

Effects of Procurement Processes on Successful Completion of Construction Projects in Uasin Gishu County

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Abstract: The construction industry is an economic backbone of many countries but is encumbered by many challenges which compromises successful completion of its projects. Amongst these challenges are the procurement process by the client which calls for a holistic and systemic approach to guarantee success at all the phases of construction projects. The purpose of this study therefore was to assess the effects of procurement process on successful completion of construction projects within UasinGishu County. The study aimed at determining the effects of procurement control regulations, procurement quality assurance process on successful completion of construction projects in UasinGishuCounty .Data was analyzed using both inferential and descriptive statistics using Statistical Package for Social Sciences (SPSS version 20) and presented using Tables. Procurement process was found to be positively correlated to successful completion of construction Projects. Correlations between procurement control regulations and procurement quality assurance process were $r = .860^{**}$ and $r = .783^{**}$ respectively were also positively and significantly related to successful completion of construction projects where $P < 0.05$. Results revealed that the three constructs namely procurement control regulations, Procurement quality assurance have 74.7% of the variation in successful completion of construction (Adjusted R Square = 0.761).Therefore, the remaining 25.3% is explained by other factors not considered in the study. This study finally submits to management county governments and other public entities policy makers to ensure seamless adherence to procurement processes as enshrined in the public procurement and disposal act 2015 for successful completion of construction projects. Further studies should focus on the mediating effect of human capital on the relationship between procurement processes and successful completion of construction projects.

Keywords: Procurement process, successful completion of construction projects.

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I. Background of the study

The construction industry remains an important part of the economic backbone of many countries globally constituting about 7-10% of the GNP(Erickson & Westerberg, 2010).However, how construction projects have been managed has attracted criticism for inefficiencies in outcomes such as time and cost overruns, low productivity, poor quality and inadequate customer satisfaction which are indicators of unsuccessful project completion (Chan, Chan, & Ho, 2003).The total annual cost of worldwide project failures alone is \$7.5 trillion dollars, according to (Maylor, 2009).According to Eriksson, (2008) and Eriksson & Pesämaa,(2007)In order to achieve economic objective of construction projects a holistic and systemic approach to procurement process is crucial.

Construction projects are strategic activities “initiated to create economic value and competitive advantage” to both the private and public sector (Shen & Tam, 2002).Their successful completion is dependent on the following factors , namely project-related factors, project procedures, project management actions, human related factors, and external environment(Chan, Scott, & Ada, 2004).Construction project success can be looked at from multiple dimensions such as completed on time within budget, and in accordance with specifications and to stakeholders satisfaction (Chan & Suhaiza, 2007).Rosli, Ismail, A, Wan, & Zainordin, (2006) opines that to guarantee successful completion ,it is very important at the very outset of the project to carefully consider all factors when selecting the most appropriate procurement approach which is a project procedure for a construction project. It can therefore be inferred that in the absence of a procurement process construction projects may fail to achieve their objectives .This position is corroborated by Jeptepkeny,(2015) who aver that procurement processes have increasingly played an important role in project performance which is an index of successful project completion.

Procurement process remains significant as it focuses on the best products/materials management methods that employ an integrated methodology to manage relationships, processes and outcomes jointly with the suppliers (Baily, Farmer, Jessop, & D., 2005). Zuleha, Musiega, Kibetand Manase, (2013)also observed that

effective construction project management yields profits through savings developed from well planned and carefully executed procurement process. According to Laedre, Austeng, Haugen and Klakegg, (2006) an increased understanding of how different procurement processes affect aspects of project performance remains vital in order to enhance successful project completion hence project performance. Procurement process involves a series of activities like purchasing, transporting, stocking, and supply (Nikhil, Arokiaprakash, & Manivel.S., 2016).

In many countries, however, the construction industry frequently receives criticism regarding poor quality and customer satisfaction, frequent conflicts and disputes among different actors, and cost and schedule overruns in projects (Eriksson & Westerberg, 2016). Anvuur & Kumaraswamy, (2007) avows that there increased complexity, uncertainty, and time pressure in construction projects have increased the need for cooperation among different project actors. These problems in construction projects are linked to inadequate procurement processes where the focus is on short-term individual sub-optimization rather than on long-term project team performance (Eriksson & Westerberg, 2016).

Eriksson and Westerberg (2012) study in Sweden, postulates that different procurement factors at the design, bid invitation, bid evaluation and sub-contractor selections stages can have various influences on successful completion of projects. (Rosli, et al., 2006) and (Ogunsanmi, 2013) in their studies on effect of different procurement process on successful completion of projects in Malaysia and Nigeria respectively, found out that procurement processes had positive impact on successful completion of project.

In Kenya the public procurement system has evolved to an orderly and legally regulated system governed by the Public Procurement and Disposal Act, 2015 which regulates the procurement procedures. Despite these efforts by the government to improve construction projects delivery through Public Procurement and Disposal Act 2015, success has been hampered by endemic delays in successful project completion (Nekesa, 2015). According to Road Inventory and Condition (RIC) Survey of 2009, only 19% of the classified road networks are in good maintainable condition while 50% is fair and the remaining 31% is in poor condition requiring improvement through rehabilitation (ROK., 2010). There have been, however, major efforts to improve and raise the level of expenditure on roads to over 10% of the Gross Domestic Product (GDP) (Omayo & Gekara, 2013). The myriad cases like constructions on public utility spaces, road reserves and collapsing of buildings are challenges to the industry's level of competency and product quality assurance. Forthwith, (Cattell, Bowen, & Kaka, 2007) stated that the construction industry is challenged since the current buildings are not able to last long comparatively to other buildings erected centuries ago.

According to Barasa (2014) the choice of procurement process contributes significantly to the successful completion of construction projects. Jeptepkeny (2015) in her study on the effects of procurement procedures (specification definition, bid invitation, bid evaluation and contract negotiation) on project performance at Kenya Ports Authority, Mombasa, concluded that procurement processes have a strong and positive correlation with successful project completion. Stephen (2014) opines that procurement processes have moderately positive influence on successful completion of projects. This mixed results in these studies together with the recommendations by Jeptepkeny (2015) that further research be undertaken to investigate the effect of procurement processes on project performance purposely to ascertain how these other factors also contribute to project overall performance in public procurement entities, besides the low number of respondents used in that study compromises on its generalization to other public entities. This is the motivation behind the current study to fill in the existing gap in literature. The procurement processes affecting successful completion of construction projects are diverse but in the current study the specific variables which will be considered include procurement control regulations, procurement quality assurance and their effect on successful completion of construction projects in Uasin Gishu County.

Objectives

The study was guided by the following objectives:

1. To find out the effect of procurement control regulations on successful completion of construction projects in Uasin Gishu County.
2. To determine the effects of procurement quality assurance process on successful completion of construction projects in Uasin Gishu County.

II. Literature review

Procurement Control Regulations

Worldwide, public procurement has become an issue of public attention and debate, and has been subjected to reforms, restructuring, rules and regulations. World Bank, (2004) define public procurement as the acquisition of goods, services and works by a procuring entity using public funds. According to Rosli, Ismail, & Wan, (2006), public bodies have always been big purchasers, dealing with huge budgets.

World Bank (2004), also reiterated that public procurement represents 18.42% of the world GDP. Although several developing countries have taken steps to reform their public procurement systems, the process is still shrouded by secrecy, inefficiency, and corruption and undercutting. In all these cases, huge amounts of resources are wasted (Odhiambo & Kamau, 2013). In developing countries, public procurement is increasingly recognized as essential in service delivery (Hunja, 2011), and it accounts for a high proportion of total expenditure.

The Public Procurement Authority (PPOA) in its effort to make public procurement transparent, efficient, and fair, established five basic pillars of the public procurement (Jeptepkeny, 2015). One is the comprehensive transparent legal and institutional framework, two is the clear and standardized procurement procedures and standard tender documents, three is the independent control system, four is the proficient procurement staff and five is the anti-corruption measures. The legal and institutional framework stipulates that the PPA establishes the public procurement board as a legal corporate entity. This entity would comprise of ministries, departments agencies and all parastatal establishments that utilize public funds. In each entity, one would find a tender committee that is in charge of providing a one-stop shop for concurrent approvals, awards and management of contracts.

The procurement procedures and documentation stipulates that procedures must be followed for the sizing of tender packages, soliciting and evaluation of tenders and for the award of contracts. This procedure states that all contracts must be tendered on an open competitive basis, meaning that all contracts must be out there for every business entity to take advantage of unless otherwise stated in the Act. The Public Procurement Authority is a corporate body created under the Act 663, 2003 to make the processes of public procurement in the public service secure a judicious, economic and efficient use of state resources. It also guarantees that procurement activities are carried out fairly, and in a transparent and non-discriminatory manner (Public Procurement Act, 2003)

Although several sectors in Kenya have taken steps to reform their public procurement systems, the process is still shrouded by secrecy, inefficiency, corruption and undercutting. In all these cases, huge amounts of resources are wasted (Odhiambo & Kamau, 2013). According to Ministry of Finance Strategic plan, (2009-2013) Procurement has a major role to play in the execution of budgets at all levels of Government. Government is the largest single buyer of goods, works and services in the country of which the government spends approximately 70% of budget on procurement.

Competitive Tendering involves the use of standard tender documents to draft tender documents inviting potential suppliers, contractors or consultants to tender for public procurement opportunities. When opportunities come up, they are advertised and opened to all potential tenderers. Restricted Tendering is a procurement method that is limited to only short-listed contractors or suppliers. This method stipulates that parties involved must go through a formal procedure with detailed invitation to tender documents. Tender documents are available to short-listed suppliers with minimum of three and maximum of six suppliers and it requires specific approval from Public Procurement Board (PPB). With this method, awards should be published in the Procurement bulletin. Restricted tendering under the Act can only be used if it provides greater economic efficiency and is subject to approval by the Board (George, 2010).

However, a study by Odhiambo and Kamau (2013) reveal that even after the enactment of the Regulations, there are losses of public funds that can be attributed to public procurement. A study by (KPMG, 2008) established that there was a low share of procurements that were done through open tendering and also the public procurement still suffers from fraud and misconduct. A further study by KACC, also noted that public officials distort the Regulations to restrict the participation of interested firms in procurement, or still direct the outcome of others (Odhiambo & Kamau, 2013).

Procurement Quality Assurance Process

The procurement entity is entitled in ensuring that the Contractor and Contractor's agents and representatives have visited, inspected and are familiar with the Site, its physical condition, roads, access rights, utilities, topographical conditions and air quality conditions, except for usual or unknown surface or subsurface conditions, or unusual or unknown soil conditions, and have performed all reasonable investigations necessary to determine that the Site is suitable for the construction and installation of the Facility, and are familiar with the local and other conditions which may be material to Contractor's performance of its obligations under this Agreement (including, but not limited to transportation, seasons and climates, access, the handling and storage of materials and fuel and availability and quality of labor and materials). (Eriksson, 2008)

From the perspective of a construction company, quality management in construction projects should mean maintaining the quality of construction works at the required standard so as to obtain customers' satisfaction that would bring long term competitiveness and business survival for the companies. Further, the adoption of quality in construction industry has been promoted in some literature (CIPS, 2013). The application of ISO standards has received much attention from researchers. ISO certification is nowadays a trend in most

industries including construction industry. According to study by, for the implementation of quality management in project management, the concepts of quality planning (identification of quality standards), quality assurance (evaluation of overall project performance) and quality control (monitoring of specific project results) in the quality management processes are importance.

Among those, quality assurance (QA) and quality control(QC) are mostly used in construction. The quality control procedure in construction projects is based on tender documents, specifications, working drawings etc. Therefore, the pre tender stage quality and standards of the work should be properly maintained(George, 2010). Therefore it is important to maintain quality control of the building projects from the inception of its design stage up to the completion of construction including the maintenance period. Quality Assurance (QA) is a program covering activities necessary to provide quality in the work to meet the project requirements. QA involves establishing project related policies, procedures, standards, training, guidelines, and system necessary to produce quality. QA provides protection against quality problems through early warnings of trouble ahead. Such early warnings play an important role in the prevention of both internal and external problems". On the other hand Quality Control (QC) is the specific implementation of the QA program and related activities. Effective QC reduces the possibility of changes and mistakes(Anvuur & Kumaraswamy, 2007).

Most governments have responded by adopting electronic procurement (henceforth: eprocurement) (World Bank 2007). E-procurement entails the use of electronic media, such as the internet, for some or all of the process of acquisition of goods or services. E-procurement is thought potentially to address three common concerns with manual procurement practices: lack of access to bid information, collusion among bidders, and corruption(Harrison, 2015). E-procurement can increase the number of bidders by lowering the costs of obtaining information about a tender process, thus increasing the number of firms who can bid. Likewise, e-procurement can reduce collusion among bidders by providing information about tenders to firms outside a local cartel, allowing non-cartel firms to participate and breaking up local bidding cartels. E-procurement can also potentially mitigate corruption by reducing the degree to which government officials selectively withhold information or refuse to take bids from non-favored bidders. Moreover, by ensuring public access to all procurement data, e-procurement enhances transparency and the possibility of public oversight(Nekesa, 2015).

III. Research Methodology

This study adopted a case study design since it is suitable for studies where data is intended to describe a unit in detail, in context and holistically. It is an intensive descriptive and holistic analysis of a single entity (Willis & David, 2009). The study was conducted at Uasin Gishu County which is one of the 47 counties of Kenya.

The target population was 114 including a sample frame of Construction managers, County procurement officers, Quantity surveyors and Ministry of works officers (Uasin Gishu County, 2016). Census survey method was used where the whole target population was taken into account and the units having heterogeneity (Cohen, 2007). This method was appropriate because it collects complete information from all participants in the population and gave an opportunity to have an intensive study about the effects of procurement processes on successful completion of construction projects in Uasin Gishu County. The study used a mixed method approach in data collection which is the use of quantitative methods through administering of the questionnaire, as well as a qualitative approach by interviewing respondents and reviewing existing literature (Bryman, 2006; Easterby-Smith, Thorpe, & Jackson, 2008).

Data was analyzed using descriptive and inferential statistics where under inferential statistics. In multiple regressions was used to determine the effect of a set of independent variable (procurement procedures) on dependent variable (successful completion of projects), coefficient of correlation using the Statistical Package for Social Sciences (SPSS) version 20.0 package.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon \dots \dots \dots (1)$$

Where Y is successful completion of construction project, dependent variable; ε is the error term, X is dimensions of Procurement procedure affecting successful completion of construction project, β is the standardized regression coefficient β_0 is the constant

X_1 = Procurement control regulations

X_2 = Procurement quality assurance

$$S = \beta_0 + \beta_1 (PCR) + \beta_2 (PQA) + \varepsilon \dots \dots \dots (2)$$

Where S = Successful completion of construction project, $\beta_1 (PCR)$ = procurement control regulations, $\beta_2 (PQA)$ = procurement quality assurance

IV. Findings and Discussions

Descriptive Statistics of procurement control regulations

Research objective two sought to establish the effects of procurement control regulations on successful completion of construction projects . Consequently, five questionnaire items were used to examine the prevailing status of adherence to procurement control regulations in the county. In table 1 respondents tended to agree that procurement policy is always adhered to (M = 4.52, SD = 0.685); they also agreed that proficient procurement staff vet and evaluate contractors (M = 4.53, SD =0.653). Respondents also agreed that standardized procurement procedures are adhered to (M = 4.37, SD =0.930) . The respondents further tended to agree financial support is the major support given by the government (M = 3.86, SD =1.221). The respondents also tend to agree that anticorruption measures are implemented (M = 3.96, SD = 1.188).

Table 1: Procurement control regulations

Response items	Mean	Std. Deviation
Timelines are always looked into	4.06	1.082
Contractors terms of quality are audited	4.31	.780
Certified contractors are used in discharging contracts	4.42	.727
Post contract contractor quality performance is monitored	4.00	1.142
Quality specifications are adhered to in tender documents	4.47	.601

Descriptive Statistics of procurement quality assurance process

The study conceptualized that procurement quality assurance process had an effect on successful completion of construction projects. Thus; five questionnaire items were used to examine the extent of adherence to procurement quality assurance process by the county. Results presented in Table 2 reveal that the respondents agree timelines are always looked into (M=4.06 SD=1.082). Besides, a majority of the respondents agreed that contractor terms of quality are audited (M=4.31 SD=0.780) .Some respondents also agreed that certified contractors are used in discharging contracts (M=4.42 SD=.727).Some respondents also agreed that post contractor quality performance is monitored (M=4.00 SD=1.142). Lastly the respondents were in agreement quality specifications are adhered to in the tender documents (M=4.47 SD=.601).These results imply that procurement quality assurance process is adhered to in the county which would be presumed to guarantee successful completion of construction projects

Table 2: Procurement quality assurance process

Response items	Mean	Std. Deviation
Procurement policy is always adhered to	4.52	.685
Proficient procurement staff vet and evaluate contractors	4.53	.653
Standardized procurement procedures are adhered to	4.37	.930
Financial support is the major support given by the government	3.86	1.221
Anticorruption measures are implemented	3.96	1.188

Descriptive Statistics of successful completion of construction projects

The dependent variable of the study was successful project completion performance ratings. The study conceptualized that procurement processes could have an effect on successful project completion. To this end, five questionnaire items were used to assess successful completion of construction projects in Uasin Gishu County. Results displayed in Table 3 reveals that respondents concurred that projects meet clients specifications (M=4.31 SD=.722). Some respondents were of the view that projects are completed on time (M=4.42 SD=.825). The respondents also agreed to the statement that projects are completed within the budget schedule (M=4.51 SD=.670). Respondents also agree that users are satisfied with the project (M=4.02 SD= .989). Respondents agreed that projects are a total success (M=4.22 SD= .845).

Table 3: successful completion of construction projects

Response items	Mean	Std. Deviation
Projects meets clients specifications	4.31	.722
Projects are completed on time	4.42	.825
Projects are completed within the budget schedule	4.51	.670
Users are satisfied with the projects	4.02	.989
Projects are a total success	4.22	.845

Source: Authors computation (2017)

Correlations

The inter-correlations among the variables are shown in Table 4 from the results, it can be seen that correlations among the dimensions were significant. Correlations between procurement control regulations and procurement quality assurance process where $r = .860^{**}$ and $r = .783^{**}$ respectively were also positively and significantly related to successful completion of construction projects where $P < 0.05$. This implies that all the procurement processes under study jointly have a positive and significant impact on successful completion of projects in Uasin Gishu county it therefore behooves the management of the county to pay high premiums on these procurement processes among others to secure successful completion of construction projects.

Table 4: correlation

	Procurement control regulations	Procurement quality assurance	Successful completion of projects
Procurement control regulations	1		
Procurement quality assurance process	.841**	1	
Successful completion of projects	.860**	.783**	1

** . Correlation is significant at the 0.05 level (2-tailed).

Source Authors computation (2017)

Effects of procurement process on successful completion of construction projects

Multiple regression analysis was used to test the formulated hypotheses. First, the model summary was analyzed to establish the strength of the conceptualized procurement processes in predicting successful completion of construction projects. Results presented in Table 5 reveal that the two constructs namely, procurement control regulations and Procurement quality assurance 74.7% of the variation in successful completion of construction (Adjusted R Square = 0.747). Therefore, the remaining 25.3% is explained by other factors not considered in the study.

Table 5. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F change	Sig F change	Durbin-Watson
1	.867 ^a	.752	.747	.319	98.556	.000	1.372
				a. Predictors: (Constant), procurement control regulations and Procurement quality assurance			
				b. Dependent Variable: Successful completion of construction projects			

Source: Authors computation (2017)

Second, the ANOVA output was examined to check whether the proposed model was viable. Results shown in Table 6 reveal that the F-statistic was highly significant ($F = 136.538, p < 0.05$). This shows that the model was valid.

Table 6: ANOVA^b

Sum of Squares	Df	Mean Square	F	Sig.
27.834	2	13.917	136.538	.000 ^a
9.173	90	.102		
37.007	92			
a. Predictors: (Constant), Procurement control regulations, Procurement quality assurance				
b. Dependent Variable: Successful completion of construction projects				

The model significantly improved the ability to predict Successful completion of construction projects. Thus, the model was significant answering the research question.

Regression Coefficients of Successful completion of construction projects

Results of the regression coefficients presented in Table 7 shows that the estimates of β values and give an individual contribution of each predictor to the model. The β value tells us about the relationship between successful completions of construction project with each predictor. The positive β values indicate the positive relationship between the predictors and the outcome. The β value for procurement control regulations (.688), Procurement quality assurance (.205) were positive. The positive β values indicate the direction of relationship between predictors and outcome. From the results (Table 7) the model was then specified as:-

$$y = \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon \dots\dots\dots$$

Successful completion of construction projects = .688 procurement control regulations, +.205 Procurement quality assurance + $\epsilon \dots\dots\dots$

The coefficients for each of the variables indicates the amount of change one could expect in Successful completion of construction projects given a one-unit change in the value of that variable, given that all the variables in the model are standardized basing on the standardized coefficients. Results reveal standardized regression coefficient for procurement control regulations, ($\beta=0.688$), implies that an increase of 1 standard deviation in procurement control regulations, is likely to result in a 0.688 standard deviations increase in Successful completion of construction projects. Standardized regression coefficient for Procurement quality assurance ($\beta=0.205$), implies that an increase of 1 standard deviation in Procurement quality assurance is likely to result in a 0.205 standard deviations increase in Successful completion of construction projects.

T-test was used to identify whether the predictors were making a significant contribution to the model. When the t-test associated with β value is significant then the predictor is making a significant contribution to the model. The smaller the value of significance (the larger the value of t) meaning greater is the contributor of that predictor. The results show that procurement control regulations ($t = 7.091, P < .05$) and Procurement quality assurance ($t = 2.108, P < .05$). These findings indicate that procurement control regulations, Procurement quality assurance which significantly affect Successful completion of construction projects. These results imply that procurement control regulations is most important predictor for Successful completion of construction projects.

Table 7 Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	β			Tolerance	VIF
(Constant)	1.071	.201		5.324	.010		
procurement control regulations	.583	.082	.688	7.091	.000	.292	3.419
Procurement quality assurance	.176	.083	.205	2.108	.038	.292	3.419
a. Dependent Variable: successful completion of construction projects							

Source: Authors computation (2017).

4.7 Discussion of results

The main purpose of the study was to assess the effects of procurement process on successful completion of construction projects. From the results, there is no second opinion to the fact that procurement process has an effect on successful completion of construction projects. In fine public organizations in undertaking construction projects can only attain competitive position during this era of globalization, competition, and rising cost of production by strict adherence of procurement process, which can guarantee successful completion of construction projects. This fact is underpinned by the findings of this study.

The Public Procurement Authority (PPOA) in its effort to make public procurement transparent, efficient, and fair, established basic pillars of the public procurement (Jeptepkeny, 2015). Procurement of public funded construction projects are regulated by public procurement in order to achieve project success. From the findings $r = .860^{**}$ and Standardized regression weight ($\beta = .688$) was found to be positive and explores that a positive relation is caused by independent variable in dependent variable. The value of t value is $= 7.091, p < 0.05$ which is significant table 7. Therefore, these results are providing sufficient ground to affirm that procurement regulation remains paramount in addressing successful completion of projects. However, a study by Odhiambo and Kamau (2013) reveal a contrary opinion that even after the enactment of the Regulations, there are losses of public funds that can be attributed to public procurement. An index of lack of effective adherence of the regulation can lead to cost overruns and probably time overruns in public funded projects. These findings supports the argument of Chandra, (2010) asserts that unlike small projects that involve few activities, complex projects that go beyond a certain threshold level of magnitude should proceed on the basis of a sound formal planning platform without which there may be chaos. This implies that public organizations must strictly adhere to this procurement control regulation if they have to be successfully completed.

The adoption of quality in construction industry has been promoted in some literature (CIPS, 2013). From the findings of this study there is significantly positive correlation $r = 0.783^{**}, P < 0.05$ between procurement quality assurance and successful completion of construction projects in UasinGishu county. This finding are underpinned by the arguments of Nekesa, (2015) who recommended that all stake holders should ensure that there is quality assurance in the tendering process to ensure validity of the completed projects. The implication is that organizations should pay high premiums on procurement quality assurance in order to secure successful completion of the construction projects.

Result of multiple regressions further revealed that procurement processes jointly and independently influences successful completion of construction projects. The regression model was statistically significant and explained approximately 74.7% of the variation in successful completion of construction (Adjusted R Square = 0.747). In this study Predictors of successful completion of construction projects are selection criteria,

procurement control regulations and procurement quality assurance. As evident from the results displayed, amongst the procurement processes, the most important predictor with respect to successful completion of construction projects was procurement control regulation, with ($\beta = .688, t = 7.091, P = 0.00$). This suggests that in the light of procurement process, procurement control regulations as enshrined in the Kenyan public procurement and disposal act of 2015, when embraced by the public organizations including county governments contribute extensively to improving project performance as selection criteria and procurement quality assurance. However, it should be adopted besides procurement quality assurance to enhance a synergistic relationship, which would eventually warrant high project success. The implication of this is that the procurement processes under study in the county jointly have a positive and significant impact on the successful completion of construction projects.

V. Conclusions

From the findings this study makes a number of conclusions. The study explored the relationship between the procurement process constructs as procurement control regulations and procurement quality assurance on successful completion of construction projects. The study concludes that these constructs are key in enhancing the successful completion of construction projects. This is evidenced by the fact that these constructs (procurement control regulations and procurement quality assurance) can jointly and independently affect to some magnitude the completion of construction projects. It therefore calls for the strict adherence to procurement processes which would guarantee a balance between time, cost and quality as indicators of successful completion of construction projects. The implementation of selection criteria, procurement control regulations and procurement quality assurance among others would ingrain integrity in the management and operations of procurement process. Thus the current study provides absolute support to the suggestion that procurement processes as entrenched in the public procurement and disposal act of 2015 be recognized as a significant precursor for the successful completion of construction projects.

VI. Recommendations

In view of the findings of the study and the guidance from the literature review, it is apparent that the extent of embracing procurement process is an important ingredient to satisfy the various needs of construction projects and in return eliciting project success. While there are other factors crucial for successful project completion, from the results, the public entities should pay more attention in addressing any shortcomings in procurement control regulations and procurement quality assurance to increase project performance. Besides addressing procurement processes in relation to project completion, the county government should endeavor to address other key project impediments as poor project planning, inadequate manpower, inadequate finance and poor project monitoring as this would encumber successful project completion. In this regard, the current study makes the following recommendations.

1. The county governments and other public entities should embrace strictly procurement regulations at every stage of the project. However there is need for constantly inducting procurement staff and project managers on the regulations.
2. Procurement quality assurance should remain the cornerstone of ensuring the project meets the needs of the client in the long run. Procurement quality assurance will guarantee good construction quality program with minimal defects leading to a smooth and trouble free transition into the commissioning and qualification phase of the project.
3. This study finally submits to management of county governments and other public entities policy makers to ensure seamless adherence to procurement processes as enshrined in the public procurement and disposal act 2015 for better results.

References

- [1]. Anvuur, A., & Kumaraswamy, M. (2007). Conceptual Model of Partnering and Alliances. 133 (3), 225-234.
- [2]. Baily, P., Farmer, D., Jessop, D., & D., J. (2005). Purchasing Principles and Management. U.K: Pearson Education Limited.
- [3]. Brannen, J. (2008). Mixing Methods: Qualitative and Quantitative Research. Thomas Coram Research Unit England: Ashgate Publishing Limited.
- [4]. Bryman, A., & Cramer, D. (2005). Quantitative Data Analysis with SPSS 12 and 13: A guide for social scientists. East Sussex, UK: Routledge.
- [5]. Cattell, D. W., Bowen, P. A., & Kaka, A. P. (2007). Review of unbalanced bidding models in construction. Journal of Construction Engineering and Management, 133(8), 12.
- [6]. Chan, A. C., Scott, D., & Ada, P. L. (2004). Factors Affecting the Success of a Construction Project. Journal of Construction Engineering and Management, 130(1), 153.
- [7]. Chan, A., Chan, D., & Ho, K. (2003). An Empirical Study of the Benefits of Construction Partnering in Hong Kong. Construction Management and Economics, 21 (5), 523-533.
- [8]. Chan, W., & Suhaiza, Z. (2007). Factors Influencing the Success of Project Management amongst Manufacturing Companies in Malaysia: A Conceptual Framework. 7th Global conference of business and economics. Rome Italy.
- [9]. CIPS. (2013). Monitoring the Performance of Suppliers - CIPS Positions on Practice.

- [10]. Collis, J., & Hussey, R. (2009). *Business Research: A practical guide for undergraduate and post-graduate students*. 3rd edition, Palgrave Macmillan Construction Industry. Engineering, Construction and Architectural Management, pp. 10(5):333-342.
- [11]. De Vaus, D. (2002). *Surveys in social research*. London: Routledge.
- [12]. DuPlooy, G. (2002). *Communication Research: Techniques, methods and applications*. Landsdowne: Juta and Co. Ltd.
- [13]. Erickson, P., & Westerberg, M. (2010). *Effects Of Procurement On Construction Project Performance*. Retrieved from <https://www.researchgate.net/publication/260322330> assessed on 11 march 2017
- [14]. Eriksson, P. E. (2008). *Procurement Effects on Coopetition in Client-Contractor Relationships*. *Journal of Construction Engineering and Management*, 134 (2), 103-111.
- [15]. Frazer, L., & Lawley, M. (2000). *Questionnaire design and administration: a practical guide*. Queensland, Australia: John Wiley & Sons.
- [16]. George, K. (2010). *Procurement of technical works*. *Journal of Procurement*, Vol.22, No.2. pp. 146-143.
- [17]. Hair, J. J., Money, A. H., Samouel, P., & Page, M. (2007). *Research methods for business*. Chichester: John Wiley & Sons Ltd.
- [18]. Harrison, W. K. (2015). *Public Procurement System and its influence on the building contract performance during project implementation: the case of Nairobi County* (master of science, JKUAT).
- [19]. Husna, M., & Retneswari, M. (2009). *Reliability (Internal Consistency) of the Job Content Questionnaire on Job Stress Among Office Workers of a Multinational Company in Kuala Lumpur*. *Asia-Pacific Journal of Public Health*, 21(2).
- [20]. Jeptepkeny, P. (2015). *European Journal of Logistics Purchasing and Supply Chain Management*, 3(1) 1-11.
- [21]. KeRRA. (2014). *Board Tour of The North Rift KeRRA Newsletter*. Retrieved 06 17, 2017, from <http://www.kerra.go.ke> 4 (2)
- [22]. Kombo, D., & Tromp, D. (2006). *'Proposal and Thesis Writing- An Introduction'*, Nairobi: Paulines Publications.
- [23]. Maylor, H. (2009). *Project Management (3rd Edition)*. Ashford Color Press Ltd.,
- [24]. Nekesa, R. K. (2015). *Influence of procurement process on completion of road construction projects in Kenya: A case of Bungoma South Sub-County*. unpublished thesis University of Nairobi.
- [25]. Nikhil, C. ..., Arokiaprakash, M. I., & Manivel.S. (2016). *Analysis of Factors Influencing Procurement Process and Proposing a Decision Making Module for Construction Projects on Multi-Site Context*. *International Journal of Applied Engineering Research*, 11(9) 6689-6693 ISSN 0973-4562.
- [26]. Odhiambo, W., & Kamau, P. (2013). *Public Procurement: Lessons from Kenya, Tanzania and Uganda*. OECD Working Paper NO.208.
- [27]. Ogunsanmi, O. (2013). *Effects Of Procurement Related Factors On Construction ProjectPerformance In Nigeria*. *Ethiopian Journal of Environmental Studies and Management*, 6(2).
- [28]. Omayo, P., & Gekara, J. (2013). *Factors Influencing Successful Completion Of Roads Projects In Kenya*. unpublished thesis.
- [29]. ROK. (2010). *The Transformative and Effective Infrastructure Conference Report*. KICC – Nairobi: Government Printer.
- [30]. Saunders, M., Lewis, P., & Thornhill, A. (2007). *Research Methods for Business Students (4th ed.)*. London: Pearson.
- [31]. Shen, L. Y., & Tam, V. (2002). *Implementation of Environmental Management in the Hong Kong Construction Industry'*. *International Journal of Project Management*, 20 (7), 535-543.
- [32]. Willis, Y. O., & David, O. (2009). *A general guide to writing research proposal and Report. A handbook for beginning researchers*.
- [33]. Xiaohong, H. (2011). *An Analysis of the Selection of Project Contractor in the Construction Management Process*. *International Journal of Business and Management*, 6(3).

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