TRAINING PRACTICES ON ROADS CONSTRUCTION PROJECTS PERFORMANCE OF KENYA URBAN ROADS AUTHORITY, WESTERN REGION; KENYA

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ABSTRACT

An economy grows by relying on how successful the infrastructures in the country have developed; hence construction firms play crucial role in both developing and developed economies. Road construction industry provides returns to all stakeholders in every country through facilitation of means of transport. The output of construction projects is measured by how effective and satisfying the results from such projects benefits both the employer who is the contractor and the employee who is as well the consumer. The construction industry is one of the most fatal industries worldwide due to accidents recorded yearly. Though many countries have established and implemented safety programs, the situation does not seem to have been mitigated for the reason being annual reports are there every often. The right contractor values all the cost elements inclusive of the welfare of the workers and more so establish the effect welfare costs to the roads construction project. The objective of the study included; examining the effect of training practices on performance of roads construction projects of Kenya Urban Roads Authority in Western region; Kenya. Descriptive Survey research design was adopted for the study. The target population consisted of employees of Kenya Urban Roads Authority, Western region; Kenya. Both descriptive and inferential statistics was focused on and the computation was done by use of SPSS version 24 in order to test the primary data that was collected to satisfy the objectives of study. Pilot study was conducted on employees of Kenya Urban Roads Authority in Nairobi; Kenya Office who were not among the sample in order to find out the validity and reliability of analysis of data for the study. Further, a regression equation model was developed to test the relationships between the variables. ANOVA was performed to analyze the effects of various relationships at the variables level as well at item level. In terms of effect; Training practices had more influence on Road Projects Performance. The study recommended for road projects management to embrace the use of Training Practices since it improves the Projects' Performance. The study recommended for further studies on the same considering same variables but different methodologies.

Key words: *Training Practices, Occupation Health & Safety, Performance*

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INTRODUCTION

Construction industry takes up huge expenditure of the economies' income for easiness of inclusion of highly advanced technology, equipments and associated materials (Wambui, Ombui & Kagiri, 2015).European countries, construction industry mainly relies on financially focused performance at the project level which leads to creation of philosophies; for example concurrent construction and lean production and training capabilities. Others non-financial indicators considered include: Just in Time, Total Quality Management and Total Productive Maintenance (Yu, Kim, Jung, & Chin, 2007). According to Obelle (2012), project performance is a way of accomplishing cost and time objectives while adhering to the product specifications. Globally, construction industry is very relevant for the growth of an economy; hence infrastructure development depends on the growth of construction industry performance. The levels proper roads for transportation rely on the technological skill exposure of associated contractors and the priority of the government in valuing the infrastructure for her economy success and development (Karem & Marosszeky, 2011).

According to Katsuro (2010), road construction companies incur heavy expenses that requires management of financial capacity including planning, sourcing, and controlling the use of financial capacity during construction. The sufficiency of financial capacity depends on the correct composition and correct financing at all times during construction. According Mwangi (2017), it was observed that it requires a determined positive effort by the contractor to take care of project team's welfare in conjunction with finances, as mismanagement can weaken productivity and profit level. Kibe (2016) embraced management of financial capacity being very critical; hence, to ensure that the level of financial capacity is maintained and that there is sufficient provision of funds to finance current assets to facilitate projects to be project completion within cost and time, there is need of establishing the optimum level of financial capacity needs of a project. Further there is need of continuous checking and monitoring the quantum of individual parts that comprise the financial capacity to ensure that the requirements are not exceeded.

Mulinge and Muiruri (2014) expressed awards of major construction contracts in developing countries are skewed in favour of foreign counterparts against citizen contractors since the foreign firms are considered more technically and managerially advanced and well-organized in funds acquirement including competence. In comparison with this, citizen contractors have over the years had challenges related to inadequate financial capacity, poor project performance in terms of adhering to completion deadlines, poor work quality and capital management which has in many cases led to bankruptcy and in extreme cases, abandonment of projects. In other words, majority of citizen contractors usually do not complete construction contracts within initial contract sums and hardly within scheduled completion times.

In the study by Zhao *et al.,* (2015), it was been established that productivity, employee wellbeing, reduced incidences at the workplace is promoted by safe and healthy work environment, all over the world, occupation health safety remains to be the most critical but highly criticized issues in many organizations; hence organizations providing safety measures are known to perform better globally. Alman (2010) stipulates occupational safety and health practices entails protecting employees and other person affected by what the organization produces and does; hence aims at protecting employees against the hazards arising from their employment or their links with the organization. These days the human resource managers are faced with crucial issues of occupational safety and health than before. The reason is that the workers just like any other resources require maintenance and care against Hazards and unsafe environment in order to maximize their wellbeing and sound health free of harm.

A survey conducted by British Safety Council revealed that positive organization performance which is as a result of employee's wellness is significantly influenced by health and safety of workers (Kreitner, 2007). More so a study by Desler (2008) revealed that in the United States, the number of "cutback" days (on which less work is done than usual) attributable to a mental disorder averaged 31 per month per 100 workers. In annual terms, this represents 20 million working days on which employees are not fully productive because of a mental health problem caused by work-related health and safety problems.

In the study by Adeogun and Okafor (2013) on construction companies, the scholar observed that in many African countries organizations should implement Occupation Safety and Health practices geared towards increasing the level of organizational commitment and motivation through reduced incidence at workplaces. It was noted that, Tools such as noise control, waste and hazard control, worker's fitness in the job, feedback, modeling appropriate working environment, increasing the quality of business life, and creating appropriate physical working environment will improve the performance of an organization. In Africa and Nigeria in particular, the construction industry is listed as one of the fastest growing industry due to demand in real estate, housing and the provision of infrastructure in support of a growing population (Manduku & Munjuri, 2017).

Kibe (2016) found out that accidents and injuries sustained at construction sites had a high impact on workers absenteeism, disruption of work and resulted in low morale among the employees hence poor performance of the construction companies. Employers also faced costly early retirements, loss of skilled staff and high insurance premiums due to work-related accidents and diseases. Road construction industry does not have a comprehensive policy framework. Ministry of Public Works (2011) stipulated, though of recent, Kenya Urban Roads Authority has embraced harmonizing to enforce and monitor construction work to effectively curb malpractices in the construction sector while taking into consideration occupation safety health practices. Previous studies on occupation health and safety practices have been undertaken in other sectors and hence the findings cannot be generalized to determine the effect of occupation and health safety practices on performance of road construction industry in Kenya. To this end, it is evident knowledge gap in the literature on the performance of building construction industry is brought into light.

Mulinge and Muiruri (2014) expressed prequalification being a process used to investigate and assess the capabilities of the contractors to carry out a job if it is awarded to them. One of the major factors that is key to the project completion of the roads construction project is the technical capacity of the contractor. Indicators for technical capacity include the education level, experience of the technical staff, plant and equipment and the class of registration of the contract firm according to the Ministry of Public Works evaluation criteria. According to Kibe (2016), different magnitudes of work in terms of complexity and cost, requires appropriate classes of registration of contractors as well as level of technical staff qualification; hence Contractor prequalification is a decision-making process involving a wide range of decision criteria as well as decision-making parties and has received the attention of several researchers and is normally carried out by a client's representative and eventually leads to be selection of a contractor to carry out implementation of a construction project.

Mwangi (2017) embrace the capacity of the construction industry in many developing countries being noted to be deficient as has been widely reported. In construction, the formation of joint-venture between local and foreign contractors has been recommended by most governments. Studies carried out by Wambui, Ombui and Kagiri (2015) indicate indigenous construction firms in developing counties are mostly characterized by lack of capacity, confidence, motivation and long term aspiration among others. Many are struggling

without basic foundation which construction firm's internal strength depends on. Prequalification provides a client with a list of contractors that are invited to tender on a regular basis.

Sstatement of the problem

In the study by Kibe (2016) on construction companies' performance in developing economies, road construction projects are essential components in the development of a country since they form part of the key drivers of economic growth and an important pillar towards achieving Kenyan policy Vision 2030. Manduku and Munjiri (2017) contemplate that hardly contractors accomplish projects timely within cost and as per required quality; hence by the time the projects are completed the contractors face heavy court litigation cases for compensation to employees for the contractors having failed to honour protocols of occupation health and safety on the employees that maim employees physically and more so, failure on lack of proper Training Practices for employees; hence, hampers performance of the projects. According to Kibe (2016) in his assessment of Training functional practices of occupation health and safety management on construction sites in Kenya, it was found out that accidents and ill health amongst workers are caused by tools and equipments, slips, fall from heights and over extortion; hence this results in absenteeism from workers, loss of confidence by workers and the public, increased insurance premiums and proliferation of litigations which leads to poor performance of construction companies. Most of the scholars among them; (Madukani, 2013: Chinyio and Olomolaiye, 2010: Kihara, 2012) among others studied on performance of construction projects but did not zero on Training Practices effects resulting from occupational health and safety practices on performance of road projects. These scholars focused on variables such as project management systems, procurement methods as well as project leadership skills and ignored the Training practices of employees that care for such workers on construction sites. This dispersion in studies by differing scholars; among them Kibe (2016) valuing Training Practices and others among them Madukani (2013) being inconsiderate about Training practices, necessitates the research gap to raise an opportunity for this study of the effect of Training practices on performance of road Construction Companies, a case of Kenya Urban Roads Authority in Western Region; Kenya.

Objective of the Study

This study examined the effect of training practices on performance of roads construction projects of Kenya Urban Roads Authority, Western region; Kenya

Research Hypothesis

H_{01}: There is no significant effect of training practices on Performance of roads construction projects of Kenya Urban Roads Authority, Western region; Kenya

LITERATURE REVIEW

Theoretical Review

The Systems Theory

Dostal (2005) was the first proposer of this theory, explaining the organization being a system of subsystems interlinked. For the sake of this study, organization is viewed as a system comprising interconnected and mutually dependent sub-systems. Road construction of a high way is always managed by various stakeholders; some of the stakeholders are legal persons who may be local or foreign members from various companies. For decision making, all members should come up together and share ideas to form a system that would consist of subsystems. These sub-systems can have their own sub-sub-systems.

Daft and Armstrong (2009) were building on earlier studies by Dostal (2015) that perceived a system as composed of some components, functions and processes. This school of thought can be traced from Bakke's (2013) studies which viewed an organization as a system consisting of the following three basic elements: components, linking processes and organizational goals. As applied in

some organizations today, especially those involved in manufacturing, proponents of system theory such as Baron and Byrne (2014) view the organization as a society or a social family with various sub-components within the whole.

Barzilai (2011) suggests that the systems approach views an organization to be in a state of equilibrium only if all its components are stable and perfectly interlinked to achieve organizational goals. For instance, if a member in a system, say, an employee, is dissatisfied, such an individual can negatively influence overall organizational performance. Thus, for an organization to achieve set objectives, the employees ought to believe in the performance of the organization in which they are a part of. Management therefore needs to involve employees in management and appreciate the influence they have towards organizational performance in all decision making processes (Ryan, 2009).

The overall organizational performance is therefore a factor of the extent to which the horizontal logistics coordination is effective in the organization (Barzilai, 2011). For results to be achieved in an organizational system, Cummings and Worley (2008) suggest that processes therefore need to have a central coordination unit, usually the Chief Executive Officer (CEO) in a profit making organization or a Principal Secretary (in the case of Government Ministries in Kenya) or a chief officer in county governments. Similarly, each sub-system, that is, a department, also needs to have a central coordination unit which is the nucleus upon which all elements in that sub-system revolves. The departmental head allocates duties commensurate to designated power and delegated authority from which performance is measured. Ryan (2009) argues that the systems approach was developed to enhance performance by allocating specific duties to every individual in the organization. This theory anchors the variable Training Practice of the occupation safety and health practices on performance of construction companies and how it can be achieved by conforming to key expectations of the stakeholders (Vailatti, Rosa & Vicente, 2017).

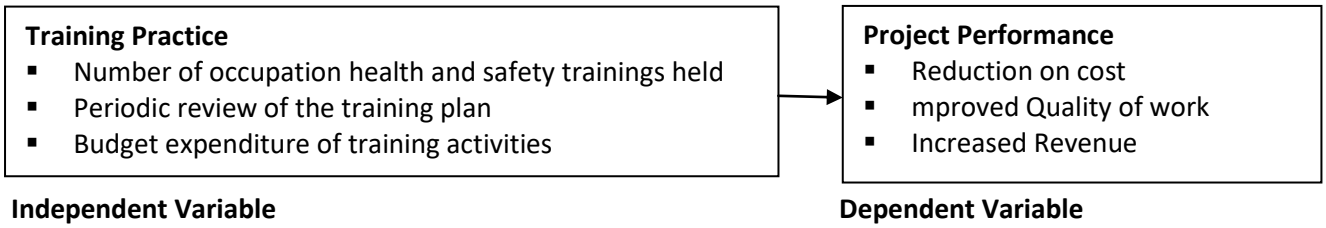

Figure 1: Conceptual Framework

Review of Study Variables

Human resource is main resource of the organization, because human resource is one of resource on live and animate than other resources of the organization, the effective use of human resource practices is generally considered as a source of capability advantage to an organization (Sanneh & Taj, 2015). One of the core functions of human resource is employee training since it directly influence on productivity of the organization and employee relation of the organization, more so, aware the employer/employee on occupation safety health practices; hence it has been long recognized that effective staff training allows an organization to improve its standard and quality of service to customers.

Success or failure of an organization generally depends on the quality of its human resources; hence human resource has played a significant role in the economic development in most developed countries such as Japan, Britain and United States of America. Globally, appropriate attention is given to the development and training of human resources (Otieno, Wangithi & Njeru, 2015).

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An employee is a key element of the organization. The success or failure of the organization depends on employee's performance; hence, organizations investing huge amount of money on employees' training improves employee performance through training. This directly affects the performance of the organization; on the other hand mostly use of training methods for improving employee performance raises the output of the organization in terms of performance (Adeogun & Okafor, 2013).

Improved capabilities, knowledge and skills of the talented workforce prove to be a major source of competitive advantage in a global market (Ballard, 2012). Developing the desired knowledge, skills and abilities of the employees, to perform well on the job, requires effective training programs that may also effect employee motivation and commitment (Nawaz *et al*., 2014). According to Selvarasu and Sastry (2014), in order to prepare workers to do their job as desired, organizations provides training as to optimize their employee's potential. Most of the firms apply long term planning; invest in the building new skills by their workforce, enabling them to cope with the uncertain conditions that they may face in future, thus, improving the employee performance through superior level of motivation and commitment. When employees recognize their organization interest in them through offering training programs, they in turn apply their best efforts to achieve organizational goals, and show high performance on job. Amanda, Kerstin, Catherine, and Emma (2013) argued that through training, employee engagement is increased by promoting a positive attitude characterized by vigor, dedication and absorption. Ariani (2013) further fosters Job satisfaction and commitment to an organization since employees will feel that they are part and parcel of the organization and this will lead to increased performance.

Training enhances the psychological state of involvement, commitment, attachment, mood, which impacts an individual's performance. This could be in form of effort or observable behavior, including pro-social and organizational citizenship behavior (Sanneh & Taj, 2015). People who are highly engaged in an activity feel excited and enthusiastic about their role, say time passes quickly at work, devote extra effort to the activity, identify with the task and describe themselves to others in the context of their task. This therefore means that engaged employees are interested in the success of an organization and also identify with this success (Rashid, Asad, & Ashraf, 2011). Employee engagement can therefore be a predictor of employee performance since it leads to positive behavior, such as taking personal initiative, organizational citizenship behavior and employee effectiveness (Otieno *et al*., 2015).

A survey conducted by British Safety Council revealed that positive organization performance which is as a result of employee's wellness is significantly influenced by health and safety of workers (Kreitner, 2007). A study by Desler, (2008) revealed that in the United States, the number of "cutback" days (on which less work is done than usual) attributable to a mental disorder averaged 31 per month per 100 workers. In annual terms, this represents 20 million working days on which employees are not fully productive because of a mental health problem caused by work-related health and safety problems.

Workers being exposed to acute health hazards like fall from height and electric shocks, while chronic health hazard like exposure to hazardous substances is common in the construction industry (Vitharana, 2015). Practices such as training on occupation, health safety, emergency response planning, occupation health safety on hazard control mechanisms, as well as workplace inspections, remains a major obstacle to success of occupational health safety practices at construction companies. Kibe (2016) found out that accidents and injuries sustained at construction sites had a high impact on workers absenteeism, disruption of work and resulted in low morale among the employees. Employers also faced costly early retirements, loss of skilled staff and high insurance

premiums due to work-related accidents and diseases. Construction industry does not have a comprehensive policy framework.

METHODOLOGY

This study adopted a descriptive survey research design since data involved was quantitative in nature and more so descriptive study focuses on explaining situations the way it is. Target population encompassed all departments and staff in the Kenya Urban Roads Authority in six county governments in western region; Kenya. The study targeted 146 respondents from the 4 departments under study. These departments included Road Asset Management, Finance and Corporate, Survey, records and ICT and Procurement. The study employed stratified sampling technique. To determine the sample size, the study used Yamane's formula as below. Out of the 146 targeted staff, the sample size was approximately 107.

$n= N/1+N (e^2)$

N = Population, n = sample size, e = margin for error (0.05)

$n=146/1+146(0.05^2)$

=107

Primary data was collected by means of self-administered questionnaires. The questionnaires had structured questions. These questionnaires were structured and designed in multiple choice formats. Data collected from the field was coded, cleaned, tabulated and analyzed using both descriptive and inferential statistics with the aid of specialized Statistical Package for Social Sciences (SPSS) version 24 software. Descriptive statistics such as frequencies and percentages as well as measures of central tendency (means) and dispersion (standard deviation) was used. Data was also organized into graphs and tables for easy reference.

Further, inferential statistics such as regression and correlation analyses were used to determine both the nature and the strength of the relationship between the dependent and independent variables. Correlation analysis is usually used together with regression analysis to measure how well the regression line explains the variation of the dependent variable. The linear regression plus correlation analyses were based on the association between two (or more) variables. SPSS version 24 is the analysis computer software that was used to compute statistical data. Study conceptualized Regression Model;

$Y = \beta_0+\beta_1X_1 + \varepsilon$

Y = Performance

β_0 = Constant

X_1= Training Practices

$\{\beta_1\}$ = Beta coefficients

ε = the error term

FINDINGS AND DISCUSSIONS

The study involved 107 questionnaires being dispatched for data collection, 98 questionnaires were returned completely filled, representing a response rate of 92% which was good for generalizability of the research findings to a wider population.

Descriptive Statistics

Descriptive statistics: Management Leadership Style on Employee Satisfaction

These are summarized responses on whether Training Practices influences Project Performance of Kenya Urban Roads Authority, Western; Kenya.

Most respondents agreed (44.2%) that the management supports trainings of construction works fully while 15.5% disagreed to the statement, implying that there are respondents who have not been well trained which could hamper the effectiveness of the road project performance. More closely, only 35.1% agreed while 22.1% of respondents were uncertain that training sessions are adequately covered; thus revealing existence of inefficiency of some training of the employees as they undergo the operations experienced of dissatisfaction.

Further, while 48.1% of respondents agreed that most of the new employees are taken through

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inductions while on entrance in the organization, 13.0% disagreed revealing existence of employees not being undertaken through induction. More so 50.6% of respondents agreed that the training undertaken makes the work taken up in proper way, while 42.9% of respondents also agreed that trainings make employees understand their roles properly.

Lastly, most respondents agreed (49.3%) and strongly agreed (16.9%) that generally, the organization provides refreshing courses to the employees; implying that the organization values the growth capability of working employees.Human resource is main resource of the organization, because human resource is one of resource on live and animate than other resources of the organization, the effective use of human resource practices is generally considered as a source of capability advantage to an organization (Sanneh & Taj, 2015). One of the core functions of human resource is employee training since it directly influence on productivity of the organization and employee relation of the organization, more so, aware the employer/employee on occupation safety health practices; hence it has been long recognized that effective staff training allows an organization to improve its standard and quality of service to customers.

Inferential Statistics

Linear influence of Training Practices on Roads Project Performance

This tested the direct influence of training practices on roads project performance of Kenya Urban Roads Authority, Western region; Kenya;

The model summary Indicated that R^2 = 0.680; implying that 68.0% variations in the Project Performance of Kenya Urban Roads Authority, Western Region; Kenya is explained by Training Practices while other factors not in the study model accounts for 32.0% of variation in Roads Project Performance of Kenya Urban Roads Authority, Western Region; Kenya. Further, coefficient analysis shows that Training Practices has positive significant influence on Roads Project Performance of Kenya Urban Roads Authority, Western Region; Kenya (β = 0.919 (0.073); *at p<.01*). This implies that a single improvement in effective Training Practices will lead to 0.919 unit increase in the Roads Project performance Kenya Urban Roads Authority, Western Region; Kenya. Therefore, the linear regression equation is;

$Y = 0.682 + 0.919X_1$

Where;

Y = Roads Project Performance

X_1 = Training Practices

Study hypothesis one (H_{01}) stated that Training Practices does not significantly influence Roads Projects Performance of Kenya Urban Roads Authority, Western Region; Kenya. Multiple regression results indicate that Training Practices significantly influence Roads Projects Performance of Kenya Urban Roads Authority, Western Region; Kenya (β = 0.919 at *p<0.05*). Hypothesis one was therefore rejected. The results indicated that that a single improvement in effective Training Practices will lead to 0.919 unit increase in the Roads Projects Performance of Kenya Urban Roads Authority, Western Region; Kenya.

Misiurek and Misiurek (2017) presented an adoption of Training within industry; program-derived from manufacturing processes-in the construction industry as a means to improving occupational safety. The study relied on the statistics of fatal accidents in construction and manufacturing industries over several recent years in the UK. Choudhry *et al*. (2007) criticized reactive studies highlighting them as being poor measurement tools in assessing safety performance, due to its reliance on historical events regardless of current safety activities, hence it requires training.

CONCLUSIONS AND RECOMMENDATIONS

This study tested the influence of training practices on roads projects performance of Kenya Urban Roads Authority, Western region; Kenya. The study found that Training Practices had a significant effect

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Roads Projects Performance. The study results were consisted with earlier researchers that found that training practices had an influence on projects Performance; hence, training requirement for the employees and employers was necessary for the improvement of Projects Performance.

The study concluded that Road Projects that utilize well Training Practices result into improvement in projects performance; hence, for such, leads to professional work done because of training sessions on the employees and employers of the construction roads. The study recommended that Road Projects should embrace the proper use of Training Practices since it would improve the performance.

Areas for further research

Similar study can be done on other projects using similar variables, though using different methods.

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