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Influence of Contractor Project Supervision on Completion of Government-Initiated KERRA Road Projects in Nandi County

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Abstract

Roads create a transportation network that gives shape to the living environment of people through various connectivity elements in our society. The construction of roads has been met with challenges of poor quality, delays and cost escalations; all of which are the parameters for road projects completion. The aim of the study is to establish the influence of contractor project supervision on completion of government-initiated road projects in Nandi County. Descriptive research design was adopted in this study. The target population to the study was 107 who included 78 contractors and 29 supervising road engineers out of which 84 respondents successfully participated fully in the study. Stratified and simple random sampling designs were used to select the sample size. Collection of data was done using questionnaires. The study findings revealed that completion of KeRRA projects is affected by ineffective monitoring by the project supervisor, poor decision making from the supervisors, preparation of KeRRA projects variance reports, review of KeRRA projects and lack of consistency in KeRRA project inspection. It was recommended that a similar study can also be carried out in other counties in Kenya. Furthermore, it would be interesting to know whether the observed findings hold for other Government initiated road projects as well. The study recommends that supervision should be taken in considerations.

Key words: *Contractor, Supervision, Completion, Road Projects*

1. Introduction

In more industrialized continents such as Europe, roads construction industry majorly dependents on financially focused completion at the project level which leads to creation of philosophies; among these are concurrent construction and lean production. Others non-financial indicators considered include: Just in Time (JIT), Total Quality Management (TQM), and Total Productive Maintenance (TPM) (Yu, Kim, Jung, & Chin, 2007). Ghalayini & Noble (2011) reported that financial metrics are historical in nature and do not reflect the current status of completion of a project. According to Kagioglou Cooper, and Aouad (2011), financial indicators do not have a strategic focus and are unable to provide quality data; they lack responsiveness and flexibility. Therefore, to realize optimal project completion, opened that project completion is a way of accomplishing cost and time objectives while adhering to the product specifications.

A study carried out by Koushki Al-Rashid, and Kartam, (2015) that targeted 450 respondents revealed that financial limitation and insufficient technical knowhow were the leading causes for delay in Kuwait. A research by Faridi and Elsayegh (2012) on causes of delay in road projects in the United Arab Emirates, discovered that 50 percent of the initiated projects had delayed completion because of bureaucracies in approval for drawings, failure to plan earlier and complicated processes of making decision. Mahamid (2011) did a study in Palestine, particularly in the West Bank, and observed that there were significant factors that led to delay in terms of time of road projects. The project owners delineated ineffective resource management, commencement delays, poor inspection, reworks and poor communication among parties constructing as some of the factors.

A research by Alghbari et al. (2007) sought to establish the determinants of delay in road projects in Malaysia. The study found out that the factor of financial constraint was the most significant factor causing construction project delays. The second most significant issue was coordination challenges. Almost in tandem with the previous finding, Sambasivan and Soon (2007) did a study that showed succinctly that the ten most significant determinants of construction delays were ineffective site management, subcontractor challenges, lack of finance on the client side, improper planning by contractor, material shortages, unavailability of equipment, poor parties communication, contractor lack of sufficient experience and labor shortages. Faridi and El-Sayegh (2006) on their part elucidated factors like poor leadership, breakdown and shortages of equipment, poor managent of site, incompetent manpower and poor supervision as some of the factor hindering project completion in the United Arab Emirates.

The African situation appears to be no different with completion of projects acquiring many and diverse dimensions contingent on the environment the projects are in. Frimpong et al. (2003) in a study done in Ghana recognized five significant determinants to project delays. They included lapses in monthly payment to contractors and subcontractors, challenges in material procurement,

incompetent technical issues, poor contract management and price escalation of the said materials. The Kenyan situation is also no different with numerous reports suggesting problems in completion of projects. Notable examples include the delayed road constructions under the auspices of the World bank which then negatively influenced both the economic and social returns expected had the projects been completed within schedule. Another example is the Rural Access Road project that took 3.5 years more than scheduled to complete. The project was earmarked to improve agricultural productivity and generate livelihoods but it did not meet the said targets due to delays. Based on the Project Completion Report, apart from project that delayed, 56% of some road construction works were not completely achieved.

A study by Ogunsemi and Jagboro (2006) on Nigerian construction industry showed that the country was faced with the problem of project delays and completion rate. Studies further indicated that one of the most grievous difficulties the Nigeria construction industry encounters is the cost overruns associated with many projects, coupled with the significance linked to effecting projects at sums higher than the original amount. Political insurgency also affects project implementation negatively, as well as the absorptive capacity as is the case of construction projects in some selected districts of Uganda. One of the most significant determinants for project delays is associated with financing, design changes in the cause of works, payment delays and lack of use of competent experts in construction management. In Nandi County, the few road projects initiated by the communities have either stalled or failed due to factors ranging from poor funding to lack of goodwill by the government among other dilemmas. A preliminary informal review by the researcher on the projects undertaken by the communities in Nandi County found out that the projects were not completed on schedule while others were abandoned before completion because of many problems and complex issues of completion such as cost, time, poor planning and safety.

2. Statement of the problem

Most notable construction projects and works especially road have become vital mechanisms in the socio-economic expansion of a country like Kenya since they constitute the significant pillars needful for the socio-economic expansion and the route towards achievement of Kenya's Vision 2030. It is essential that the contractors complete road projects on time. Studies have shown that over 75% of road projects locally are not completed within the initial set targets of time due to contractor factors ranging from availability of capital, management skills, organizational culture and technical skills among other factors. The complex nature of road projects as involving many parties cannot be ignored. These include the Government which is a regular customer, road contractors, shareholders and regulators.

A lot of construction projects do not complete within the planned budget, within the specified timetables and failing to meet the desired quality due to factors such as time inefficiency, inadequate funds and lack of advance implementation equipment. KNBS (2017) report indicated that there were many KeRRA projects in Nandi County which did not complete as expected due to contractor related obstacles, material and equipment unavailability, poor technical skills, financial inadequacy and poor management abilities. There is slow uptake of road construction projects in Nandi County and failure of these projects will create an outcome that is less vivacious economically which subsequently results in a lower standard of living for residents of Nandi County as well as increased unemployment in the County.

Studies by Madukani (2013), and Kihara (2012) have investigated completion rates of road construction projects. The aforementioned studies have investigated specific variables like procurement methods, project leadership and project management systems. Nevertheless, the current study was narrowed to KeRRA road projects in Nandi County and was focussed on the relationship between contractor factors such as working capital, contractor competency, equipment and project supervision on completion of government initiated KeRRA road projects in order to determine why some projects succeed while others do not and therefore fill the knowledge gap.

3. Objective of the Study

The objective of the study was: to establish how contractor project supervision influence completion of government initiated road projects in Nandi County.

4. Literature Review

The emphasis on road project completion anywhere in the world cannot be ignored. Many studies have looked at how road projects can be successfully planned and implemented mainly because overall, such completion means the life or death of an organization completing projects later than scheduled is what delay refers to. The British Standard for Project Management BS6079 highlights the significance of observing and assessment of undertakings in an offer to complete the benefits of a street venture by allowing it to meet the necessary targets to save cost and time and to get higher quality. Also, the UK Association of Project Management (APM) (1995) observed that projects must be planned, organized, monitored and controlled smoothly in project objectives are to be realized, again within specified time, quality and cost. This then calls for effective supervision that is characterized by constant inspection, variance reports, reviews and evaluations (Seddon, 2008).

Traditionally, inspection, control and monitoring of road projects were centrally placed in the circle of project processes. Many of the projects done in the past were done in manner that conformed to the laid down budgetary procedures which consequently

improved the completion of the said projects. This however minimized construction companies within traditional spectrums and yet present realities show that unconventional means that look at projects broadly have become the norm (Abraham, 2003). However, still, supervision categorized as checking, inspecting, monitoring and evaluating are still mechanisms that are vital for effective completion of road projects.

Monitoring is an unending occupation that makes use of the systematic collection of information regarding specific measurements of Public projects (UNDP, 2012). The organization summarily describes Checking and assessment (M&E) as a procedure that helps M and E work force and project managers to improve project outcomes and goals. The significant definitions adduced describe monitoring process that should not stop and one that significantly is premised on target setting and planning activities in all the phases of a project. Also, monitoring carries with its certain benefits like tracking operations, benchmarking completion and counterchecking if they meet set schedules and also acts as a perfect platform from which evaluation of the projects would start. Then there is capacity building which is concerned with creating an environment that permits the human resources in particular to have the requisite competency to do a good job.

Project completion goes a long way to confirm the proper utilization of project funds. Therefore, there needs to be a means of identifying the parameters that determine completion of the said road projects. Globally, there are more incidences of project failure than project success. According to Standish Group, in the USA, only 32% of projects register success, 44% had serious setbacks while 24% failed completely. In the developing world, the failure of road projects is more rampant. In Kenya for example, approximately 30% of non-governmental organizations fail in their road projects (Busiinge, 2007).

Traditionally, the west has supported road projects across the developing world; indeed, there has been an inflow of funding especially to parts of the world that have been struck by natural disasters and those that have continued to experience natural calamities. In yesteryears, before the economic downturn in the USA and other western countries, the taps of funding seemed to flow undisturbed and thus the implementers of road projects did not give much focus on completion. However, this changed with the economic downturn and donors became keen on completion of the projects and a keen eye is kept on the costs and the end results. There is therefore an increased demand for accurate reporting and accountability, including demand for accelerated progress in the donor funded projects (Mulwa, 2007).

The chapter considered a conceptual, empirical and theoretical review of the study variables. However, despite a lot of studies carried out on determinants or factors impacting road construction projects' completion, little focus was laid on the key contractor factors that influence completion of road construction projects completion especially working capital, supervision, equipment and contractor competency. Most studies that have been reviewed limited themselves on labour shortages, unworkable deadlines, unexpected ground conditions, failure to plan and project scheduling, ambiguities in specifications, and drawings; bureaucracy in decisions, unqualified engineers and consultants. Secondly, a shallow focus was given to the contractor factors that influence completion of road projects completion in Kenya laying more concentration on government road initiated KeRRA projects in Nandi County. It is on this basis that there was need to investigate the influence of contractor factors on completion of government initiate road projects in Nandi County.

5. Research Methodology

This study espoused descriptive research design. Matthews & Kostelis (2011) cited that descriptive research design involves gathering information regarding perceptions and behaviors by using questionnaires data collection instrument. This structure is for the most part intended to create a depiction of what's going on concerning a particular marvel inside a given populace (Rovai, Baker and Ponton, 2013). The inclination of plan in this examination was just in light of the fact that the scientist wanted to portray temporary worker components impacting culmination of government started KeRRA Street extends in Nandi County in Kenya.

The population of informants that were targeted in the study were 107 (County Government HR, 2019) who will include 78 contractors and 29 supervising road engineers. The distribution of the target population is as shown in Table 1.

Table 1 Table showing the Distribution of Population

Category	Number
Contractors	78
Supervising engineers	29
Total	**107**

The part highlights the sample size format that was used and the attendant procedures. Kothari (2005) succinctly asserts that a sample is a derivatively small section of the population representing an entire population. Sampling on the other hand involves choosing several units from a population as a representative. The study used stratified sampling technique in categorizing the population into different categories. The study implemented a simple random sampling technique to choose from the population.

The sample size for this study was 84 respondents. The confidence level for this study was set at 95% with an error of 5%. In order to determine the sample of the population; the researcher used Yamane's (1967) formula which is as follows.

Where: n=the sample size
$$n = \frac{N}{1 + N(e^2)}$$

N= the size of population
e = the error of 5 percent

By using Yamane's formula of sample size with an error 5% and with a confidence coefficient of 95%, the calculation for the sample size was calculated as follows:

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

$$= 107 / (1 + 107(0.05^2))$$

$$n = 84$$

Stratified random sampling procedure was utilized to categorize the target population into different strata. According to Kothari (2005), stratified sampling is adopted in heterogeneous population who share similar features. This was guided by the traffic volume to achieve a reasonable representation of a sample. The succeeding Table 2 presents the distribution of the sample size.

Table 2 Table showing the Distribution of Sample Size

Category	Number	Sample size
Contractors	78	78/107 of 84 =61
Supervising road engineers	29	29/107 of 84 =23
Total	**107**	**84**

In the words of Cooper et al, (2008), data is the gathering of information necessary for analysis in a given study. The study utilized the questionnaire to collect quantitative data from the contractors. The approach of data collection highly depends on the research design espoused. The primary sources of data were also utilized in the study and data collected via a semi-structured questionnaire both close and open ended. The closed ended questions contain foreordained answers; these inquiries gathered quantitative information. Likert scale a psychometric scale that is applied to survey frames of mind and assessments of the respondents (Morgan, 2007). These reactions to these inquiries were evaluated utilizing a five Likert Scale as pursues: 1-Strongly differ 2-Disagree 3-Neutral 4-Agree 5-Strongly concur. Polls justify similar to being delegate, unprejudiced and efficient is concerned.

Then again, talk with guide was utilized to gather information from the directing designers. The use of meeting assistant was used in light of the fact that it offers the flexibility to alter tending to as showed by the responses of interviewees, to clarify questions or answers, or to test answers even more significantly with worthwhile request as legitimate and to explore issues that ascent up out of the respondents. This is particularly the circumstance, the more unstructured the gathering becomes.

The piloting exercise was done in Emgwen Sub-County in Nandi County. The pilot study targets deciding unwavering quality of the survey including the wording, structure and grouping of the inquiries (Ngechu, 2004). The pilot concentrate included 5% respondent in the populace and they were not part of the primary example size. This implies respondents for pilot study was picked utilizing stratified irregular examining system. The motivation behind the investigation was to reword the survey with the goal that respondent in the principle study couldn't have any issues in addressing questions. Validity refers to the extent to which the measuring instrument is able to measure the constructs which is intended to measure (Kothari, 2004). There are three type of validity, namely: construct, face and content validity. However, since the study was concerned with responses via questionnaires, content validity was most appropriate. Consequently, content validity was measured using the study supervisor who examined the instruments alongside the variables.

Reliability describes the degree quality depicts how much the estimating instruments can offer solid and reliable outcomes (Kothari and Garg, 2014). This is capably gained by doing a pilot concentrate to check whether the outcomes would be steady and would hence be repeatable. Subsequently, to test for unwavering quality of the instruments a pilot concentrate was done and the outcomes went through the Cronbach Coefficient Alpha with a figure of 0.772 being appeared. Any result surpassing the 0.7 imprint is regarded solid.

Table 3: Reliability results of each variable

Item	No. of items	Cronbach's' Alpha
Completion	7	.813
Contractor working capital	10	.759
Contractor competency	10	.795
Contractor equipment holding	10	.748
Project supervision	10	.746
Composite values	47	.772

The study got permission from the University of Nairobi which was later used to get permission from the National Commission of Science, Technology and innovation. The researcher directly administered the questionnaire to the respondents and requested them to give their contact telephone numbers. This helped in following up the respondents. After four days, the researcher picked up the questionnaire for processing. After data collection, the researcher collated all the information in structured format for analysis.

As showed by Glen (2010) investigation of information is a strategy of assessing, cleaning, changing, and showing data with the goal of highlighting accommodating information, proposing ends, and supporting fundamental authority, data assessment has various perspectives and approaches, encompassing grouped methodologies under a given subject of study. Information investigation was finished utilizing graphic measurements in type of recurrence, rates, means and standard deviation. This offered an engaging comprehension of the examination discoveries. The discoveries was later exhibited in tables and the Statistical bundle for Social Sciences (SPSS) variant 24.0 was utilized to process the information and utilize the apparatuses.

Voluntary Participation-The scientist sought assent from the administration before regulating the surveys. Members were approached to sign assent shapes so as to take an interest in the exploration, for which they were allowed to take part or not to. The scientist disclosed to them that the data that they give would be utilized uniquely for the examination which is simply scholarly. Informed Consent-The researcher guaranteed that the rule of educated assent is appropriately applied and the respondents without hang-ups that accompanied absence of clear desires for the exploration. As Oliver (2004) points out, a few respondents might be intrigued by the status of the analyst, or even by the word research utilized and may consent to take part without having a smart thought of what the examination is about.

Confidentiality-The researcher disclosed to the respondents that the information assembled in this examination would be treated in certainty and that the discoveries are intended for a venture of University of Nairobi. The specialist disclosed to the respondents that the information will be coded and nobody, at all would get to the information. Anonymity-The analyst agreed the respondents their due regard while simultaneously guaranteeing that they answer the inquiries to the desires for the examination and contributing inquiries understandably. The specialist picked respondents with no segregation. This was accomplished through self-regulated polls with a mysterious technique for return.

6. Research Findings and Data Analysis

The questionnaire was the main research instrument adopted in the study. A total of 61 questionnaires were distributed to the respondents, out of which 55 questionnaires were returned but 4 questionnaires were incomplete which gives a response rate of approximately 83.6% percent. The response rate was adequate for analysis and reporting. The study sought to find out the contractor project supervision of the KeRRA projects. The results are as presented in table 4.

Table 4: Contractor project supervision

	Mean	Std. Deviation
Ineffective monitoring by the project supervisor.	3.7451	1.27817
Lack of proper feedback system.	3.8627	1.37142
Poor decision making from the supervisors.	3.6471	1.18023
Constant inspection of KeRRA projects.	3.1961	.82510
KeRRA projects are effectively monitored.	3.5098	1.25495
Variance reports are prepared frequently.	3.6667	1.24365
Improvement of KeRRA project outcomes and goals.	3.7059	1.22138
KeRRA projects are reviewed	3.8235	1.14378
Adherence to laid down budgetary procedures	3.9216	1.11073
Lack of consistency in KeRRA project inspection	3.7451	1.27817
Composite variable	3.6824	1.19076

The findings of the study revealed that 16 (31.4%) of the total respondents strongly disagreed that there is ineffective monitoring by the project supervisors, 25 (49.0%) disagreed, 1 (2.0%) were neutral, 7 (13.7%) agreed while 2 (3.9%) strongly agreed. The item recorded a mean of 3.7451 and a standard deviation of 1.27817 implying that there is effective monitoring by the

project supervisors. In regards to whether there is lack of proper feedback system adopted by the supervisors, 24 (47.1%) of the total respondents strongly disagreed, 5 (9.8%) disagreed, 11 (21.6%) agreed, 6 (11.8%) strongly agreed while 5 (9.8%) were neutral. The mean of the item was 3.8627 and the standard deviation was 1.37142. This implies that there is no lack of proper feedback system adopted by the supervisors.

From the findings, 30 (58.8%) of the total respondents strongly disagreed that there is poor decision making from the supervisors, 5 (9.8%) disagreed, 2 (3.9%) were neutral, 10 (19.6%) agreed while 4 (7.8%) of them strongly agreed. The mean of the item was 3.6471 and the standard deviation was 1.18023. In regards to whether there is constant inspection of KeRRA projects by the supervisor, 3 (5.9%) of the total respondents strongly disagreed, 2 (3.9%) disagreed, 4 (7.8%) were undecided, 30 (58.8%) agreed while 12 (23.5%) agreed. This summed up to a mean of 3.1961 and a standard deviation of .82510. This meant that there is constant inspection of KeRRA projects by the supervisor.

The study findings also revealed that 9 (17.6%) of the total respondents strongly disagreed that KeRRA projects in Nandi County are effectively monitored and evaluated, 13 (25.5%) of them disagreed, 1 (2.0%) were neutral, 15 (29.4%) of them agreed while 13 (25.5%) strongly agreed. The mean was 3.5098 and the standard deviation was 1.25495. In relation to whether KeRRA projects variance reports are prepared frequently, 7 (13.7%) strongly disagreed, 8 (15.8%) disagreed, 3 (5.9%) were undecided, 21(41.2%) agreed while 12 (23.5%) strongly agreed. The item realized a mean of 3.6667 and a standard deviation of 1.24365. This implies that KeRRA projects variance reports are prepared frequently.

In a bid to establish whether there is improvement of KeRRA project outcomes and goals through monitoring and evaluation, 12 (23.5%) strongly disagreed, 9 (17.6%) disagreed, 1 (2.0%) were neutral, 19 (37.3%) agreed while 10 (19.6%) strongly agreed. The mean of the item summed up to 3.7059 and the standard deviation was 1.22138. Additionally, 8 (15.7%) of the total respondents strongly disagreed that KeRRA projects are reviewed more often in Nandi County, 7 (13.7%) disagreed, 4 (7.8%) were neutral, 11 (21.6%) agreed while 21 (41.2%) strongly agreed. The mean value was 3.8235 and the standard deviation was 1.14378. This implies that KeRRA projects are reviewed more often in Nandi County.

In relation to adherence to laid down budgetary procedures by supervisors, 9 (17.6%) of the total respondents strongly disagreed, 4 (7.8%) disagreed, 2 (3.9%) were neutral, 17 (33.3%) agreed while 19 (37.3%) strongly agreed. The mean of the item was 3.9216 and the standard deviation was 1.11073. Finally, the study sought to find out whether there was lack of consistency in KeRRA project inspection in Nandi County, 6 (11.8%) of the total respondents strongly disagreed, 10 (19.6%0 disagreed, 13 (25.5%) agreed, 17 (33.3%) strongly agreed while 5 (9.8%) were neutral. The mean recorded was 3.7451 and the standard deviation was 1.27817. In general, the overall mean of contractor project supervision was 3.6824 and the standard deviation was 1.19076.

The results of the interview revealed that contractors' projects should be supervised to avert negligence, accidents, theft, cost overrun, time overrun and all in all so as to make sure that roads projects are completed without compromising its quality standards. One of the supervisors revealed that they constantly inspect KeRRA projects; projects variance reports are frequently prepared. Another supervisor further revealed that in the past legal suits have been lodged against contractors' who had not put in place stringent project supervisory measures that had compromised the quality, cost and time overrun of KeRRA projects. The supervisor emphasized the need for all contractors to have competent supervisors on the construction site so as to avert errors which could have been averted if the contractor had a qualified supervisor (s) on the site.

The study findings revealed that completion of KeRRA projects is affected by ineffective monitoring by the project supervisor, poor decision making from the supervisors, preparation of KeRRA projects variance reports, review of KeRRA projects and lack of consistency in KeRRA project inspection. In line with the results, Seddon (2008) observed that projects must be planned, organized, monitored and controlled smoothly in project objectives are to be realized, again within specified time, quality and cost. This then calls for effective supervision that is characterized by constant inspection, variance reports, reviews and evaluations. In a similar vein, traditionally, inspection, control and monitoring of road projects were centrally placed in the circle of project processes. Also, monitoring carries with its certain benefits like tracking operations, benchmarking completion and counterchecking if they meet set schedules and also acts as a perfect platform from which evaluation of the projects would start. The results therefore augment prior findings that contractor project supervision influences completion of road projects.

7. Conclusion and Recommendations

7.1 Conclusion

Contractor project supervision influences completion of KeRRA projects. Ineffective monitoring by the project supervisor, poor decision making from the supervisors and the frequency at which KeRRA projects variance reports are prepared in turn influences the completion of the projects. Also, review of KeRRA projects and lack of consistency in KeRRA project inspection affects completion of the road projects.

7.2 Recommendations

Stringent and creative monitoring and evaluation procedures should be put in place. There should be institutionalization of monitoring and evaluation for better equipment control. A positive equipment culture should be adopted by the contractors. Finally, contractor project supervisors should practice effective monitoring. They should make good decisions and also prepare KeRRA projects variance reports frequently. KeRRA projects reports should be reviewed frequently and there should be consistency in KeRRA project inspection.

References

1. Andriof, J., Waddock, S., Husted, B., & Rahman, S. S. (2017). Unfolding stakeholder engagement. *In Unfolding stakeholder thinking (pp. 19-42).* Routledge.
2. Cooper, D. R. & Schindler, P. S. (2008). *Business research methods*. New York: McGrew-Hill Companies.
3. Faridi, A., & El-sayegh, S. (2006). *Significant factors causing delaying the UAE construction industry, Construction Management and Economics*, 24, 1167–1176
4. Faridi, A., & El-sayegh, S. (2012). *Significant factors causing delaying the UAE construction industry, Construction Management and Economics*, 24, 1167–1176
5. Ghalayini H. & Noble, Z. (2011) *Starting smart: Key practices for developing scopes of work for facility projects*. Washington, D.C: National Academies Press.
6. Glen, M. (2010) *Sample size determination*. ILAR J 43:207-213.
7. Kothari, C. R. (2005). *Research Methodology*: Methods and Techniques. New Delhi.
8. Koushki, P. A., Al-Rashid, K., & Kartam, N. (2005). Delays and cost increases in the construction of private residential projects in Kuwait. Construction Management and Economics, 23(3), 285–294.
9. Koushki, P. A., Al-Rashid, K., & Kartam, N. (2005). Delays and cost increases in the construction of private residential projects in Kuwait. Construction Management and Economics, 23(3), 285–294.
10. Koushki, P., Al-Rashid, K., & Kartam, N. (2012). *Delays and cost increases in the construction Management and Economics,* 23(3), 285-294 Kuwait, Construction of private residential projects in
11. Koushki, P., Al-Rashid, K., & Kartam, N. (2012). *Delays and cost increases in the construction Management and Economics,* 23(3), 285-294 Kuwait, Construction of private residential projects in Kenya
12. Mathews D.T. and Kostelis, K.T (2011), Designing and Conducting Research in Health and Human Completion
13. Ngechu, M. (2004). Understanding the research process and methods: An introduction to Research Methods
14. Oliver S. (2004) Clarifying differences between review designs and methods. Systematic Reviews, 1: 28.
15. Rovai, A. P., Baker, J. D., & Ponton, M. K. (2014). *Social Science Research Design and Statistics*. Chesapeake, VA: Watertree Press LLC.
16. Sambasivan, M., & Soon, Y. W. (2007). Causes and effects of delays in Malaysian construction industry, *International Journal of Project Management*, 25, 517 –526
17. Yu, I., Kim, K., Jung, Y. and Chin, S. (2007) Comparable performance measurement system for construction companies, *Journal of Management in Engineering*, ASCE, 23(3): 131-139.