

## **Project Management and Performance of Public Sector Construction Projects: A Case of Constituency Development Funds Projects in Migori East, Kenya**

Benard Kogola Omeno<sup>1</sup>

Dr. Paul Sang<sup>2</sup>

<sup>1</sup>Correspondent Author, School of Business, Kenyatta University

<sup>2</sup>School of Business, Kenyatta University

### **Abstract**

*The aim for managing projects in the construction industry is certainly to consider cost by exercising critical success factors in each individual activity of the projects according to the specified project objectives. Construction enterprise has difficulties in its nature as it includes massive number of events as clients, contractors, experts, shareholders and regulators. Despite so many projects having been initiated so as to transform the living standards of the people in Migori East constituency, little has been achieved. Many projects have been initiated but never completed in some parts of the constituency while some complain of projects of low quality despite of costing huge sums of money hence stalled projects. The general objective of the study was to investigate the influence of project management on the performance of public sector construction projects with specific focus to CDF projects in Migori East Constituency, Kenya. The specific objectives of the study were to establish the influence of project implementation cost, project management factors, procurement procedures and contractor experience on performance of CDF funded construction projects in Migori East Constituency. The study adopted and employed descriptive survey design. The study targeted 26 projects under CDF in Migori East constituency. The target population was 62 respondents consisting of 26 clients, 24 consultants and 12 contractors. A census survey was done. The sample size consisted of 62 respondents. Questionnaire was used as a data collection instrument. Quantitative data was obtained from the questionnaires, analysed using descriptive statistics. The study concluded that overall performance within the construction enterprise is wrought with demanding situations and proprietors regularly are victim to value and agenda overruns, especially on excessive profile projects which are large, complex, and risky. Production and cloth fees, land expenses and design requirements range extensively throughout regions due to the various distances from providers, climate and weather conditions, and trendy market situations. Project management elements decide the high-quality results of imposing initiatives. They ought to be recognized before initiatives' implementation, from the conception phase. With the intention to boom the performance of the construction industry improvement and development of procurement processes is consequently essential. Request for a limited variety of bidders additionally will increase the hazard for long term relations and a non-stop workload over the years for the chosen contractors, which facilitate advanced innovation. Contractor's experience is based totally on contractor's credibility, information and reliability earlier than they input into any felony agreement. the study propose that project value control must encompass all procedures concerned in making plans, estimating, budgeting, and controlling expenses so that the project may be finished in the authorized finances. Project management component plays the important role inside the production management gadget. They must be identified earlier than the start of the venture due to the fact they at once enhance the possibilities of achieving dreams efficiently.*

*procurement systems are important in making sure the a hit implementation of a construction mission, precisely accomplished for all phases of any precise mission and recommends that there need to be a clear demarcation between the middle activities of the organisation and the outsourced; credibility of the contractor have to be first sought before employer enters into contract with the contractor. the look at might be good sized due to the fact not on time completion of projects effects in time overrun, fee overrun, disputes, litigations and sometimes entire abandonment of important tasks.*

**Key Words:** *Project Management, Project Performance, Performance of Public Sector Construction Projects, Constituency Development Funds, Projects in Migori East, Migori County*

## **1. BACKGROUND TO THE STUDY**

A project is a temporary and unique endeavor undertaken to deliver a result (Vidal *et al.*, 2011). Liu *et al* (2012) suggest that in a project, work is typically divided into work packages which are contracted to different contractors. However, the number of contractors and the contract types are parameters which influence the project complexity. Crawford and Bryce (2013) observe that a project is only successful if it comes on schedule, on budget, it achieves the deliverables originally set for it and it is accepted and used by the clients for whom the project was intended.

According to Cleland and Ireland (2012), project management is a discipline that is growing rapidly as organizations expand nationally and globally around the world. To successfully implement new strategies, organizations are faced with selecting departmental heads to introduce innovative products, services, software and systems to the gain competitive edge in the marketplace. But simply selecting a team is not enough. Kerzner (2013) indicates that managers are faced with using innovative skills to deliver quality outputs in record time. Projects are separate to business-as-usual activities, requiring people to come together temporarily to focus on specific project objectives. As a result, effective teamwork is central to successful projects. Project management focuses on controlling the introduction of the desired change. Doloji (2011) in addition argue that most construction projects particularly road infrastructure in Kenya are uncovered to extreme price escalation risk to the quantity that it calls now not handiest for added funding but additionally specialized information therefore main to technical and undertaking managerial conflicts between mission's parties. Adherence to price estimates has been a main project and brought into attention to be the largest hassle which hinders project's progress as it decreases the contractors' income margin in the end leading to massive losses leaving the project in a poor state (Kagiri & Wainaina, 2009).

Many failures of construction initiatives are due to value escalations (Gkritza & labi, 2008). The process of determining the venture price range includes aggregating the estimated costs of character sports or work applications to set up a licensed fee baseline (PMI, 2008). Patanakul and Milosevic (2009) have emphasized the need to consider cost when determining project performance in project management literature. Cost performance on a project could be calculated in unit cost or as a percent of internet variant over the overall value as recommended by Chan and Tam (2010). Ali and Rahmat (2010) used a cost element to describe project performance and specifically stated that price discrepancy is arrived at by using the variance between the real value and the budgeted value of an assignment.

In Kenya like any other countries construction industry is considered one of principal industry contributing notably to the socio-financial improvement growth. Achieving project completion on time, within budget, at particular excellent requirements, and most importantly without unheard of price escalations is primary criterion of achievement of undertaking (Doloi, 2011). Typically, a project is taken into consideration a hit if the project is completed within the said price or budget and time. Although the government of Kenya puts aside large sums of cash to be spent in manufacturing area, the enterprise is handling a whole lot of challenges such as the expenditure exceeding the price range, hinders the completion of an assignment in time, the constructing defects and over-reliance on foreign employees. Inside the agricultural region, Nyaguthii and Oyugi (2013) show that the intention is to support the commercialization of agricultural produce by means of growing the consistent with capita number and get admission to wholesale and sparkling produce markets and growing performance in advertising and alternate of agricultural produce. Through industrialization, the authorities goals at constructing and equipping "Jua Kali" shades (mild industries) to facilitate participation of youngsters as artisans and marketers. it is against this historical past that the study seeks to undertake an assessment of the performance of public quarter production tasks with particular awareness to CDF projects in Migori East constituency, Kenya.

## **2. STATEMENT OF THE PROBLEM**

Organizations worldwide are abandoning the practice of retaining many production professionals as workforce because construction is a provider interest and they need to concentrate on their middle enterprise activities and reduce overhead prices. As indicated by Kog and Loh (2012), massive infrastructure projects are afflicted by vast under control of chance in nearly all levels of the value chain and in the course of the lifestyles cycle of a mission. Alwi et al (2008) referred to that each contractor is specific in phrases of location, layout specifications, shipping strategies, administration, and members. Therefore, measuring performance of production industry is a complicated problem.

CDF is meant to transform the financial nicely being of neighborhood groups main to poverty reduction. Further, it was hoped that the CDF and devolvement of budget in general, would enhance people's participation in decision-making procedures; sell suitable governance and sell transparency and accountability. But, most of the CDF advanced tasks in Migori County, Kenya have stalled and consequently are not assisting the community in any way in improving their lives. Wanjala (2012) while conducting a survey based on the status of the CDF funded project implementation in Mount Elgon constituency warned that the noble objectives of the devolved funds would be hard to achieve if projects were being implemented in total disregard of the fundamentals principles of project implementation. This is not different as it pertains to CDF funded projects in Migori East Constituency because despite so many projects having been initiated so as to transform the living standards of the people in Migori East constituency little has been achieved. Many projects have been initiated but never completed in some parts of the constituency while some complain of projects of low quality despite of costing huge sums of money hence stalled projects

Several researches have been carried out on project management and performance of projects in the public sector. For example, Bundi (2011) did a survey on challenges in the management of procurement services inside Kenya Rural Roads Authority (KERRA) discovered that political interferences and insufficient allocations of price range hinder completion of KERRA activities

despite the fact that the authority fully implements procurement regulations. Ngacho and Das (2014) did a study on overall performance assessment framework of improvement tasks: an empirical observe of Constituency Development Fund (CDF) construction initiatives in Kenya and determined that time, great, protection, web page disputes and environmental impact impacts the overall performance of production tasks, however, the study did not focus on the value, project management factors, procurement processes and contractor expertise which is the gap this study intends to fill.

### **3. OBJECTIVES OF THE STUDY**

The general objective of the study was to investigate the influence of project management on the performance of public sector construction projects with specific focus to CDF projects in Migori East Constituency, Kenya

The specific objectives were:

- i. To establish the influence of project implementation cost on performance of CDF funded construction projects in Migori East Constituency.
- ii. To assess the influence of project management procedures on performance of CDF funded construction projects in Migori East Constituency
- iii. To determine the influence of procurement procedures on performance of CDF funded construction projects in Migori East Constituency
- iv. To establish how contractors experience influence performance of CDF funded construction projects in Migori East Constituency

### **4. THEORETICAL REVIEW**

#### **4.1 Stakeholder Management Theory**

Stakeholders management theory state that as interest in stakeholder principles has will increase, so too has the range of views on the difficulty (Friedman & Miles, 2002). Jones (1995) argues that stakeholder concept may be divided into three most important techniques: descriptive tactics, which depict “what takes place”, instrumental techniques which define “what takes location if”, and normative procedures which endorse “what should appear”. Sadly, fruitful discussions of numerous notions of stakeholder idea have at times been eclipsed via fervent, and sometimes personal, exchanges from proponents of the various perspectives.

Production management, as a area of research, has tended to cognizance on planning and coping with the complicated array of sports required handing over a construction mission, along with a road or constructing (Gann & Salter, 2000). Being able to manage construction stakeholder’s expectations and issues is a crucial capability for managers of production projects, as failure to cope with the ones has led to infinite mission screw ups, within the principal due to the fact manufacturing stakeholders tends to have the property and functionality to stop production obligations. a fulfillment finishing touch of advent tasks is consequently dependant on meeting the expectation of stakeholders. Stakeholders include customers, task managers, designers, subcontractors, providers, investment our bodies, clients, proprietors, employees and nearby companies (Gann & Salter, 2000). For that reason a robust creation control literature has advanced on a manner to perceive and manage stakeholder interests and relationships.

#### **4.2 Contingency Theory**

The contingency theory of organizational structure currently gives a first-rate framework for the have a look at of organizational layout (Donaldson, 2001). It holds that the handiest organizational structural layout is where the structure suits the contingencies. The contingency approach is taken into consideration a dominant, theoretical, rational, open system version on the structural stage of analysis in organization principle (Scott, 2008). Companies are specific; have contingency variables, and require extraordinary ways of coping with.

The Contingency Approach recognizes some of these macro-environmental factors, or contingencies, to be considered. Mintzberg (1979) identified 11 contingency variables, four coping with the environment, stability, complexity, range and hostility. Other factors identified include: layout of positions, design of superstructure, design of lateral linkages and design of selection-making system as structural layout parameters. If management is flexible, then management can respond to each of these factors and act accordingly.

Different organizations have different project management factors based on their goal they intend to meet. Therefore, they will require different approaches to different levels of management to make the most out of the prevailing economic, cultural, political and social business environment. The ultimate goal would be to deliver projects that are within the clients agreed project terms which contribute to the overall aim of the organizational existence.

#### **4.3 Theory of Constraints**

Theory of constraints (TOC) began as a production scheduling aid, developed by Eliyahu Goldratt in the late 1970s, terming it as 'optimized production time table' and was quickly advanced into a software package commonly called optimized production technology (Davis & Mabin, 2009). ten years later, because of screw ups as a result of the expectancies associated with a turnkey package led Goldratt and others to recognize that what become wanted become to persuade people to change tactics, in place of tailor the bundle to in truth automate their antique guidelines and technique – modifications to their questioning and moves had been wanted if the ability income have been to be found out (Davis & Mabin, 2009).

According to Togar *et al* (2004) TOC targets to provoke and put into effect leap forward enhancements via specializing in a constraint that forestalls a higher level of overall performance, in addition noting that TOC paradigm essentially states that every company should have at least one constraint. Goldratt and Cox defined constraint as any detail or thing that limits the gadget from doing extra of what it turned into designed to accomplish - that is accomplishing its aim (Togar *et al*, 2004). Theory of Constraints (TOC) demands situations managers to rethink a number of their fundamental assumptions approximately a way to attain the desires of their corporations, approximately what they remember effective moves, and approximately the real reason of fee management. TOC incorporates the idea that the goal or project of a corporation is the cause the agency exists. TOC emphasizes the optimization of performance within the distinct number of limiting factors of the present tactics and product contributions. Therefore identifying the constraints leading to non-effectiveness of CDF construction projects can lead to developing necessary remedies for overcoming such constraint.

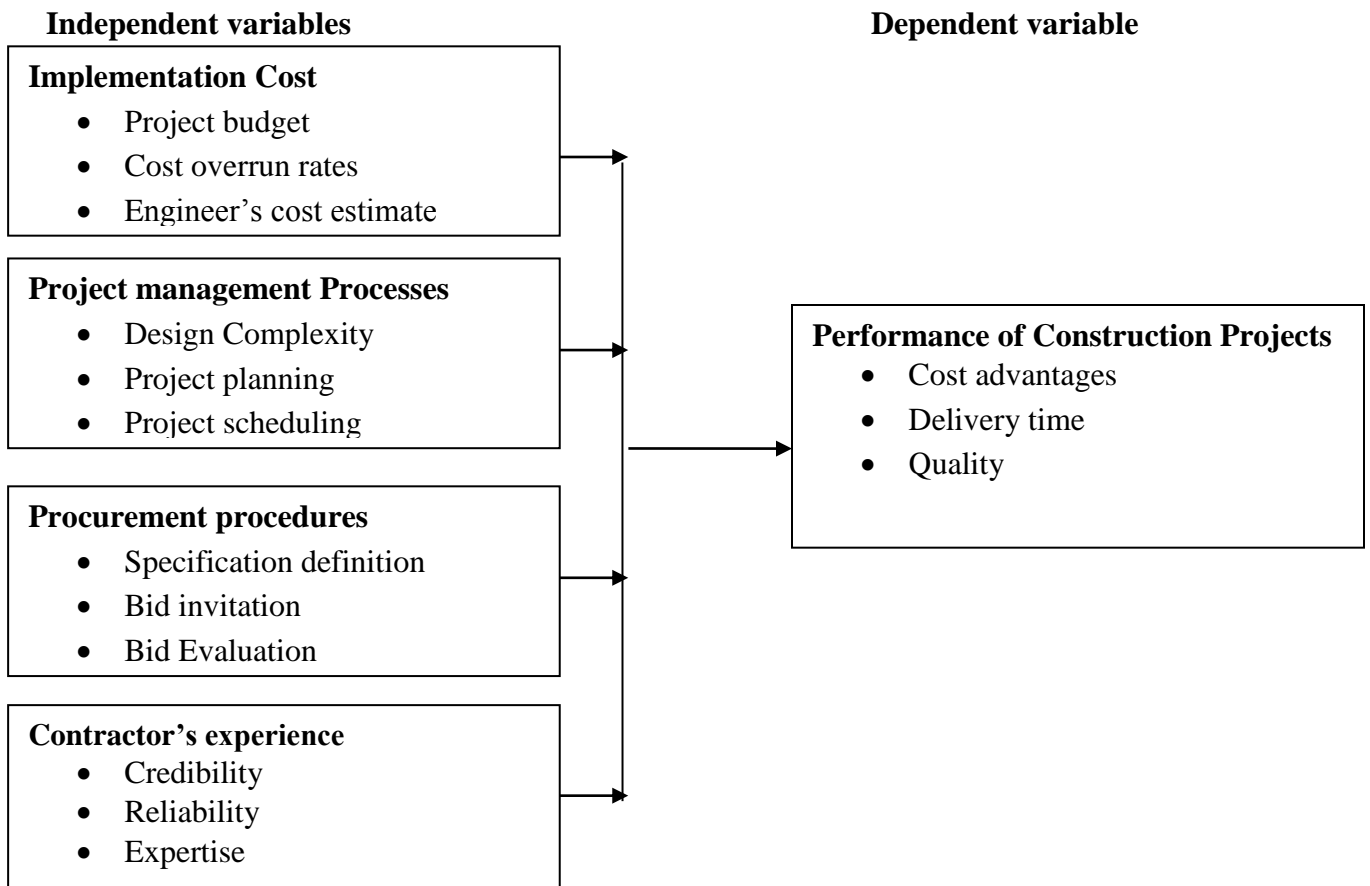
#### **4.4 Neoclassical Economic Theory**

The important thing characteristics of the neoclassical economic idea are (Des et al., 1995): assumption of rational, maximizing conduct by way of marketers with given preference function, awareness on attained, or motion towards, equilibrium states and the absence of continual data

hassle. the neoclassical principle explains the preliminary motives for enterprise process contracting proven by means of a few pioneering businesses like Kodak (Darr & Kurtzberg, 2000). But, the idea has acquired a big critique for no longer being able to give an explanation for modern-day commercial enterprise tactics. Particularly, the ideas of rationality and shortage of chronic information trouble have been criticized. But, Gottschalk and Solli-Saether (2005) confirmed that the neoclassical economic theory explains vital achievement factors of commercial enterprise method contracting which might be being evaluated inside the reconsideration section. These factors include; setting clear goals, knowing your strengths and weaknesses, evangelizing the change, considering the intangible benefits, managing the relationship and applying a structured transition.

The best practices towards successful contracting clients show that sensible planning, contractor experience and a dedication to collaborative courting control are key fulfillment elements towards higher challenge overall performance. rushing into the contracting choice without clean desires can result in misaligned expectations, expanded management overhead, and end-person delight problems, putting the entire project at risk.

### 5. Conceptual Framework



**Figure 1: Conceptual Framework**

Figure 1 shows the independent variables which are cost of implementation, project management factors, procurement procedures and contractor experience and the dependent variable is the performance of construction projects.

## 6. RESEARCH METHODOLOGY

The study adopted and employed descriptive survey design. The study targeted 26 projects under CDF in Migori East. There were 26 clients for 26 projects. In addition, there are 24 consultants and 12 contractors registered by Architectural Association of Kenya (AAK) and Kenya contractors' associations (KCA) county offices in Migori East respectively. Therefore, the target population was 62 respondents consisting of 26 clients, 24 consultants and 12 contractors.

Given the small size of the target population, a decision was made to consider all the respondents in the survey. This is, therefore, a census survey encompassed all clients, consultants and contractors involved in the construction of CDF projects between 2011 and 2016. Therefore, the sample size consisted of 62 respondents. Both primary and secondary sources of data was followed and carried out as a consequence. Primary information emanated from the stream of questionnaires to be administered to the respondents whereas secondary sources journals, books, periodicals and other documents obtained from CDF offices in Migori East constituency. The study used both quantitative and qualitative data. Quantitative data was obtained from the questionnaires, analysed using descriptive statistics such as mean and standard deviation and presented in terms of tables, frequencies, graphs and charts using Statistical Package for Social Sciences (SPSS). The study conducted multiple regression analysis to test the relationship between independent variables and dependent variable.

## 7. RESEARCH FINDINGS

Adjusted R squared is coefficient of determination which tells us the variation in the dependent variable due to changes in the independent variable. From the findings in Table 4.9 the value of adjusted r squared was 0.891 an indication that there was variation of 89.1% on performance of construction projects in Migori East Constituency due to changes in independent variables under study at 95% confidence interval. This shows that 89.1% changes in dependent variable could be attributed to influence of independent variable.

**Table 1: Regression Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.407 <sup>a</sup>	.765	.891	.581	.165	2.229	4	45	.001

*a. Predictors: (Constant), Contractor's Experience, Procurement Procedures, Project Management Factors, Cost of Implementation*

R is the correlation coefficient which shows the relationship between the study variables and from the findings shown in the Table 4.9, it is notable that there exists strong positive relationship between the study variables as shown by 0.765. Additionally, this therefore means that factors not studied in this research contribute 23.5% of performance of construction projects in Migori East Constituency and a further research should be conducted to investigate the other factors (23.5%) that affect performance of construction projects in Migori East Constituency.

**Table 2: ANOVA (Analysis of Variance)**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.006	4	.752	12.229	.001 <sup>a</sup>
	Residual	15.174	45	.337		
	Total	18.180	49			

*a. Predictors: (Constant), Contractor's Experience, Procurement Procedures, Project Management Factors, Cost of Implementation*

*b. Dependent Variable: Performance of Construction Projects*

From the ANOVA statics in Table 2, the study established the regression model had a significance level of 0.001 which is an indication that the data was ideal for making a conclusion on the population parameters as the value of significance (p-value) was less than 5% (0.05). The calculated value (12.229) was greater than the critical value (12.229>1.089) an indication that all the independent variables studied affects performance of dependent variable. The significance value was 0.001<sup>a</sup> less than indicating that the model was significant.

**Table 3: Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients		95.0% Confidence Interval for B		
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	0.421	.588		7.151	.000	3.018	5.385
	Cost of Implementation	.556	.076	2.102	2.734	.001	.209	.097
	Project Management Factors	.701	.057	5.003	5.019	.000	.115	.113
	Procurement Procedures	.618	.071	1.035	1.255	.002	.162	.125
	Contractor's Experience	.665	.059	3.384	2.793	.008	.046	.284

*a. Dependent Variable: Performance of Construction Projects*

The finding revealed that holding independent variables to a constant zero, the dependent variable would be at 0.421, a unit increase in cost of implementation would lead to increase in performance of construction projects in Migori East Constituency by a factor of 0.556, a unit increase in project management factors would lead to increase performance of construction projects in Migori East Constituency by factor of 0.701, a unit increase in procurement



procedures would lead to increase in performance of construction projects in Migori East Constituency by a factor of 0.618 and a unit increase in contractor's experience would lead to increase in performance of construction projects in Migori East Constituency by a factor of 0.665.

From the data in Table 4.10, it was established that regression equation was  $Y = 0.421 + 0.556X_1 + 0.701X_2 + 0.618X_3 + 0.665X_4$ . Therefore, performance of construction projects in Migori East Constituency =  $0.421 + (0.556x \text{ cost of implementation}) + (0.701x \text{ project management factors}) + (0.618x \text{ procurement procedures}) + (0.665x \text{ contractor competence})$ . Further, from the results of this study in Table 4.10, project management factors contributed more (0.701) to the performance of construction projects in Migori East Constituency. At 5% level of significance, cost of implementation had a p-value of 0.001; project management factors had a p-value of 0.000; procurement procedures had a p-value of 0.002; contractor's competence had a p-value of 0.008. Therefore, all the independent variables studied had a positive and significant effect on the performance of construction projects in Migori East Constituency.

Belassi and Tukel (2009) identified and grouped the success factors that determine the successfulness of project developments into four groups including: the development project factors; the project manager and team members' factors; the organisation factors; and the external environment factors. In a similar philosophy, Chan and Chan (2014) argued that the project management success factors are: project team promise; contractor's competencies; risk and liability assessments; client's competencies; end users' needs; and end users imposed restrictions.

## 8. CONCLUSIONS

On cost of implementation, this study concludes that performance within the construction industry is wrought with challenges and proprietors regularly are sufferer to price and time table overruns, specifically on excessive profile tasks that are massive, complicated, and volatile. Production and material charges, land prices and design requirements vary extensively across areas because of the various distances from suppliers, climate and climate situations, and preferred market conditions. Location impacts venture costing through institutional elements and via geographical realities. in which primary initiatives are likely to be strongly hostile on environmental grounds, more cost may also have to be allowed for environmental mitigation measures.

On project management factors, this study concludes that project management factors determine the nice effects of imposing projects. They must be recognized before tasks' implementation, from the idea segment. However, projects environments are dynamic, so management factors may exchange their stage of affect in time. Thus, a permanent monitoring of these elements is wanted and, on every occasion, necessary the task supervisor should have an effect on sure factors so as to increase chances of conducting achievement criteria.

On procurement procedures, this study concludes that so that you can boost the efficiency of the development enterprise development and improvement of procurement processes is consequently essential. Invitation of a restrained variety of bidders also will increase the hazard for lasting relationships and a non-stop workload over the years for the selected contractors, which facilitate improved innovation. Deciding on a capable contractor is one of the maximum vital duties confronted through customers who want to acquire task fulfillment. Cautious joint subcontractor

choice via both client and most important contractor in collaboration is vital in order to increase subcontractors' involvement and cooperation. On contractor's experience, this study concludes that contractor's experience is based on contractor's credibility, expertise and reliability before they enter into any legal agreement. They also indicated that the choice of a competent creation contractor increases possibilities of a hit of completion of a creation assignment.

## 9. RECOMMENDATIONS

On the cost of implementation, this study recommends that project cost management should include all tactics catered in planning, estimating, budgeting, and controlling charges in order that the challenge can be completed within the authorised budget. The cost of task implementation is primarily involved with the cost of the assets wished to complete schedule activities. Cost of implementation must also remember the effect of task selections on the value of the usage of, preserving, and assisting the product, service, or end result of the mission.

On project management factors, this study recommends that project management factor plays the vital role in the construction management system. They should be identified before the start of the project because they directly enhance the chances of achieving goals successfully. So in this regard it is necessary to concentrate on the more efficient factors or the project management factors for implementation and performance of the construction projects. On procurement procedures, this study recommends that procurement systems are critical in making sure the implementation of a construction undertaking, precisely achieved for all phases of any particular project. Procurement method to be used, contractors/bidders must have over 10 years experience, client have to evaluate the contractors/bidders "technical and financial performance" before engaging them on a project, cost reimbursement payment method should be used and personnel involved in projects should be taken for project management and contract management training.

On contractor's experience, this study recommends that there should be a clear demarcation between the core activities of the organization and the outsourced; credibility of the contractor should be first sought before organization enters into contract with the contractor. The contracts should be clearly negotiated with all the service level agreements put in place and that contractors are selected based on expertise, reliability and credibility.

## REFERENCES


- Abdullah, A. & Rahman, I. A. (2012). Potential effects on large MARA projects due to construction delay. *International journal of Integrated Engineering*, 1(2), 53-62
- Alhazmi, T., & McCaffer, R. (2010). Project procurement system selection model. *Journal of Construction Engineering and Management*, 126, 176–184.
- Ali, A.S., & Rahmat, I., (2010). The performance measurement of construction projects managed by ISO-certified contractors in Malaysia. *Journal of Retail & Leisure Property*, 9, 25–35.
- Alwi, S. Hampson, K & Mohamed, S. (2008). Factors Influencing Contractor Performance in Indonesia: A Study of Non Value –Adding Activities. In Proceedings of *International Conference on Advancement in Design, Construction, Construction Management and Maintenance of Building Structure*, Bali. 20-34.
- Amiruddin, Ismail, Towhid, Pourrostan, Amir, Soleymanzadeh, & Majid, Ghouyouchizad (2012). Factors Causing Variation Orders and their Effects in Roadway Construction Projects. *Research Journal of Applied Sciences, Engineering and Technology*, 4(23), 4969-4972.

- Arain, Faisal Manzoor, & Pheng, Low, S. (2011). How Design Consultants Perceive Causes of Variation Order for Institutional Buildings in Singapore. *Architectural Engineering and Design Management*, 1(3), 181-196.
- Assaf, S. & Al-Hejji S (2009). Causes of delay in large construction projects. *International Journal of Project Management*, 24(4), 349-57.
- Avots, I. (2012). Why does projects management full? *Calif. Manage. Rev*, 77-82
- Baker, B. N. Baker, D. C. & Muphy, D. (2013). *Factors Affecting Project Success Project Management Handbook*, Van Nostrand Reinhold CO, New York
- Belassi, W., & Tukel, O. (2009). A new framework for determining critical success/failure factors in projects. *International Journal in Project Management*, 14 (3), 141-151
- Billy, H., Cameron, I., and Duff, A.R., (2006). "Exploring the Integration of Health and Safety With Pre-Construction Planning." *Engineering, Construction and Architectural Management*. 1"3(5):438-450.
- Borg W.R & gall M (1989), *Education Research 4th Edition*, published and printed by Longman, New York.
- Carvalho, M. M. D.; Patah, L. A.; Bido, D. D. S. (2015). Project management and its effects on project success: Cross-country and cross-industry comparisons. *International Journal of Project Management*, 33, 1509–1522
- Chan, A. P.C., Ho, D.C.K., and Tam, C.M., (2001). "Design and Build Project Success Factors: Multivariate Analysis.' *Journal of Construction Engineering and Management*, 127 (2). 93 - 100.
- Chan, A.P.C., & Chan, A.P.L., (2014). Key performance indicators for measuring construction success. *Benchmarking: An international journal*, 11, 203–221
- Chan, A.P.C., & Tam, C. M., (2010). Factors affecting the quality of building projects in Hong Kong. *International Journal of Quality & Reliability Management*, 17 (4/5), 423 – 442.
- Chanet S, Biazzo, K. & Bernardi, G. (2007). Process management practices and quality systems standards: Risks and opportunities of the new ISO 9001 certification. *Business Process Management Journal*, 2003, 9 (2), 149-169
- Cleland, D. I. (2009). *Project management: strategic design and implementation*. (3<sup>th</sup>ed.) New York: McGraw-Hill
- Cooper, D. R. & Schinder, P. S. (2011). *Business research methods* (10<sup>th</sup> Ed). New York: McGraw Hill
- Crawford, P., & Bryce, P. (2013). Project monitoring and evaluation: a method for enhancing the efficiency and effectiveness of aid project implementation. *International Journal of Project Management*, 21(5), 363-373
- Crowley, L., & Hancher, D. (2009). Risk assessment of competitive procurement. *Journal of Construction Engineering and Management*, 121, 241-248
- Darr, E. & Kurtzberg, T. (2000). An Investigation of Partner Similarity Dimensions on Knowledge Transfer, *Organizational Behavior and Human Decision Processes*, 82(1), 28-44.
- Davis J. & Mabin, V. (2009). *Theory of Constraints*. New Zealand: Victoria University of Wellington
- Des, M. K., Earl, M. & David, L. B. (1995). The risks of contracting IT. *Sloan Management Review*, 4(1), 26-32

- Dobi, B. A. (2012). *Factors influencing adoption of monitoring and evaluation system for project management among NGOs in Rarieda district, Siaya county, Kenya* (Doctoral dissertation, University of Nairobi).
- Doloi, K. (2011). Understanding stakeholders' perspective of cost estimation in project management. *International Journal of Project Management*, 29(5), 622-636
- Donaldson, L. (2001). *The contingency theory of organizations*. Sage.
- Egan, J. (2012). *Rethinking Construction*; Department of the Environment, Transport and the Regions HMSO: London, UK
- Enshassi, A., Mohamed, S., & Abushaban, S. (2009). Factors affecting the performance of construction projects in the Gaza strip. *Journal of Civil Engineering and Management*, 15(3), 269-280
- Friedman, A. L., & Miles, S. (2002). Developing stakeholder theory. *Journal of management studies*, 39(1), 1-21.
- Gann, D. M., & Salter, A. J. (2000). Innovation in project-based, service-enhanced firms: the construction of complex products and systems. *Research policy*, 29(7), 955-972.
- Gkritza, K., & Labi, S. (2008). Estimating Cost Discrepancies in Highway Contracts: Multistep Econometric Approach. *Journal of Construction Engineering and Management*, 134(12), 953-962.
- Gkritza, K., & Labi, S. (2008). Estimating Cost Discrepancies in Highway Contracts: Multistep Econometric Approach. *Journal of Construction Engineering and Management*, 134(12), 935-962.
- Gottschalk, P., & Solli-Saether, H. (2006). Maturity model for IT contracting relationships. *Industrial Management & Data Systems*, 106(2), 200-212.
- Jones, T. M. (1995). Instrumental stakeholder theory: A synthesis of ethics and economics. *Academy of management review*, 20(2), 404-437.
- Kagiri, D., & Wainaina, G. (2009). *Time and Cost Overruns in Power Projects in Kenya: A Case Study of Kenya Electricity Generating Company Limited*, Nairobi
- Kamau, C. G., & Mohamed, H. B. (2014). *Efficacy of Monitoring and Evaluation Function in Achieving Project Success in Kenya: A Survey of County Government's Projects*.
- Kerzner, H. R. (2013). *Project management: a systems approach to planning, scheduling, and controlling*. John Wiley & Sons.
- Kombo and Tromp (2009) *Proposal and Thesis Writing*, published by Pauline publications, printed by Don bosco Printing Press, Nairobi.
- Laedre, O., Austeng, K., Haugen, T. & Klakegg, O. (2006). Procurement Routes in Public Building and Construction Projects. *Journal of Construction Engineering and Management*, 132 (7), 689-696
- Liu, L. Y., Pocock, J. B., Hyun, C. T. & Kim, M. K. (2012). Relationship between project interaction and performance indicators. *Journal of construction engineering and management*, 122(2), 165-176
- Miles R.L., Greer, L., Kraatz, D. & Kinnear, S., (2008). Measuring community wellbeing: A central Queensland case study. *Australasian Journal of Regional Studies*, 14(4)
- Mintzberg, H. (1979). An emerging strategy of "direct" research. *Administrative science quarterly*, 24(4), 582-589.
- Morris, G., & Hough, H. (2008). *The Anatomy of Major Projects: A Study of the Reality of Project Management*. Chichester; New York: Wiley, pp. 502-511.
- Muguchu, M. (2012). *Access to credit and financial performance in Projects*.

- Mureithi, J. M. (2015). *Factors influencing the use of monitoring and evaluation systems of public projects in Nakuru county* (Doctoral dissertation, University of Nairobi).
- Ngacho, C., & Das, D. (2014). A performance evaluation framework of development projects: An empirical study of Constituency Development Fund (CDF) construction projects in Kenya. *International Journal of Project Management*, 32(3), 492-507.
- Nyaguthii, E., & Oyugi, L. A. (2013). Influence of community participation on successful implementation of constituency development fund projects in Kenya: case study of Mwea Constituency. *International journal of Education and Research*, 1(8), 1-16.
- Olawale, A., & Sun, M. (2010). Cost and Time Control of Construction Projects: Inhibiting Factors and Mitigating Measures in Practice. *Construction Management and Economics* 28(5), pp. 509-526.
- Orodho A. J. (2005). *Techniques of writing research proposals and reports in Educational and Social Sciences*, (2nd Edition) Nairobi: kaneja H.P Enterprises
- Otieno M. P. (2009). *An assessment of the factors influencing the performance of CDF funded projects in Isiolo North Constituency*. Unpublished MA project. University of Nairobi.
- Patanakul, P & Milosevic, D., (2009). The Effectiveness in Managing a group of Multiple Projects: Factors of influence and Measurement Criteria. *International Journal of Project Management*, 27, 216-233.
- Patrick X. W. Z, (2011) "Fostering a Strong Construction Safety Culture Leadership", *Journal of Management Engineering* volume 11.
- PMI, A. (2008). Guide to the project management body of knowledge Project Management Institute. *Newton Square, PA*.
- Rubin, I. M. & Seeling, W. (2011). Experience as a factor in the selection and performance of project managers *IEEE Trans. Eng. Manage.*, 14(3), 131-134
- Scott, W. R. (2008). Approaching adulthood: the maturing of institutional theory. *Theory and society*, 37(5), 427.
- Shanmugapriya, S. & Subramanian K. (2013). Investigation of significant factors affecting cost and time overrun in Indian construction projects. *Project Management Journal*, 30(2), 60-71.
- Shao, J., & Muller, R. (2011). The development of constructs of program context and program success: A qualitative study. *International Journal of Project Management*, 29(8), 947-959.
- Shihemi, R. (2016). *Influence Of Monitoring And Evaluation Tools On Projects Performance Of Building And Construction Projects In Kenyan Public Universities: A Case Of The University Of Nairobi* (Doctoral dissertation, University Of Nairobi).
- Tabish, S.Z.S. and Jha, K.N., (2011) "Analysis of irregularities in public procurement in India". *Construction Management and Economics*. 2011, 29(3): 261-274.
- Tan; Y, Shen, L. and Yao, H., (2011) "Sustainable construction practice and contractors' competitiveness: A preliminary study", *Habitat international*, 35 (2), 225-230.
- Togar, M. S., Alan, C. W. and Ramaswami, S. (2004). Applying the Theory of Constraints to Supply Chain Collaboration. *International journal*, 9 (1), 23-29.
- Vidal, L. A., Marle, F., & Bocquet, J. C. (2011). Measuring project complexity using the Analytic Hierarchy Process. *International Journal of Project Management*, 29(6), 718-727.

- Wang, X. and Huang, J., (2006) "The relationship between key stakeholders' project performance and project success: Perceptions of Chinese construction supervising Engineers", *International Journal of Project Management* 24 (3), 253-260.
- Wardani, M., Messner, J. & Horman, M. (2006). Comparing Procurement Methods for Design-Build Projects. *Journal of Construction Engineering and Management*, 132 (3), 230-238.
- Yang, L. R., Huang, C. F., & Wu, K. S. (2011). The association among project manager's leadership style, teamwork and project success. *International journal of project management*, 29(3), 258-267.

**This is an open-access article published and distributed under the terms and conditions of the  [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/)**

**Authors seeking to publish with an International Peer Reviewed Journal should consider [www.ijcab.org](http://www.ijcab.org) by writing to the Editor at [editor@ijcab.org](mailto:editor@ijcab.org). List of our Journals are Available at [www.ijcab.org/journals](http://www.ijcab.org/journals)**