model more detailed research was done. One study suggested that scheduled overtime always leads to efficiency losses because of the inability to deliver materials, labour force, tools, equipment and information at an accelerated rate (Ginther, 1993).

Surveys and interviews are standard methods that have already been adopted in many frequent skilled labour change/turnover studies. (Lim and Alum 1995) conducted a survey of top construction contractors to identify the factors causing frequent skilled labour change in Singapore. The three items of extreme concern were identified as difficulty in the recruitment of supervisor, difficulty in the recruitment of skilled labor and a high rate of labour turnover. (Portas and Abou Rizk, 1997) undertook a

questionnaire of superintendents and project managers to determine all possible factors causing construction production. An interview conducted with contractors and project managers showed that weather, required labour force and material delivery were the main adverse factors for site production (Hassanein and Melin, 1997). A questionnaire identified rework/double handling, crew interference, material problem, tools, equipment availability, overcrowded work areas, instruction, poor image contractor, quality-control inspection and management interventions as the main factors affecting craftsman production and motivation (Chang and Borcharding, 1985).

Another survey with construction personnel (Hanna and Heale, 1994) was conducted to gauge their opinion about the field of construction, specifically their knowledge about the factor that most cause construction industry. As a result, a set of comprehensive factors was identified and classified into six groups; contract environment, working condition, working hours, motivation, and planning and site management.

2.2 Different Factors Causing Frequent Change of Skilled Labour Force from Previous Studies

Work force is the one of the outcome of several interrelated factors. Discussed below are various factors causing skilled labour force and are reviewed form past studies.

i. Time in Construction industry:

During construction projects, there are many tasks which cause a loss of production due to obsolescence fatigue in construction industry. Past study shows production decrease with working overtime thus turnover of skilled labour force.

The most frequently stated cause are fatigue, increase absenteeism, decrease morale, reduced supervision effectiveness, poor workmanship, resulting in higher double handling rework, increase accidents (Horner and Talhouni, 1995). Working overtime initially result in increased output, but continuing overtime may lead to increase costs and reduce production (Hinze, 1999). Time use by construction labourers on production activities average about thirty percent of the total time available. An employee in the field only works effectively for three and half hours of his eight hours shift and spend twenty percent of his time on direct value adding activities (Alinaitive et al, 2005).

ii. Schedule Compression in Construction Industry:

When there are early delays in a project, compressions of the overall time frame for a later activity are often the way to compensate interruptions and to complete the assigned task on schedule. From a professional scheduling perspective, schedule compression may be possible without accelerating individual work activities by utilizing float in the construction's overall schedule. However, on many construction projects, schedules are not fully resource loaded. As a consequence, a properly updated schedule reflecting the delays may show the project finishing on time without shortening individual activities. Schedule compression may result to lack of adequate craftsmen and force limited crew labour force for the desired task by the site engineer or the contractor because of shortening overall duration, allowing the contractor to complete the total remaining work as schedule.

Schedule compression, when linked with overtime, often results in major production losses due to shortage of labour expected, tools or equipment,

material to support the extra labourer force resulting in difficult for planning and coordinating the construction task, and unavailability of experience labor (National Electrical Contractors Association, 1983)

iii. Type of Project in Construction Industry:

To accomplish substantial project, every member of a crew requires adequate space to perform task without being affected with/by the other crew members. When few labor are allotted to perform particular task, in a fixed amount of space, it is probable that interference may occur, thus decreasing production because of limited labour force.

Additionally, when multiple trades are assigned to work in the same area, the probability of interferences rise and production may be reduced all amount to labour turnover in the construction industry.

Interference among the various crews and labour is due to mismanagement on construction sites. For example, a steel-fixtured crew has to wait before fixing the reinforcement rods if the carpenter's framework is incomplete. The types of activities and construction methods also influence labour productivity in construction industry (Sanders and Thomas, 1991).

iv. Poor safety in Construction Industry:

Accidents have high impact on labour force so far as production is concerned. Various accident types occur at the sites, such as an accident causing death and resulting in a total work stoppage for a number of days. An accident that causes an injured person to be hospitalized results in a work decrease of the crew for which the injured employee worked. These situations normally put fear in the

labourers in the industry. Small accidents resulting from nails and steel wire can stop work and thus, decrease production (Sanders and Thomas, 1991). Even insufficient lighting shows decrease production because sufficient lighting is required to work efficiently and because insufficient lighting has negative effects. This implies workers sustain injury at all time on the site. Employing a safety officer helps labourers to recognize the required safety regulations and follow them, which can reduce the number of accidents, thus increasing production in construction industry prevent change of their work environment.

v. Poor Quality Work in Construction Industry:

Inefficiency of labour force, tools/equipment and poor quality of the raw material are factors which cause low production. The frequent change of skilled labour rate has inefficient production in construction industry. Old equipment is subjected to a great number of breakdowns, and takes long time for workers to complete any operation, thus reducing production in construction industry. Poor-quality material used for work is the other factor because poor materials or cheap craftsmen generally lead to unsatisfactory work and can be rejected by supervisors, thus reducing the production in construction industry and also damaging the image of the company.

vi. Poor Managerial Factors:

Manager's skills and attitudes have a crucial bearing on labour force in organization. In many organizations, work force is low even though the latest technology and trained manpower are made available.

Increasing work force turnover is because of inefficient and indifferent management. Experience and committed managers can obtain surprising results from average people/craftsmen. Employee's job performance depends on their ability and willingness to work. Management is the catalyst to create both. Advanced technology requires knowledgeable labourers who, in turn, work productively under professionally qualified managers. It is only through sound management that optimum utilization of human capital and technical resources can be secured. However, this can be achieved by giving in-service training, allowing further training from sister industry, short period training from professional-related institution etc. to prevent frequent change of skilled labour so far as they need to improve upon their performance.

vii. Inefficiency Manpower Group:

Literature shows that a lack of labour experience is the factor which negatively affect skilled labour production, labour play a significant role. Contractors should have sufficiently skilled labourers employed to be productive. If skilled labour is unavailable and a contractor is required to complete specific task with less-skilled labourer, it is possible that productivity will be affected. The absence of any crew member may impact the crew's production rate because workers will, typically be unable to accomplish the same production rate with fewer resources and with different crew members. Misunderstanding among labourers creates disagreements about responsibilities and the work bounds of each labourer, which leads to a lot of work mistakes and decrease labourer production. Lack of compensation and increase labourer age negative because labour productivity

because labour speed, agility and strength decline over time and reduce productivity (Heizer and Render, 1990).

viii. Lack of Motivation:

Motivation is one of the important factors causing construction labour productivity. Motivation can best be accomplished when labor personal ambitions are similar to those of the company. Factors such as payment delay, a lack of a financial motivation system, non-provision of proper transportation, and a lack of training sessions are grouped in this topic (Decezo and Holviak, 1990). In some circumstances, all these aforementioned factors cause skilled labour or craftsmen frequent change of job place from industry to industry.

ix. Strict Supervision:

Generally, projects come across some design, drawings and specifications during construction. If drawings or specifications are with errors and unclear production is expected to decrease since labourers in the field are uncertain about what needs to be done. As a result, tasks may be delayed, or have to be completely stopped and postponed until clear instructions are given. There is a thirty percent loss of production when work changes are being performed (Thomas et al, 1999). Work inspection by the supervisor is an essential process to proceed. For example, the contractor cannot cast concrete before an inspection of the formwork and steel work, thus affecting labour production (Zakeri et al, 1996). With non-completion of the required work according to the specifications and drawings, supervisors may ask for the rework or double handling of a specific task, this in turn tends to impose obsolescence fatigue upon the workers.

Supervisor's absenteeism stops the work totally for activities that require their attendance, such as casting concrete and backfilling, further delaying inspection of the completed work which, in turn leads to delays in starting new work due to strict command from supervisor in the construction industry.

x. Lack of Material/Tools:

Material management is one of the most important factors in construction industry. Production can be paused if required materials, tools or construction equipment for the specific are not available at the correct location and time. Selection of the appropriate type and size of construction equipment often affects the required amount of time it is, therefore, essential for site managers to be familiar with the characteristics of the major types of equipment most commonly used in construction industry. In order to increase job site production, it is beneficial to select equipment with the proper properties and a size most suitable for the work conditions at a construction industry.

Labourers require a minimum number of tools and equipment to work effectively to complete the assigned task. If improper tools or equipment is provided, production may be affected (Alum and Lim, 1995; Guhathakurta and Yates, 1993). The size of the construction site and the material storage location has a significant impact on construction industry because labourers require extra time to move required material from inappropriate storage location thus resulting in production loss (Sanders and Thomas, 1991).

xi. Improper project management:

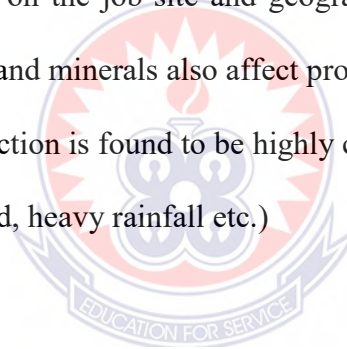
Improper schedule of work, shortage of critical technical skilled labour and construction equipment/tools, may result in loss of production. Improper

planning of project initiation production. Improper planning of project-initiation procedures generally lead to lost labour force. Additionally, poor site layout can contribute to a loss of production. Labourers have to walk or drive a long way to lunch rooms, rest areas, washrooms, entrances and exits affecting overall production (Association for the Advancement of Cost Engineering (AACE) International Recommended Practice No. 25R-03, 2004)

xii. Natural Factor:

Various natural factors causing frequent change skilled labour force has perfect effect on production in construction industry, collected from previous study are weather conditions on the job-site and geographical conditions. Others factors such as fuel, water and minerals also affect production to certain extent.

Construction production is found to be highly caused if weather recorded are too be extreme (too cold, heavy rainfall etc.)



xiii. External Factor:

The workers in the industry interacts with other workers from their company, how the management is handling them in their so far as the welfare, wages, motivations, leaves issue are handle well in their living in the industry. But this is not so in the other company affect eh frequent skilled labour turnover to seek for good conditions. Weather conditions also are all significant factors to conditions also are all significant factor to consider for completion of any construction project. Frequent labour replace and adverse winter weather such as winds and rains, reduces production, particularly for external work such as formwork, T-shape work, concrete casting, external plastering external painting

and external filling. Adverse frequent labour change, weather sometimes stops the work totally (Sanders and Thomas, 1991).

xiv. Political Factors:

Law and order, stability of government, etc. are essential for high frequent skilled labour movement in the construction industry. The government's taxation policies sometimes influence willingness to work or expansion of plants depends on the individual construction industry. (A. Kumar, as cited in Desai, 2004).

2.3 Identification of Possible Factors Causing Frequent Change of Skilled

Labour Force in Building Construction Industry

Based upon the Literature Review, this study extracts various factors affecting labour force in construction industry from the previous research studies. Some similar factors were merged together, and some new factors were added. They are arranged on general criteria workforce characteristics factors, management factors, site and resources management factor, project characteristics factors, external characteristic factors.

2.4 Negative Factors Causing Construction Industry-Frequent Change of Skilled

Labour Force

Quickly identifiable problems in the movement or recruitment of skilled craftspeople include low wages, no clear cut career path, and a continuing diminishing craftspeople skilled training programme. Low wages is a major reason the construction industry is having problems retaining skilled labourers. There seems to be a lack of image and

well defined career path in the construction industry. In a recent survey of high school student by the national business employment weekly „construction worker“ came in number two hundred and forty seven out of a possible two hundred and fifty as an attractive career option (Eickmann, 2011).

Today’s young people see construction work as uninteresting work and unattractive for variety of reasons, not limited to being dirty, physical challenging, moving around to work and often dangerous resulting in many young people opting to pursue other careers. Once a worker reaches journey man status, which is normally around age thirty, he has his salary set for life. For example a skilled welder with ten years of experience typically makes \$17.00 to \$18.00 per hour. So, attrition from the industry usually begins around age of thirty-five. They drop out and do something different (Tucker, 2001).

2.5 Lack of On-Job Training

There has also been a decrease in training by the unions/construction industry. The unions have moved their efforts from improving their training programs and identifying the difference in performance to having owners specify labour agreements where craftspeople used by contractors are union trained. Job training has been traditionally handled by the trade unions in the construction industry. Several solutions have been used to alleviate the problem of skilled labour shortages in construction industry. These include increased wages and other incentives such as guaranteed overtime, implementation of training incentives, employing foreign labour or even outsourcing construction work to foreign sources, and reduction of demand through automation and technology (Pappas, 2004). However, such measures are

difficult to sustain unless backed up by long-term strategy to support them. Other studies focused on the apprenticeships and new approach to learning that could address skills shortages or movement and also transforming corporate performance in construction industry.

2.6 Lack of Apprenticeship

By definition, an apprenticeship represents a combination of on the job training and related instruction in which workers learn the practical and theoretical aspects of a highly skilled occupation (Allardyce and NeNamara, 2005). The office of Apprenticeship Training, Employer and Labour Services (OATELS) set quality standards for all apprenticeship programs registered with the federal government. It requires that all registered apprenticeship include at least one year (2,000 work hours) of on-the-job training and at least 144 hours of formal instruction. Apprentices completing the apprenticeship programs registered with federal and/or state governments will receive a certificate upon the completion of training. A federally registered apprenticeship is recognized across the nation and can be used in getting a journeyman's card in any participating in construction industry. Construction apprenticeships generally take two to five years to complete, depending on the occupation. The apprenticeship requires five years for electricians, four years for carpenters, sheet metal workers and mill wright workers and three years for painters, dry wall tapers and bricklayers. Some of apprentices see it these days to be too cumbersome because the frequent movement of labour force from the one construction industry to another industry. For a general construction labourer, the apprenticeships generally require only two years to fulfill the requirement.

Furthermore, if the apprentice receives a certificate for completing the training, he or she can also receive a journeyman card from their respective national union organisations and construction industries. With a journey man's card, worker can find work anywhere in the nation, region and municipal in that particular occupation. Though many apprenticeship programs have adopted a philosophy of 100 percent acceptance to the programs, they still must place some minimum requirements on eligible applicants to ensure people are truly interested in construction trades and industries. Some training providers set stricter requirements by asking applicants to provide proof of eligibility of work or requiring applicants to take an entrance examination on their reading or mathematic skills. These entire situation imposing embarrassment to some of the workers to take French leave form newly company found to move to another construction industry.

Several construction industries also enforce zero-tolerance drug policies by requiring workers to pass a drug test and by conducting periodic drug testing to ensure the safety and health of workers for their member contractors causing skilled labour movement in the construction industry. For union-organised workers training, the policies can be slightly more stringent (Allardyce and Mc Namara, 2005). Often time workers are brought into the training program on "as needed" basis. The number of workers brought in depends on the work available at the time. Some construction industries adopt a policy of "pre-training to ensure that workers are suitable for construction careers. Of course, workers enter many construction jobs with no formal classrooms training after high school. Workers starting immediately after high school can enter the construction trades occupation as labourers, helpers or craftsmen. For those who come with the background of technical or vocational school they typically

progress at a somewhat faster pace than workers who have only a high school degree because the technical or vocational program graduation already have had some of the necessary courses in mathematics or mechanical drawing that help them succeed in higher skill trades occupations. Through the training or employer-provided training, entry level workers can enhance their skills by working with more experienced workers and moving on to perform more highly skilled occupation. These works/and other training also typically require classroom training in math and drafting. With additional education and training, skilled crafts workers can also advance to supervisor or superintendent positions through more advanced training and apprenticeship programs. Participating in apprentice training allows young people who have no experiences in construction to learn the specific trades' skills. The benefit to the firm, construction industry, and skilled labourers is that these workers have the credentials and capability to complete quality construction works.

Construction companies that provide their own workers are primarily contractors that are in the business of building construction industry, highway construction and tunnel construction and specially trades in carpentry, masonry, plumbing and electrical work. In addition to apprentice training, local community colleges and vocational school also provide other venues for people who are interested in entering construction or upgrading their skills by taking course related to building and construction trades. Several community colleges within the state region and municipal offer apprentice training, mostly working with union or non-union training providers to complement formal related instruction. In these cases, the community colleges provide formal related training, either on or off-campus while the trade unions or contractor

association conduct on the completed by craftsmen for certification for the construction industry.

2.7 Factor Causing Production

Construction is generally labour-intensive and this is particularly the case in countries such as Ghana, South Africa, Nigeria (CIDB, 2004).

Historically, the construction industry has largely relied on a core highly skilled staff (generally white and often expatriate) to supervise a largely semi-skilled and unskilled workforce (general black). The decline in demand for construction products over the past decades and associated uncertainty, has seen a reduction in skills training since the 1980s and the closing down of industry training institutions in the 1990s. some of the possible factors such as accidents, payment delays, rework, working at high places, construction method shortage of materials, labour personal problem etc. It has been reported that only about seventy percent of the available training capacity is currently being utilized. A high standard of quality in major engineering and commercial projects is largely reliant on an ageing skills base. Much of the construction industries activity however relies on a semi-skilled workforce, with increasingly less able supervision. This often manifests in slow delivery, significant rework to rectify defects and associated materials waste that is built into the tendering and construction costs.

According to (Coulson-Thomas, 2007) construction companies or firms should adopt new ways of developing key workgroups. “A change of direction is urgently required. New ways of harnessing human potential and enabling excellence can deliver both commercial success and personal fulfillment.” Professor believes. “Skill challenges

faced by construction companies or firms can be addressed. Critical success factors have been identified in key areas and winning ways of undertaking activities vital for corporate success. Pioneering companies build the critical success factors into how people work, make it easier for them to undertake complex construction tasks, and enable them to emulate the approaches of high performance in construction industry. According to professor, “The right support can build confidence, increase skills and transform performance in construction industry. The implication for a wide range of construction organizations is profound. If the winning ways of high performer in construction industry can be captured and emulated by other developing and retaining superstars” skilled labour become hugely important”. He argued for a switch of priorities that “Training and development is focused upon bringing poor performers up to speed in marginal areas. The emphasis should be upon encouraging people to build upon natural strengths and excel at what they do best and must enjoy. Industrialists are too often focused upon the disruptive and a social engineering agenda rather than the pursuit of excellence and the encouragement of superstars” craftsmen whose superior approaches and discoveries could benefit the construction industries.

2.8 Lack of Incentives/Rewards

Wages provide a marginal measure of the production ability of workers, which is the value placed on a worker's ability to convert mental or physical effort into production output in construction industry. The relative wage rises provide an incentive for workers to enter or re-enter the occupation. If the relative wage differential is maintained, for longer term, it will provide encouragement for workers to train in the area and enter the occupation.

Incentives are usually defined as tangible rewards that are given to those who perform at a given level. Such rewards may be available to workers, supervisors or if possible to the top managers. Whether the incentive is linked directly to such items as safety, quality, the reward follows successful performance sometimes in organization like construction industries or firms where manual labour force demand most. Many construction companies feel that pocket money merely reward good motivators. Some companies merely reward good workers with an extra day-off with pay. Other concerns reward top performer with better working conditions.

Where in construction industries or manual labour force demand, this situation is not experienced workers feel not motivated to do good work. They also feel they are only working for the owner contractors. This frequently leads to skilled labour turnover from one job place to another industry. Construction companies must have an innovative retention and reward strategy that goes beyond the usual pay-base schemes. Good pay is important but not the answer to itself. There is a new workplace or industry money that motivates people to stay and it involves everything but pay (Harraway, 2007). Good retention strategies go much deeper into the human psyche and involve actions and attitudes that make employees feel successful, secure and appreciated. “Globally, the best companies to work for do not pay the best salaries,” “it is little thing that count”. Values are changing and a balanced life is becoming just as important as a fat salary. People want to be challenged on daily basis and they want to learn and grow. Yet different things motivate individuals, depending, on their age, status and career goals, so reward strategies must be tailored to the employee. Overall, the reward should address compensation, benefits, recognition and appreciation. A “total reward package” blends monetary rewards (such as base salary, short-and-long-

term incentives, cash and health, welfare and retirement benefits) with non-monetary rewards (such as non-monetary recognition, a good working environment, and training and development). Remuneration and performance management in construction are business issues, not only human resources issues. “Decision regarding remuneration and performance management in construction will have a direct effect on constructional business profitability, operational expenditure, and company culture and employee/worker behaviour”.

An effective strategy incorporates in construction industry must be clearly defined goals and a well-defined link to construction business objectives; well designed, consistent pay and reward programmes, tailored to the needs to the construction organisation and its people, and effective, supportive reward processes. Harroway, (2007) warned that the communication in construction of a rewards strategy is as important as its design. “A poor benefits plan communicated well is better than the best strategy communicate poorly”. As a retention mechanism and a performance driver, long-term incentive schemes for a key component of executive pay. At executive level in particular, the balance between short-and-long term incentives must be well structure. short-term incentives can instantly pop up performance and encourage people/workers to develop more skills or change their behaviour. Those instant rewards can also encourage the desired behaviour, attract and retain the best talent, reward people for going the extra mile in construction industry.

2.9 Factors Causing Frequent Skilled Labour Job Place from one Industry

Table 2.1. Show some of the possible factors causing frequent skilled labour movement in building construction industry collected form past study and literature

review. It does take into consideration significant value and they are arranged in alphabetic order.

| Serial | Factors causing frequent labour movement from one construction industry |
|---------------|--|
| 1 | Disturbance |
| 2 | Accident |
| 3 | Construction |
| 4 | Drawing and specification alternated during execution |
| 5 | Government regulation |
| 6 | inefficiency of equipment |
| 7 | Inspection delay |
| 8 | Insufficient transportation mean |
| 9 | Insufficient lighting system |
| 10 | Labour absenteeism |
| 11 | Labour disloyalty |
| 12 | Lack of competition |
| 13 | Lack of financial motivation system |
| 14 | Lack of labour experience |
| 15 | Lack of periodic meeting with labour |
| 16 | Labour personal problems |
| 17 | Lack of place of eating and relaxation |
| 18 | Lack of training sessions |
| 19 | Low quality of raw material |
| 20 | Frequent material shortage |
| 21 | Misunderstanding among labourers |
| 22 | Misunderstanding between labourers and superintendents |
| 23 | Misuse of time schedule |
| 24 | Payment delays |
| 25 | Rework/double handling |
| 26 | Supervisors' absenteeism |
| 27 | Tools and equipments shortage |
| 28 | Worry activities in the project |
| 29 | Unsuitability of materials storage location |
| 30 | Violation of safety precautions |
| 31 | Political factors |
| 32 | Weather change |
| 33 | Working at high places/dangerous area |
| 34 | Excessive working overtime |
| 35 | Economic conditions |

Source: (Rojas et.al 2003)

2.10. Study on Causes and Effects of Employee Turnover in Construction

Industry

According to International Journal of Science and Research (IJRC), India 5, May 2015. The title of the Journal „Causes and Effects of employee turnover in construction industry“. With the result of globalization within the world, it has been touted that each organization can need to manage the employee turnover methodically. The construction industry faces major challenge within the higher turnover rate which might cause severe result within the overall work progress and also the price. To fulfill the essential requirements of requirements of giving a secure atmosphere, sensible pay associated in economic method is extremely troublesome and cumbersome to a corporation. The accomplishment procedure ethic the construction industry is not therefore encouraging, construction firms should improve their strategies of holding their managers and engineering supervisors. A culture of quality has emerged within the trade that has and workforce of company mercenaries that without emotion drift form job to job to retain staff is also fruitful, by creating the professionals additional productive. Thus, the migration of the project managers/ engineers is a vital issue to be thought of and handled carefully, for the made completion of the development comes with the expected economic process. It is additionally found that the majority of the available retention studies are carried out in other developed countries, so within the present study if is projected to hold out analysis to spot the factors that influence the migration of the staff within the prevailing work atmosphere within the construction firms in Kerala also the study suggest the retention measure for the engineers.

2.10.1 Causes of Employee Turnover

A) Perceived Alternative Employment

Opportunity perceived alternative employment chance, conjointly referred to as perceived easy movement, is that the perception of the provision of job alternative. This perception is an uncontrollable issue as a result of it is closely related to the external percentage and it reveals the significant relationship between convenience of jobs and voluntary turnover. In addition to the market condition, academic background could have an effect on the perception too. The personnel with higher academic background perceived additional employment opportunities. Higher educated personnel could take into account their qualification as a competitive advantage over less educated personnel by having additional choices of different positions.

B) Fringe Advantages

A fringe benefit is an indirect rewarding given to a worker or group of workers as a section of organizational membership, which affects performance and retention of workers. Benefit coming up with an important part of human resource coming up with process on account of huge prices and also the monetary commitment created for the long run.

C) Pay Satisfaction

Pay is something given in exchange for services rendered in a company. It has a vital role in holding gratifying prime quality workers however at the expense of the labour prices for any organization. There are two classes of pay coupled with job satisfaction; one is satisfaction with pay by itself and also the different, the prospect

of economic rewards within the future for employment performed well. There is a long interest of tow thing that re correlative with job satisfaction. Twenty percentages of the worker finding that the pay scale and also the remuneration supported the work are the important factors for the worker turnover.

D) Unionization

Employee movement is related to lower turnover. Lower turnover could be results of the power of unions to secure higher operating conditions therefore increasing the attractiveness for staff of staying in their current job. In keeping with employee, the link between lower turnover and establishment has been well established by researchers mistreatment each industry-level and individual knowledge. Establishment and higher operating condition will cut back turnover.

E) Career Promotion Satisfaction

All business use pay, promotion, bonuses or different kind of rewards to encourage high level of performance. Lack of promotion and mundane work task considerably contributed to employees" intention to go away a company. By adopting "job enrichment" programs, several employers were able to retain workers and supply higher career advancement opportunities. Besides promotion opportunities, ever-changing the choice and analysis criteria accustomed rate promotion and reward systems conjointly had a positive result on intentions of workers deed the organisations. Ineffective performance appraisal and coming up with systems contributed to employees. Perception of unfairness and that they were additional seemingly to thing about deed the organization. The people are desire to remain within the job which provide them the correct skilled opportunities.

F) Influence of Co-Worker

Co-workers intentions have major significant impact on all destination choices, the additional positive perception their co-workers want to go away, the way, the additional workers themselves wished to go away.

G) Job Satisfactory

Worker having job discontent leave the current leader addition simply. The link between job satisfactory and turnover is stronger once the time span between administration of the form and assessment of the turnover is shorter. Form this study most the workers are happy with their work place.



CHAPTER THREE

METHODOLOGY

3.1 Introduction

This study sought to assess the factors influencing the frequent change of jobs by skilled labour in the Berekum Municipality construction industry. This chapter covers a discussion of the methodology and the research design used for the study. It also defines the population, the sample and sampling technique as well as the instrument used in collecting data for the study also provides a discussion of how the data were collected and analyzed.

3.2 Research Design

The questionnaire – based survey method was used in of the study. It aims at establishing the status of the subject or phenomena under study.

The researcher employed this method because it deals with normal or typical conditions of managers of construction industry, owners, prevailing view points, attitudes and beliefs. It also aim at obtaining information that can be analyzed and find lasting solution for the construction industries (Fowler, 1993).

3.3 Population and Sampling

The target population or the study is made up of all skilled workers in registered construction firms in the Berekum Municipality. In all there are about one hundred and fifteen skilled workers in the six registered construction firms in the Berekum Municipality.

The study employs the convenience sampling technique to select the respondents for the study. In all about 80 skilled workers were selected to take part in the study. The selected respondents were made up of Artisans, site engineers, structured engineers, project managers and quantity surveyors.

3.4 Instrument for Data Collection

According to Fowler (1993), the research instruments and techniques used for collecting data should measure what is intended to measure. Due to this, the researcher used questionnaire and site survey to obtain the data.

Questionnaire was used because it was found to be appropriate when dealing with very large respondents for accurate data. The questionnaires were in five sections.

Section A sought to find about the age of the person and educational level

Section B sought to find about professional categories of respondents.

Section C wanted to know their physical construction environment.

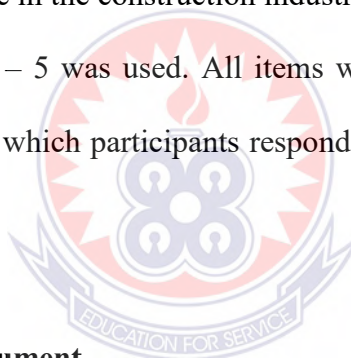
Section D, the respondents were given the opportunity to express their view on how the negative factors causing frequent change of the working places and the environment affect the productivity.

3.5 Data Collection

Questionnaires were the data collection instrument used to solicit for data for the study. The questionnaire is a systematically prepared document with a set of questions deliberately designed to elicit responses from respondents for the purpose of collecting data or information. (Knowles, 2003).

According to Knowles (2003), a questionnaire is a form of inquiry document, which contains a systematically compiled and well organized series of questions intended to elicit for information which will provide insight into the nature of the problem under study.

The questionnaire had a closed ended items which provide options for the respondent to choose rank and react to issues that are investigated. The questionnaire was divided into four sections. Section A, which deals with the bio data of respondents. Section B assesses the skilled labour requirement in the construction industry. Section C and Section D deals with the principal causes of frequent change of skilled labour and labour policy and practice in the construction industry respectively. A likert scale with scores in the range of 1 – 5 was used. All items were considered of approximately equal” attitude value” to which participants responded with intensity of agreement or disagreement.



3.6 Validity of the Instrument

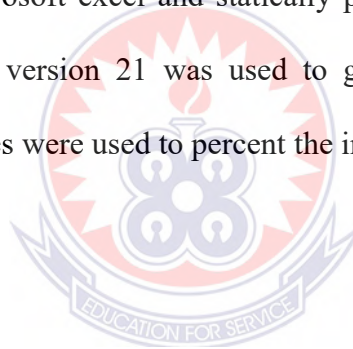
The study did not take into accounts the names and identities of respondents to give honest, valid and reliable answers to the questions that were used and this made the data collection valid and reliable. Comparisons of the various conclusions made by various studies were carefully examined. Questionnaires designed for collecting data was critically designed in line with the literature review. In order to enhance the degree of validity, various sources of evidence were necessary.

To minimize the possibility of the respondents not understanding the technology and layout of the questions, the questionnaire was piloted on seven skilled labour respondents. Based on their feedback, some alteration were varied out.

In conducting the research, the researcher observed the highest level of ethical consideration. All information were collected from the respondents out or their own freewill. The confidentiality of the information received and the anonymity of the respondents were protected. The information obtained from the respondents was used only for the research.

3.7 Data Analysis

Data Analysis consist of grouping, testing or recombining both qualitative and quantitative evidence collected to address the questions of the study. Tables with means and frequencies were the main tools used to analyze the data collected from respondents. Using Microsoft excel and statically package for social science (SPSS version 21). The SPSS version 21 was used to generate the frequencies and the percentages whiles Tables were used to percent the information.



CHAPTER FOUR

PRESENTATION, ANALYSIS AND DISCUSSION OF RESULTS

4.1 Introduction

This chapter presents the results and discussions of the data collected from respondents. The results were obtained from the questionnaires distributed to respondents. Tables and figures were used to present the results after the data have been analyzed using Statistical Package for Social Science (SPSS version 21).

Demographic characteristics of respondents

In assessing the causes of skilled labor turnover, the demographic features of the respondents were studied as shown in Table 4.1

Table 4.1 demographic profile of respondents

| | n | % |
|-------------------------------|----|------|
| Gender | | |
| Male | 60 | 75% |
| Female | 20 | 25% |
| Age | | |
| Below 20 | 14 | 17.5 |
| 20 -30 years | 30 | 37.5 |
| 31 – 40 years | 26 | 32.5 |
| 41+ | 10 | 12.5 |
| Educational background | | |
| MscI | 1 | 1.3 |
| JHS | 43 | 53.8 |
| SEC/TECH | 16 | 20.0 |
| University/poly | 20 | 25.0 |
| Work experience | | |
| 9 years and below | 23 | 28.8 |
| 10 – 15 years | 25 | 31.3 |
| 16 – 20yrs | 13 | 16.3 |
| 21 years and above. | 7 | 8.8 |
| Work sector | | |
| Public | 35 | 43.8 |
| Private | 45 | 56.3 |

Presented in Table 4.1 is the demographic characteristics of the responding participants for the study. The outcome indicates that, of the 80 respondents, 60 being 75% were male participants whereas 25% were females. This suggested the male dominance in construction industry. The age of the participants who were below 20 years constituted about 17.5%. Majority 70% of the respondents were those who aged between 20 years and 40 years. A little more than one – tenth (12.5%) were respondents who were 41 years and older.

Majority (53%) of the respondents reported to hold a Basic school certificate. However, 20% and 25% of the respondents reported to either holds a second cycle school certificate or a university degree respectively. In their work experience in the construction industry, 23 being 29% reported to working in the construction industry either 9 years or below. Majority 40 being 50% were those with working experience between 10 years and 20 years. However, 17 representing 30% reported to have worked more than 20 years in the construction industry. This suggest that, the respondents had experience in the construction industry and were more likely to provide the necessary information needed for this study. On the sector of the construction firms, Table 4.1 indicates that 35 being 44% were public construction firms whereas 45 also being 56% were private sector construction firms. This suggest that, information that would be provided will be distributed squarely among the two sector of employment.

The category of construction firms in the Berekum Municipality was also assessed and presented in Figure 4.1

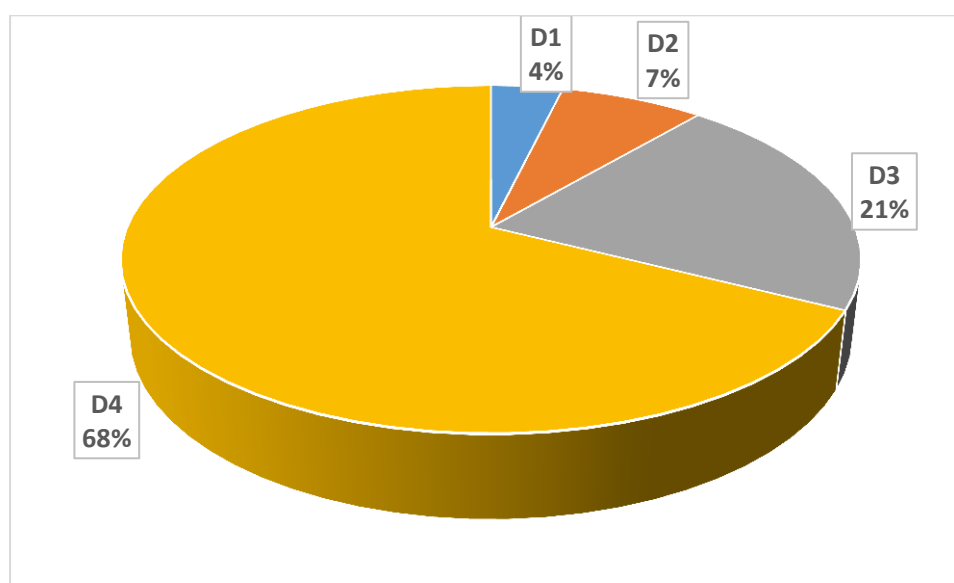


Figure 4.1: Construction firms category in the Berekum Municipality.

Presented in Figure 4.1 is the construction firm's category in the Berekum Municipality. The information presented in Figure 4.1 indicates that 3 firms being 4% were registered under the D1 category of the construction firm's registration. Again 6 of the firms representing 7% were D2 registered firms. The D3 and D4 registered construction firms amounted to 17 and 54 being 21% and 54% respectively. This suggests that, majority of the construction firms in the Berekum Municipality were small scale construction firms.

4.2.1 Conditions of skilled labour in the construction firms in Berekum Municipality

In quest to unveil the frequent change of skilled labour in the construction industry, the researcher investigated into the current condition of the workers in the industry. The result is presented in Table 4.2.

Table 4.2: condition of construction skilled workers in Berekum Municipality

| | agree | Undecided | disagree | mean | SD | Rank |
|--|-----------|-----------|-----------|------|------|------------------|
| Workers have a day or 2 off duties | 67 (83.8) | 0 (0.0) | 13 (16.2) | 2.68 | .742 | 1 ST |
| Incentives are paid in case of eventuality | 56 (70.0) | 13 (16.2) | 11 (13.8) | 2.56 | .726 | 2 ND |
| Workers are physically well | 52 (65.0) | 13 (16.2) | 15 (18.8) | 2.46 | .795 | 3 RD |
| Workers understands measurements | 49 (61.3) | 18 (22.5) | 13 (16.2) | 2.45 | .761 | 4 TH |
| Workers are employed from the locality | 50 (62.4) | 15 (18.8) | 15 (18.8) | 2.44 | .793 | 5 TH |
| Workers can speak and write | 40 (50.0) | 12 (15.0) | 28 (35.0) | 2.15 | .915 | 6 TH |
| Workers are considered in decision making | 36 (45.0) | 6 (7.5) | 38 (47.5) | 1.98 | .968 | 7 TH |
| The workers are SSNIT contributors | 35 (43.8) | 0 (0.0) | 45 (56.2) | 1.88 | .998 | 8 TH |
| The workers hold the requisite qualification | 29 (36.2) | 10 (12.5) | 41 (51.3) | 1.85 | .929 | 9 TH |
| Workers are given reasonable remuneration | 27 (33.8) | 7 (8.8) | 46 (57.4) | 1.76 | .931 | 10 TH |

The current conditions of skilled labour in the construction firms in the Berekum Municipality is presented in Table 4.2. The outcome revealed that, majority (67%) of the respondents agreed that skilled workers in the construction firms were given at least a day or 2 days off duties of their work schedule. This was to enable them to rest to regain their lost energy after previous day's hard work. Again since the construction work demands physical fitness, it was prudent to give a day or two off duties to workers for their relaxation. This was in line with Ginther, (1993) who argues that, taking some days off duty in the construction industry, helps the workers to maintain efficiency and also help them to work effectively. Adrian, (1987) also confirmed that, when a workers were given off duties, it refreshes their minds and therefore maximizes their productivity when they resume work. Furthermore, more than half (70%) of the respondents agreed that, management pays incentives to victims of any eventuality. However, the respondents were quick to report that, there were no stipulated cost or incentives for any particular eventuality. Management only decide when the unforeseen happens. As a result most at times victims of such eventualities suffer severely for lack of commitment by the firm management. Victims would have to move up and down to settle most financial bills. Eventhough,

incentives were reported been paid, in case of any eventualities it was always not sufficient. Most victims were sometimes left on their own feet after the management had done their part. Especially when there was improper insurance commitment.

Moreover, it was reported the physical condition ($M = 4.30$) of workers were good. Since the construction work demands hard work, it was prudent to ascertain the physical wellbeing of the workers. This again confirms Hanna and Heale, (1994) that the ease of progress of most construction works depends on the physical wellbeing of the workers. He continues to state that being physically well gives you the zeal to increase productivity with time. However, Hinze, (1999) disagrees. He argues that the physical wellbeing of the construction worker do not determine his/her output, rather their health. He opined that, a worker was more likely to put up his/her best if he was medically well.

Olomolaiye et al (1998) opined that, skilled construction workers must understand specifications and measurements in order to detect and approve correct construction works. This study confirms their notion. Table 4.2 reports that more than half (61%) of the skilled labor understood measurements. As a result they could detect improper specification and also could work under less supervision. Workers only work to measurements and specifications given by reading from what was sanctioned by contractors and consultants.

Again the information in Table 4.2 indicates that about 50% of the construction workers were employed from the locality. This was because, most firms employs casual workers and therefore was prudent to employ workers in the community to cut

transportation cost and other benefits that might go against the firm. Workers employed from the locality also help to reduce the cost of labour.

Furthermore, it was revealed from Table 4.2 that, about half (50%) of the construction workers could speak and write. This suggests that they could make up for errors in most construction designs and other stipulated specification. Construction workers ability to speak and write helps to reduce shoddy work and also delays in completion of certain construction projects.

This concludes and affirms Sanders and Thomas, (1991) who opined that construction workers ability to read and write helps in expedite of various construction projects.

Moreover, about 46 being 57% reported that numeration given to construction workers were insufficient. They continue that, because most of the construction firms were small scaled firms, their financial status were not good enough to support many of the workers hence they employ most casual workers and therefore the numeration given to such workers were sometimes lower than Government sanctioned minimum wage. This suggests that the condition of workers as far as numeration was concerned was unfavorable.

4.2.2 Situations contain on site that have influence on turnover of work.

The recent skilled labour turnover in the construction firms in the Berekum Municipality, has compelled the researcher to assess the situations contain on site that have influence on turnover of work at the construction firms. The respondents were required to state their level of agreement to the understudied policies and practices in their firms (Table 4.3).

Table 4.3: Situations contain on site that influences turnover of work.

| | Strongly agree or agree | Strongly disagree or disagree | Mean | ranking |
|--|-------------------------|-------------------------------|------|---------|
| There are proper lightening system for night work | 75.0 | 25.0 | 4.18 | 1 |
| There are backup generators for administrative works | 64.0 | 36.0 | 4.00 | 2 |
| Workers are transported in a bus | 61.0 | 39.0 | 3.88 | 3 |
| Audio aids are provided to workers | 52.0 | 48.0 | 3.80 | 4 |
| Firms layout are self directives | 35.0 | 65.0 | 3.53 | 5 |
| Safety precaution charts are designed | 43.0 | 57.0 | 3.50 | 6 |
| Safety appliances are supplied to workers | 55.0 | 45.0 | 3.30 | 7 |
| Spoilt accessories are purchased promptly | 36.0 | 64.0 | 2.99 | 8 |

Table 4.3 presents circumstances that persuades turnover of work in the construction firms in the Berekum Municipality. Respondents attested to the situations at the various construction firms in the Municipality.

Exactly 3 out of 4 (75%) of the respondents either agree or strongly agree that, there were proper lightning systems at various construction firms. This makes it possible for work to done at night. It was prudent to note that, even though construction firms in the municipality were classified as small scaled, almost all of them were capable of working at night due to their proper lightning systems. Furthermore, more than half (64%) reported that, with the recent power allotment, firms have backup generators for administrative works. This confirms the construction firm's response to proper lightning system. Harraway (2007) suggested a reputable construction firm needs a very good and strong lightning system to enhance night works and also administrative works. He continues that, the administrative works were halted by the absence of power which also affects the daily activities of the firm.

Moreover, it was revealed from Table 4.4 that workers were transported in a bus. This evident from the fact that, about 61% of the respondents strongly agreed to workers being transported in company buses. Transporting workers in a company bus help

ease workers burden of having to always struggle with other passengers boarding commercial vehicle. Again it helps workers to be on duty on time which helps the progress of the firm.

Furthermore, a little more than half (52%) of the respondents strongly agreed that audio aides were provided to skilled workers however, about 48% disagree to this assertion. This was because, most firms hardly provide audio aides and even protective and safety materials to the workers. The respondents attested to they have to purchase themselves in case they need one. However, some workers reported that, audio aides and other safety materials were provided though not regularly but were not used by the workers. The reason being that, they were uncomfortable to use. Others complain it looks bossy on them.

Similarly, more than 3 out 5 (65%) were of the view that various firms in the Berekum Municipality were not self directive for easy access and for that matter, getting access to such firms were difficult. Visitors and customers struggle enough before finding access to these firms.

Comparatively, about 55% of the respondents either agreed or strongly agreed to safety appliances been supplied to workers. It was established that safety appliances such as, helmet, safety boots, goggle and overalls were supplied however, workers barely use them. They prefer to use their normal “working gear” than those safety materials. This was because the workers felt uncomfortable using them also some thought using such equipment was foreign.

Finally, it was a practice that spoilt accessories were not purchased in time and promptly. This was evident from the fact that, about 64% of the respondents exposed their disagreement that, spoilt accessories were purchased promptly. Delays in purchasing spoilt accessories halt a project since the accessories were needed to fix a machine for an efficient and effective delivery.

4.3 Causes of Frequent Change of Skilled Labour in the Construction Industry

The researcher has noticed with keen the recent changed of construction firms of some skilled labor. This researcher therefore investigated into factors that contributes to skilled labour turnover in the construction industry in the Berekum Municipality.

The outcome is display in Table 4.4

Table 4.4 Factors causing skilled labour turnover.

| Skilled labour turnover factors | Mean | SD | Ranking |
|---|------|-------|------------------|
| Payment delay | 4.25 | 1.336 | 1 st |
| Wages and salaries | 4.20 | 1.046 | 2 nd |
| Disturbances | 4.00 | 1.144 | 3 rd |
| Labour personal problem | 3.93 | 1.178 | 4 th |
| Misunderstanding between workers and management | 3.81 | 1.527 | 5 th |
| Inefficient equipment | 3.75 | 1.079 | 6 th |
| Lack of training session | 3.64 | 1.271 | 7 th |
| Rampant accidents | 3.55 | 1.280 | 8 th |
| Working at heights | 3.52 | 1.354 | 9 th |
| Misunderstanding between laborers | 3.50 | 1.436 | 10 th |
| Harsh weather | 3.45 | 1.409 | 11 th |

The factors that accounts for construction skilled labour turnover in the Berekum Municipality is presented in Table 4.4.

The respondents underscored about eleven factors that accounts for construction skilled labour turnover. Eventhough the respondents attested to about eleven factors, they attached priority to the factors. For instance payment delay (M = 4.25) was considered the most concerned factor of skilled labour turnover in the Berekum

Municipality. They reported that most at times after completion of an assigned job, the remuneration due them was delayed. In some cases such amounts were not even paid. When payment delays, skilled workers turn to look for other opportunities elsewhere, where the situation of payment was better than what they were experiencing. This assertion confirms Yao (2009) who opined that, insufficient wages and subsequent delays in payment of workers was a key factor to workers turnover. He continue to explain that, workers priority was to earn some money after a work done. Therefore if what was due them were not honored in time, they tend to look for opportunities elsewhere.

Furthermore, wages and salaries (M=4.20) was also reported among the major contributing factors that contributes to labour turnover. Most workers changed their firm of work and even their sector of work due to some unfavorable wages and salaries regulations. Workers in the government sector would leave for the private sector if salary conditions were not in their favor. Again the condition of services in the private firms if not favorable would compel skilled workers to change their firm of work to the other. (Eickmann, 2011). Confirms this assertion. He opined that, there is always competition between workers in various sectors of employment and therefore if a government policy or regulations does not favor some group of workers, they tend to change work places for the better.

Again Disturbances (M= 4.00) was also reported among the factors contributing to skilled workers turnover. This was because a worker needs utmost free mind to discharge his or her duties. Workers tend to make mistakes when they have divided

mind. Therefore they tend to look for other means elsewhere when their comfortability is assured.

Moreover, skilled workers may have their personal problems such as insufficient financial problems, marital problems among others. When these problems become unbearable, it paves way for them to try to change work in their quest to find solutions to their personal problems. Tucker (2001) argues that there were individual problems which affects the progress of work output. He suggested that management should make it a point to always counsel workers so achieve high work output.

Furthermore, Table 4.3 reveals that inefficient equipment ($M= 3.75$) also contributes to skilled workers turnover. Skilled workers need to work effectively with all the needed equipment. Their work was incomplete even if they have the needed number of equipment but they are inefficient. Inefficient equipment makes their job difficult and tends to always delay their work schedule. Workers therefore leave firms with such incompetency for others where such challenges could be better.

Zakeri et al, (1996.) and Pappas (2004) found that constant training for workers boost their skills and knowledge. Pappas (2004) opined that regular training for workers increases their confidence of work which subsequently increases productivity. This was in line with the revelation from Table 4.3 which reveals that lack of training session ($M= 3.64$) was a major contributing factor for skilled labor turn over. Workers remain stack in whatever they know already when there were no constant training. They therefore lack the confidence to complete with their

counterparts in other firms. As a result they leave their firms to other firms where they could be updated on the current technological ways of working.

Again, rampant accidents ($M = 3.52$) was also reported among major contributing factors of the recent skilled labour turnover. It was revealed in Table 4.3 that skilled labor were most likely to leave their firm for different one when there was rampant accidents at sites. This was because accidents which could lead to deformity of victims and even eventual death scares workers. Accidents could be attributed lack of supervision or unstandardized tools and equipment and even inefficient machines. As a result workers leave for the sake of their lives. Manu (2008) confirms accidents at construction sites was a major cause of workers resignation. He stated that, in united Arab Emirate (UAE), one of the major criteria for firm registration was certificate was certificate of accident control on site. A firm was charged heavily if constant accidents were reported at their construction sites.

Finally, the least among the underscored factors were working at high heights ($M=3.50$), misunderstanding between labour (3.50) and harsh weather ($M=3.20$). these factors were least considered because, workers were likely to report to their supervisors if they were afraid of heights and the supervisors for the prevention of accidents any eventualities were prepared to grant such workers the benefit of doubt not to work at high places. The respondents therefore thought that even though working at high heights could cause a worker to leave a firm for different one, the responsibility beckons the worker.

Again, misunderstanding between workers could halt the progress of the project and therefore the Foreman or any other superior management member would do anything possible to settle matters arising between workers that could bring chaos at site. The workers involved were even fired if they paid no heed to the amicably settlement by the leaders of the firm for the sake of unity to bring high work output.

Finally harsh weather was determined by man. Therefore if the weather is considered harsh at one firm, the same was recorded at other firms in the same geographical area. Therefore a worker leaving from one workplace to the other due to harsh weather was highly impossible unless no protection aide were provided to protect against the harsh weather.



CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 Introduction

The rate at which Skilled workers leave one firm to the other is very alarming. This chapter presents the summary of the major findings, conclusion and recommendation.

5.2 Summary of the Findings

The earlier discussion has revealed numerous causes of skilled labour turnover in the Berekum Municipality. The major findings from the study include:

- Delays in payment of work done. Workers leave their firms for others as a result of late or non-honoring of payment due them for work accomplished.
- Furthermore, workers sustain various forms of injuries as a result of accidents were given incentives but the incentives were insufficient to solve their challenges. Incentives were hardly paid to accident victims in some of the firms.
- Again, skilled labor turnover in construction firms in the Berekum Municipality was as result of rampant accidents. Workers got scared of regular accidents that deforms victims and even cause their death. As a result they leave for a well-organized firm else where
- Moreover, the study revealed that inefficient equipment use at various firms also a major contributor of skilled labour turnover. Sometimes the equipment at the various firms were insufficient and inefficient. As a result it interferes in the efficiency of the work. Skilled workers tend to look for other opportunities elsewhere when such challenges persist.

- The study again exposed that lack of training at construction firms causes skilled labour turnover. When the workers have no access to training session in their perspective firms, they tend to look for such opportunity elsewhere where they can update their knowledge and refresh their minds.
- More so, the study has shown that all workers work to earn some numeration to earn a living. The amount of remuneration earned may determine ones commitment towards their job. Therefore skilled workers change place of work if the remuneration received at their firms were unfavorable.
- Additionally, regulations put up by the management of various construction firms also contributed to skilled labour turnover. Unfavorable regulation means workers turnover.
- Finally, time overrun, cost overrun, reduced profit, substandard work as well as waste of resources were the most important effects the study found.

5.3 Conclusion

Based on the abrupt of the foremost findings, the thriving conclusion remarks were underscored. The findings have showed that there were labour turnover in the construction firms in the Berekum Municipality. The study brought to light that, most labour turnover well as a result of various factors. Some firms provided audio aides to workers whereas most firms hardly provide these audio aides and other safety equipment. The few safety equipment supplied were hardly used by respective workers.

The major contributing factors of skilled labour turnover included: payment delays and non – honoring of payment certificate, non – payment of incentives to victims of any eventuality, lack of training session for workers and unreasonable remuneration.

The study therefore concludes that the alarming rate of skilled labour turnover in the Berekum Municipality would be reduced if the proposed recommendations were adhere to.

5.4 Recommendation

Based on the surmise, the following recommendations were made,

- ✓ Construction firm’s management should always see to it that payments were promptly made to workers after they have accomplish their work assign to them.
- ✓ Incentives should be given to victims of any eventuality without any discrimination.
- ✓ There should be regular supervision and provision of adequate and efficient equipment by the construction firms’ management to reduce the occurrence of accidents
- ✓ The Berekum Municipal Assembly should review their bye – laws on construction to include provision of accident control certificate before registering any construction firm in the municipality.
- ✓ Firm managers should provide new and efficient equipment for good progress of their project. Skilled workers should ensure that managers provide the requisite equipment before they commence any job.
- ✓ There should be a well – organized training session for all skilled workers in every firm to update the workers knowledge in their field of work.

5.5 Suggestion for Further Studies

It is the hope of the researcher that this research will be conducted on other Metropolitan, Municipal and District Assemblies (MMDAs) with larger sample size and unmitigated period of time to enable construction firms to accrue the benefits of putting up measures to check frequent skilled labour change job place.



REFERENCES

- Abdul Kadir, M.R. Lee, W. P. Jaafar, M. S. Spuan, S. M. & Ali, A. A. (2005). “Factors Affecting Construction Labour Productivity for Malaysian Residential Projects”. *Structure Survey*, 23(1), 42 – 54.
- Adrian, J. (1987). *Construction Productivity Improvement*. Elsevier Science Publishing Amsterdam, Netherlands.
- Alarcon, L. F. & Borcharding, J. D. (1991). “Quantitative Effects on Construction Productivity.” *The Construction Lawyer, American Bar Association*, 11(1), 35 – 48.
- Alinaitwe, H., Mwakali, J., & Hansson, B. (2005). *Labour Productivity in the Building Construction*, Proceedings of CIB 2006, W065/W055/W086 – Construction in the XXI Century Local and Global Challenges, October 2006, Rome, Italy.
- Allardyce, J. & McNamara, S., (2005). *A Workforce Needs Assessment of Arizona Construction Trades Industry*. Accra: Arlington.
- Al-Shahri, M. Assaf S. A., Atiyah S, & Abdul A., (2001). “The Management of Construction Company Overhead Costs.” *International Journal of Project Management*, 19, 295 – 303.
- Alum, J., & Lim, E.C. (1995). “Construction Productivity: Issues Encountered by Contractors in Singapore”. *International Journal of Project Management*, 13(1), 51 – 58.
- Association for the Advancement of Cost Engineering (AACE), International Recommended Practice No. 25R – 03 (2004). *Estimating Lost Labour Productivity in Construction Claims*.

- Bernstein, Harvey M., & Lemer, A. C. (1996). *Solving the Innovation Puzzle: Challenges Facing the U.S. Design and Construction Industry*, New York: 35, 1, 37 – 50.
- Bohrstedt, G. & Knoke, D. (1994). *Statistics for Social Data Analysis* (3rd ed.). F.E. Peacock Publishers, Inc., Itaska IL.
- Borcherding, J. D. Chang, L. –M., (1985). “Evaluation of Craftsman Questionnaire.” *Journal of Construction Engineering and Management*, 111(4), 426 – 439.
- Borcherding, J. D. & Liou, F. – S. (1986). „*Work Sampling can Predict Unit Rate Productivity.*” *Journal of Construction Engineering and Management*, 112(1), 90 – 103.
- Bramble, B.B., & Callahan, M. T. (2000). *Construction Delay Claims*. Aspen Publishers
- Bureau Labour Statistics (BLS). (2004). *National industry specific occupational employment and wage estimates: NAICS 237900- Other heavy and civil engineering construction*. US Department of Labour. Available from: <http://www.bls.gov/oes/200.2/naics4-237900.htm> (Accessed March 2007)
- Business Round Table (BRT). (1983). *More construction for the money. Construction industry cost effectiveness project summary rep*. Business Round Table. Houston.
- Cheung, S. O. Suen, H.C.H. & Cheung, K.K.W. (2004). “PPMS: A web-based construction project performance monitoring system”. *Automation in Construction*, 13(3), 361-376.
- CIBD (2004). *SA Construction Industry Status Report*; Pretoria. CIDB
- Construction Industry Institute (2000). “*Quantifying the cumulative impact of change for orders for electrical and mechanical contractors*”. Research Summary

158-1, Cumulative Change Order Impact Research Team, Construction Industry Institute (CII), University of Texas at Austin.

Construction Users Round Table (CURT). (2001). "CURT work force development survey results". The construction user round table. Cincinnati.

Coulson-Thomas, C. (2007). *A New Approach to Learning Could Address Skills Shortages and Transform Corporate Performance*. United Kingdom. PRLog.org

Damodara, K. P. E. (1999). "Materials management: the key to successful project management". *Journal of management in engineering, American society of civil engineering*, 15(1), 30-34.

Davies, V. J. & Thomas, K. (1990). *Construction Safety Handbook*. Telford, London, England

DeCenzo, D. & Holoviak, S. (1990). *Employee Benefits*. Prentice hall, city, new jersey, 55-56.

Drewin, F. J. (1982). *Construction Productivity: Measurement and Improvement through Work Study*, Elsevier Science Ltd, New York.

Enshassi, A. Al-Hallaq, K. & Mohammed, S. (2006). "Causes of contractor's business failure in developing countries: The case of Palestine". *Journal of construction in developing countries*, 11(2), 1-14

Fowler, F. J. (1993). *Survey Research Methods*, (2nd ed.). Sage Publications, Inc. Newbury Park CA.

Ginther, R. S. (1993). "The effect of work environment on labour performance". ME thesis, Pennsylvania State University, University Park, PA

Guhathakurta, S. & Ytaes, J. (1993). "International labour productivity". *Journal of Construction Engineering*, 35(1), 15-25.

- Halligan, D. W. Demsetz, L. A. Brown J. D. & Pace C. B. (1994). "Action-response models and loss of productivity in construction". *Journal of Construction Engineering Management*, 120(1), 47-64.
- Hanna, A. S. & Heale, D. G. (1994). "Factors affecting construction productivity: Newfoundland versus rest of Canada" *Canadian Journal of Civil Engineering*, 21(4), 663-673.
- Hanna, A.S, Taylor, C.S & Sullivan, K.T. (2005). Impact of extended overtime on construction labour productivity". *ASCE Journal of Construction Engineering Management*, 131(6), 734-740.
- Harraway, R. (2007). SA firms must get incentive in bid to retain best staff. Available from:<http://www.businessday.co.za/articles/management.aspx?ID=BD4A3274> 55 (Accessed 28 February 2007).
- Harris, F. C. Holt, G. D., Olomolaiye, P. O. & Zakeri, M. (1996). "A survey of constraints on Iranian construction operatives" productivity". *Construction Management and Economics*, 14(5), 417-426.
- Harris, F. Holt, G. Kaming, E. & Olomolaiye P. (1998). "Factors influencing craftsmen"s productivity in Indonesia". *International Journal of Project Management*, 15(1), 21-30
- Harris, F., Jayawardane A. K. W. & Olomolaiye, P. O. (1998). *Construction Productivity Management*. Harlow, Addison Wesley Longman, 182- 186 pp.
- Hassanein, A. and Melin J. (1997). "Crew design methodology for construction contractors". *Journal of construction engineering and management*, 123(3), 203-207.
- Heizer, J. & Render, B. (1990). *Production and operations management "strategic and tactical decisions"*. Prentice Hall, NJ.

- Hinze, J. W. (1999). *Construction Planning & Scheduling*. Prentice Hall, Upper Saddle River, NJ.
- Horner, R.M.W and Talhouni B.T. (1995). *Effects of Accelerated Working Delays and Disruptions on labor Productivity*. Chartered Institute of Building, London
- Israel, G. D. (2003). “*Sampling the evidence of extension program impact*”. Agricultural Education and Communication Department, Florida Cooperative Extension Service, Institute Of Food and Agricultural Sciences, University of Florida, Gainesville.
- Iyer, K. C. & Jha K. N. (2005). “Factors affecting cost performance: Evidence from Indian construction projects”. *International Journal of project Management*, 23, 283-295.
- Jarkas, A.M. (2005). “An investigation into the influence of build-ability factors on Productivity of institute reinforced concrete construction”. *International Journal of Project Management*, 15(1), 21-30
- Kaming, P. F. Olomolaiye, P. O. Holt, G. D. & Harris, F.C. (1997). “Factors influencing craftsmen productivity in Indonesia”. *International Journal of Project Management*, 15(1), 21-30
- Kashiwagi, Dean T. & Massner, S. (2005). *Solving the Construction Craftsperson Skill Shortage Problem through Construction Undergraduate and Graduate Education*. Available from: [http://www.ascjournal.ascweb.org/journal/2005/no1/89-101 Kashiwagi.pdf](http://www.ascjournal.ascweb.org/journal/2005/no1/89-101%20Kashiwagi.pdf) (Accessed 09 March 2007)
- Kim, D. H. (1993). “The individual and organizational learning, “*Slogan Management Review*, 38:49
- Knowles, M. S. (2003). *The modern practice of Adult Education: From Pedagogy to Andragogy*. New York: Association press.

- Koehn, E. & Nad Brown G. (1985). "Climatic effects on construction". *Journal of Construction Engineering and Management*, 111(2), 129-137.
- Kumar, A. (2004) Ch. 9 Cited in V.D Desai Small Scale Enterprises, Himalaya Publication, 5th edition New Delhi 233-234
- Lema, N. & Samson, M. (2002), *Development of construction contractors performance Measurement Framework*, 1st International Conference of Creating a Sustainable.
- Lema, N. M. & Samson M. (1995). "*Construction of labor productivity modelling*". University of Dar Elsalaam, Tanzania
- Leonard, C. A. (1987). "The effect of Change orders on Productivity". The Revay Report, On-line. *World Wide Web Revay Rep.* 6(2), 1-4
- Makulsawatudom, A. & Emsley, M. (2002). Critical factors influencing construction productivity in Thailand. Proceedings of CIB 10th International Symposium on Construction Innovation and Global Competitiveness, Cincinnati, OH.
- Makulsawatudom, A. & Sinthawanarong K. (2004). "Critical factors influencing construction productivity in Thailand". *The Journal of King Monkut's Institute of Technology North Bangkok*, 14(3), 1-6
- Mc Clave, J.T. (2006). *Statistics* (10th edition)
- Mechanical contractors of America (1976). "*Factors Affecting Productivity*". Mechanical Contractors Of America, Bulletin No. 58. January.
- Moore, D. McCabe, G. Duckworth, W. & Sclove, S. (2003). *The Practice of Business Statistics*, New York, NY: Freeman
- National Electrical Contractors Association. (1983). *Overtime and Productivity in Electrical Construction*. NECA, (2nd ed.), Washington, DC.

- Neil, J.M. & Knack, L. E. (1984). “*Predicting productivity*”. Transactions of American Association of Cost Engineers, H.3.1-H.3.8.
- Oglesby, C.H. Parker H.W. & Howell, G.A. (2002). *Productivity Improvement in Construction*. New York: McGraw- Hill.
- Olomolaiye, P.O. Wahab, K, & Price A. (1987). “Problems influencing craftsman productivity in Nigeria”, *Building environment*, 22(4), 317-323.
- Ovararin, N. & Popescu, C.M. (2001). “*Field factors affecting masonry productivity*”. The 45th annual meeting of AACE International Association for the Advancement of Cost Engineering, June 17-20, 2001, Miami, FL
- Park, H. (2002). “Development of a construction productivity metrics system PMS”. PhD dissertation, the University of Texas at Austin.
- Paulson, B.C. (1975). Estimation and control of construction labor costs. *Journal of construction division*, 101(CO3), 623-633.
- Pilcher, R. (1992). *Principles of Construction Management*. (3rd ed.). New York: McGraw-Hill.
- Poh, P.S. H. & Chen, J. (1998). “The Singapore Buildable Design Appraisal System: A preliminary review of the relationship between build ability, site productivity and cost”. *Construction Management and Economics*.
- Polat, G. & Arditi, P. (2005). “The JIT Management System in developing countries”. *Construction Management and Economics*, 23(7), 697-712.
- Portas, J. & Abou Rizk S. (1997). “Neural network model for estimating construction productivity”. *Journal of Construction Engineering and Management*, December, 399-410

- Rojas, E.M. & Aramvareekul, P. (2003). “Is construction labor productivity really Declining?” *Journal of Construction Engineering and Management*, 129(1), 41-46.
- Rowlinson, M. & Proctor, S. (1999). „Organizational Culture and Business History“ *Organization Studies* 20(3) pp.369-96.
- Sanders, S.R. and Thomas, H.R. (1991). “Factors affecting masonry productivity”. *Journal of construction engineering management*, 117(4), 626-644.
- Stall, M. D. (1983). “Analyzing and improving productivity with computerized questionnaires and delay surveys”. Proceedings of project management institute annual seminar Symposium 1983, Project Management Institution, Drexel Hill PA V.M.1-V.M.11.
- Suazo G.A & Jaselskis, E.J. (1993). “Comparison of construction safety codes in the United States and Honduras”. *Journal of construction engineering and management*, 119(3), 560-572.
- Sumanth, D. J. (1984). *Productivity engineering and management*. New York: McGraw-Hill,
- Thomas, H. R. & Kramer, D. F. (1988). “The manual of construction productivity Measurement and performance evaluation”. Source document 35, construction Industry institute, the University of Texas at Austin.
- Thomas, H. R. & Oloufa A. A. (1995). Labor Productivity, disruptions and the ripple effect”. *Cost engineering*, 37(12), 49-54.
- Thomas, H. R. (1991). Labor Productivity and work sampling: the bottom line. “*Journal of Construction Engineering and Management*, 117(3), 423-444.

Thomas, H.R, Riley D. R. & Sanvido V.E. (1999). “Loss of Labor Productivity due to delivery methods and weather”. *Journal of construction engineering and management*,125(1), 39-46.

Thomas, H.R. & Sakarcan, A. S. (1994). “Forecasting labor productivity using the factor model. *Journal of construction engineering and management*,120(1), 228-239.



APPENDIX

UNIVERSITY OF EDUCATION WINNEBA (KUMASI-CAMPUS) SCHOOL

OF RESEARCH AND GRADUATE STUDIES

DEPARTMENT OF CONSTRUCTION AND WOOD TECHNOLOGY

QUESTIONNAIRE

This questionnaire seeks to solicit view for project managers site engineers labourers factors that cause frequent change of skilled labour job place in construction industry: as case study in the Berekum Municipality.

The study of research is purely for academic work in partial fulfillment of the award of master of Technology Education in Construction Technology Degree. You kindly requested to provide responses to the questions to enable the researcher contributes knowledge in the industrial performance of study.

All information given shall be treated as confidential and besides your anonymity is guaranteed.

Thank you for your co-operation

Please tick [] in the box where appropriate

Section A bio data

1. Gender:

Male [] Female []

2. Age Group:

Below 20 years [] 20-25 [] 25-30 [] 30-35 [] 35-40 []

40 and above []

3. Level of education

Middle School Education [] JHS Education [] Sec/Tech Education []

University Education []

4. How long have you been in the company?

9 years and below [] 10 years - 12years []

13years – 16years [] 17 years – 20years []

21years – 24years [] 25 years and above []

5. Which of these categories does your company belong?

Category A [] Category B [] Category C [] Category

D [] others.....

6. Which of these sectors does your company belong?

Public Sector [] Private Sector []

7. What kind of methodologies have been used to capture aspects of company?

(multiples of answers are allowed)

Survey [] Observation []

Interview [] Others

8. In physical construction environment, which one of the studies has an influence on management factors?

Level of management control []

Professionalism of the design team []

Difficulties in employing site supervisor []

Incompetence of site supervisor []

Others.....

9. In physical construction environment, which of the studies has an influence on construction outcomes?

Site composition []

Coordination of subcontractor []

Site management []

Ability of grouping labours []

Others

10. Which of the construction climate most available in the Ghana environment for the past ten (10) years.

Rainy condition distracting construction []

Harsh dry weather condition []

Non-availability of workforce []

Congestion []

B. Assess the current condition of skill labour requirement in construction industry.

Which of these factors do you agree or disagree as the condition of labour at your firm.

[√] in the right column box.

| No. | Factor | Agree | undecided | Disagree |
|-----|--|-------|-----------|----------|
| 11. | Workers have good eye sight | | | |
| 12. | The workers are SSNIT contributors | | | |
| 13. | The workers hold the requisite qualification | | | |
| 14. | Incentives are paid in case of eventuality | | | |
| 15. | Workers are physically well | | | |
| 16. | Workers are given reasonable enumeration | | | |
| 17. | Workers are employed from the locality | | | |
| 18. | Workers are considered in decision making | | | |
| 19. | Workers have a day or 2 off duties | | | |
| 20. | Workers can speak and write | | | |
| 21. | Workers understand measurements | | | |

C. Identify the underlying principal causes of frequent change of skilled labour in construction industry.

To what extent do you agree or disagree with the following statement as reasons for frequent change of skilled labour in construction industry at Berekum Please indicate your level of agree or disagreement by tick [√]

Key: 5-Strongly Agreed, 4 – Agreed, 3 – Neutral, 2 - Disagreed, 1 - Strongly Disagree.

| No. | Factors affecting frequent labour turnover | 5 | 4 | 3 | 2 | 1 |
|-----|--|---|---|---|---|---|
| 22. | Payment delay | | | | | |
| 23. | Rampant accident | | | | | |
| 24. | Misunderstanding between labourers and superintendents | | | | | |
| 25. | Government regulation | | | | | |
| 26. | Misunderstanding between labourers | | | | | |
| 27. | Working at high places | | | | | |
| 28. | Labour personal problem | | | | | |
| 29. | Inefficiency of equipment | | | | | |
| 30. | Disturbance | | | | | |
| 31. | Harsh weather | | | | | |
| 32. | Lack of training session | | | | | |

Others please specify

.....

D. Analyse the labour policy and practice in construction industry.

Please indicate your level of agreement to the following policies and practices in your firm. 5= strongly agree 4 agree, 3 neutral, 2= disagree 1 = strongly disagree

| No. | Policies and practices | 5 | 4 | 3 | 2 | 1 |
|-----|--|---|---|---|---|---|
| 33. | Firm is decorated with charts and maps | | | | | |
| 34. | Workers are transported in a bus | | | | | |
| 35. | Firms walls are painted with directions | | | | | |
| 36. | There are proper lightening system for night work | | | | | |
| 37. | There are backup generators for administrative works | | | | | |
| 38. | Spoilt accessories are purchased promptly | | | | | |
| 39. | Safety appliances are supplied to workers | | | | | |
| 40. | Audio aids are provided to workers | | | | | |