Performance of Road Infrastructure Projects in Uganda: A Procurement Approach

Tonny Muzaale[1], Christelle Auriacombe[2], Aloysius Byaruhanga[1];
Mbarara University of Science and Technology[1].
School of Public Management, Governance and Public Policy University of Johannesburg[2].

Abstract

Adequate infrastructure is critical to economic growth and competitiveness of a nation; hence the current inadequate infrastructure is impeding the expected growth of Uganda. This study examined the performance of road infrastructure projects in Uganda. The study relied on primary and secondary data which was analysed basing on content thematic analysis and regression analysis. Performance was measured in terms of time, cost and quality. Major road projects in the country have been completed with significant cost and time overruns. There were time and cost overruns on several road projects namely: Kyenjojo-Kabwoya-Hoima-Bulima road, Mubende-Kakumiro road, Kyenjojo road, Mukono-Katosi road and Kisoga-Nyenga road. Use of poor quality materials, poor scheduling, delayed procurement and specification have caused time overruns on the road construction projects. Delays have had an adverse impact on project success. Today the effects of road construction delays have not been confined to the construction industry only, but have ended up affecting the overall economy of a country. It is prudent and judicious that the contractor management and monitoring process should be improved for all ongoing road construction works.

Keywords: Time overruns, Cost overruns, Payment delays, UNRA

Introduction

The construction of infrastructural projects has attracted many studies, particularly in developing economies (Sambasivan & Soon, 2007; Ondari 2013). The construction industry plays a central role in Uganda's development process today (Mulumba, 2016). The industry provides work for manual labourers and many professionals such as architects, engineers, surveyors, as main contractors, sub-contractors and suppliers (Okello, 2016). Puri and Tiwari (2014) argued that many developing countries face the need for substantial infrastructure improvements. Infrastructure constraints have been responsible for as high as 58 per cent of the productivity handicap faced by Ugandan firms, as indicated in the World Bank AICD Report, (2012:4). To date in Uganda, performance of road infrastructure projects in terms of durability, timeliness, cost management is still difficult (Byabagambi, 2015:94). Although some studies and efforts have been made towards understanding project performance (Rendon, 2010; Kugonza, 2012; Oluka and Basheka, 2014:35); the underlying factors affecting road infrastructure performance with regard to timeliness, cost overruns and durability roads in Uganda remain hazy.

According to Wasike (2001), production costs, employment creation, market access, and investment depend on infrastructure, especially road transport. This is supported by Visse (2012) who asserted that the quality of infrastructure in general is the prime factor separating nations that are economic winners from those that lose ground or remain non-starters (Arrows, 2010).

In spite of the above, road infrastructure development is affected by procurement and supervision of contractors because of its complexity (World Bank, 2010). Given the challenges to road infrastructure in Uganda, government established Uganda National Roads Authority with the mandate to manage procurement and supervision of contractors. There are significant procurement challenges to the performance of Uganda's road sector. Contractors face financial problems in the course of a project, usually due to poor financial management and at times poor cost estimates at bidding (Arrows, 2010). Such problems can lead to delay in the payment of funds to the subcontractor, hence delaying work. In construction, timely payment of the subcontractor is regarded as one of the most serious aspects to resolve in order to create and maintain a long-term relationship between the contractor and the subcontractor. In spite of the efforts made, the reasons for poor quality roads, delayed service delivery and cost overruns on road infrastructure projects in Uganda (cited by Barasa, 2014:54) continue to elude project implementers. For example, take-off of seven projects was delayed for over one year due to complaints raised during the bidding process, causing intervention of the oversight agencies such as the Public Procurement and Disposal of Public Assets Authority (PPDA) or the Inspectorate of Government (IGG), and at times the Courts of Law (UNRA, 2016). In addition, UNRA could only absorb approximately 60 percent of the allocated funds for road construction and maintenance. Little has been done to establish the causes of the glaring lacunas resulting into continuous delays, shoddy work and escalation of costs in the implementation of road infrastructure projects so as to design appropriate mitigating strategies.

Objective of the Study

To assess the relationship between procurement practices and performance of road infrastructure projects in Uganda

Hypothesis of the Study

There is a significant relationship between procurement practices and the performance of road infrastructure projects in Uganda.

Rationale of the Study

The Auditor General Report (2016) indicated that loopholes in contractor selection have led to delays in commencement of a number of road projects. For example, the following road projects were delayed: Mukono-Kyetume-Katosi-Nyenga, Mubende-Kakumiro-Kagadi, Kigumba-Bulima-Kabwoya, Kamudini-Gulu and Kafu-Kiryandongo-Kamudini (Auditor General Report, 2015). The delay on these projects ranged between a period of one to three years. Contractor management, cost and time overruns were identified on these road projects. A total of 24 road construction projects out of 145 (17 per cent) did not have funds earmarked for monitoring in the financial year 2015/16. Bogere (2013:45) asserts that a lot of funds were set aside for monitoring and supervision in the budget for road projects between 2015 and 2017 but roads were found to be of poor quality compared to those works where there were no funds set aside for the same purpose. Therefore, assessment of procurement practices and their effect on the performance of road infrastructure projects in Uganda is critical.

Despite the said government efforts, there is slow implementation of road projects coupled with inability to implement road projects within the contracted time and cost as key performance gaps (OAG, 2016). The government has acknowledged the slow progress, which is attributed to challenges in the contract award process of the selected road contractors. This assertion was further confirmed by the minister responsible for works who said that 80 percent of the road contractors are incompetent and they do shoddy work, as cited in Mulumba (2016).

Commencement of several road projects like Mukono-Kyetume-Katosi-Nyenga, Mubende-Kakumiro-Kagadi, Kigumba-Bulima-Kabwoya, Mbale-Nakalama-Tirinyi has been delayed due inefficiencies in procurement (OAG, 2016). Should the above inefficiencies persist, the industrialization goal of government may be difficult to achieve. Therefore, there is a need to investigate why there are persistent delays, rampant cost overruns and shoddy works in the implementation of road projects despite government efforts. Although Basheka (2014) made efforts towards understanding contract management and project performance in the road sector, a glaring lacuna was left as far as the challenges of road infrastructure performance in Uganda is concerned.

Literature Review

Procurement practices

Lingard, Hughes and Chinyio (2017:56) opined that under a competitive contractor selection process, the client puts the works to tender and interested contractors respond by submitting bids. Bidding is pursued either through open or selective tendering. Open tendering allows all interested parties the opportunity to bid for the works. In selective tendering process, contractors are subject to prequalification (Bubshalt and Al-Gobali, 2014:59). Firms are short-listed on the basis of this prequalification and only a limited number are then invited to bid. Contractor selection involves the evaluation and selection of contractors leading to the award of construction contracts which is a vital part of the road construction process.

According to Arrows (2010), awarding contracts to a single contractor repeatedly must be precluded; an impartial method must be used for selecting contractors who are to receive bid solicitations. Chetty and Eriksson (2002:34) posit that the selection of a contractor for a project is a critical decision for the developer because they often rely on the contractor to manage the process of transforming a feasible concept into a functioning project. Although some owners have the expertise, resources and desire to lead the development effort on their own, choosing the right contractor can greatly improve the likelihood of project success. Contractor selection in this study referred to procurement methods and evaluation criteria.

Puri and Tiwari (2014:32) posit that selection of contractors is often conducted during tendering which gives a client a choice in awarding a contract to a company which proposes the lowest price and short construction cycles. The study findings show that the cheapest tenderers often have problems with completing the project. Accepting the lowest price is the basic cause of project completion problems because very often lowering the price means lowering the quality. These practices, however, are characterized by major weaknesses, because achieving lower costs does not necessarily give the best value. On the other hand, studies in the United

States of America indicate that contractor selection is mainly by alternative procurement methods (APM) in which ownership (of decision making) and responsibility for design and operation is passed to the contractor with the state adopting a regulatory role (Regan, 2012:17). Regan posited that evidence suggests that the APM is achieving better time and cost performance than adversarial methods and contributing to improved service delivery and lower lifecycle costs. It is however, not proven whether the APM is applicable in the Ugandan set-up.

Other studies have been undertaken regarding the issue of contractor selection for implementing construction projects. For instance, Holt (1995:358) identified key prequalification criteria to be included in the quantitative model for choosing main contractors. The author explained the cluster analysis technique in a contractor valuation and selection setting. Although technical ability and financial soundness are critical requirements for the contractor to perform, the challenge may be the process and procedures of selecting the contractor (Holt, 1996). Bubshait and Al-Gobali (1996:50) determined the criteria that are considered in prequalification practices for private and semi-public projects in Saudi Arabia. Indeed, Hatush and Skitmore (1998:2) in their studies on criteria for contractor selection revealed that the choice of contractor should be made on a value for money basis rather than automatically accepting the lowest bid because the main objective is to identify the best tender, not lowest bidder. In the same study, Hatush and Skitmore (1998:1) described a systematic multi criteria decision analysis as a contractor selection method based on utility.

Similarly, Sodangi and Amra (2011:1358) investigated a selected sample of 150 construction professionals operating in Malaysia to identify the actual criteria used by clients for the selection of contractors from the current practice in Malaysia. Sodangi and Amra (2011) focused on the criteria and not the entire process of contractor selection and possible challenges. The findings indicated that track performance, financial capacity and technical capacity were the most important criteria for the selection of contractors in Malaysia, which is not the case for Uganda.

Schmitz and Platts (2004:56) noted that the most common issues that procurement staff face are the constant rush and lack of operational planning in selecting contractors. Other issues that make the work more difficult are a shortage of demand forecasts and poor information flow within the organization (Schmitz and Platts, 2004:58). They further asserted that the present content of procurement and the selection criteria do not encourage developing know-how, procedures or the product itself. The invitations for tenders are very precise and give no opportunity to offer innovative solutions. Flexibility in contractor selection can have an influential role in the procurement process, for example, in the definition of the contents of the procured item and its goals (Bagaka & Kobia, 2010:45). On the contrary, the aims and goal of contractor selection and how this is connected to the whole service delivery is often left out from the definition. The conclusion and recommendations of the above authors mainly focused on the criteria for contractor selection, but the researcher widened the scope to include the effect of staff competence and regulatory function in the conclusions and recommendations.

Contractor selection has become a priority for public entities. In a developing country like Uganda, having an effective contractor selection system is still a major challenge to many

public entities (Oluka, 2013:16). Oluka (2013) noted that contractor selection is an area that needs careful attention from all stakeholders in public entities because it has a huge impact on budget management and improved service delivery. Muhwezi (2013:45) contended that the Public Procurement and Disposal Authority (PPDA) must play a central role in providing training, technical guidance and ensuring compliance to all set rules.

Sabiti, Basheka and Muhumuza (2011:23) noted that proper contractor selection influences procurement performance. The nature and extent of contractor selection will vary between organizations (Muhwezi, 2012:34). It can be influenced by the nature and the type of relationship the agency has with the contractor both in the short and the long term. Muhwezi, (2012) noted that contractor selection revolves around selecting the right contractor using appropriate procedures. In line with this, the PPDA Act of 2003 specifies different procurement methods, namely: open competitive bidding, restricted bidding and direct award. The default method for procurement for road works is open competitive bidding. It is not clear as to how this and other methods would affect the performance of road projects in terms of time, cost and quality.

It is important to note that the criteria which spells out how evaluation of bids is to be conducted is also a critical stage in the process of selecting a contractor from a number of bidding contractors that have submitted bids for a specified project (Nguyen, 2015:31). Procurement and bid evaluation methods are critical steps in contractor selection, which involves the use of different procurement and evaluation methods (Singh & Tiong, 2005:62). Similarly the institutional theory is applicable given the organizational set-up. The multi-criteria theory in this context brings out the fact that different competences and capabilities are considered during evaluation of bids to arrive at an ideal contractor.

Huang (2011:41) argued that bid evaluation is one of the major challenges that owners and consultants face in the public and private sectors. There is need to objectively gauge the ability of a contractor to properly manage a construction project following the frameworks created to evaluate the contractors' bids (Nguyen, 2015:31). In the PPDA Act of 2003, the applicable bid evaluation methods for works are technical compliance selection and quality-cost based selection method. Evaluation of bids is done through a verification process that begins with categorizing whether the candidates are suitable or not. After that, the contracting authorities can exclude bidders from the tender competition if they meet the exclusion criteria (Muhwezi, 2013:45). Measuring the suitability of the candidates is based on the financial situation of the bidder as well as their technical performance and professional qualifications. The contracting authorities must select the offer that presents the most economically advantageous solution or the selection can be made based on the lowest price (Oluka, 2013:45). Ocharo (2013:35) noted that in many cases, the contracting authority mentions that alternative solutions and offers are not accepted, which limits the creativity of the suppliers. Where flexibility is allowed, however, productivity can be increased through new ideas and solutions. This can be achieved through emphasizing development responsibility and the effects of the procured item. The selection criteria is essential for ensuring that the needed services will meet the requirements and needs of the buying organization (Ocharo, 2013:43). Therefore, emphasis on the determination of the weight values should be established.

Holt (1996:358) identified prequalification criteria to be included in the quantitative model for choosing main contractors. Holt (1996:557) explained the cluster analysis technique in a contractor valuation and selection setting. Though technical ability and financial soundness are critical requirements for the contractor to perform, the challenge may be the process and procedures of selecting the contractor. Bubshait and Al-Gobali (1996:50) determined the criteria that are considered in prequalification practices for private and semi-public projects in Saudi Arabia. Hatush and Skitmore (1998:2), revealed that the choice of contractor should be made on a value for money basis rather than automatically accepting the lowest bid because the main objective is to identify the best tender not lowest bidder. Hatush and Skitmore (1997:15) focused on identifying universal criteria for prequalification and bid evaluation. Their results show that the most common criteria considered by clients are those pertaining to financial soundness, technical ability, management capability and health and safety performance of contractors.

Performance

Langston (2012:4) posited that performance is not just about efficiency but effectiveness. He identified performance indicators to measure the success of construction projects which include client satisfaction, stakeholder engagement, service delivery, investment return, urban renewal, defect minimization, trust, dispute avoidance, innovation, safety and standard. He noted, however, that the most commonly cited indicators are time of completion, project cost and workmanship (quality). For purposes of this study, performance of road infrastructure projects is measured in terms of the completion time, cost and quality performance.

Empirical studies, in both developed and under developed countries, identify that construction projects have performed poorly and have been characterized by delays, cost overruns and short life spans (Takim and Akintoye, 2002:18). Mahamid (2013:720) noted that time, cost and quality are key to project performance. He, however, observes that the history of the construction industry worldwide is full of projects that were completed with significant time and cost overruns. Fandi and El-Sayegh 2006:73 assert that shortage of skilled manpower, poor supervision and poor site management; unsuitable leadership; shortage and outdated equipment are among the factors that contribute to construction delays and subsequent poor performance of construction projects. This is further observed by Hanson et al. (2003:13), cited in Otim and Alinaitwe (2013:243), that conflict; poor workmanship and incompetence of contractors are among the factors affecting project performance. Otim and Alinaitwe further cited Meyer, Witt, Kashiwagi and Kashiwagi (2010:34) who posited that the problem of underperformance is not only affecting the road construction projects but also the construction industry. On the other hand, Ochary (2016:9) in his study on evaluation of risk events impacting highway and road projects in Nigeria noted that risk events associated with highway and road construction projects have a major impact on issues related to cost, time and quality of project delivery.

Ayudhya (2012:56) found that there have been significant improvements on project completion within planned time and budgeted cost for projects undertaken after the establishment of Tanroads in Tanzania as compared to projects implemented by then under UNRA in Uganda. The study also revealed important factors contributing to project time and

cost overruns such as fluctuations in materials in terms of quality and cost; fluctuations in labour including plant costs; construction delays (associated with time overruns); inadequate planning; inadequate design of projects; unforeseen circumstances due to third parties and variation orders issued by clients.

Delay as referred in construction is prolonged construction period and disruptions are events that disturb the construction programme. A delay is among the challenges faced in the course of executing construction projects. Various studies (Amer, 2002:32) have identified sources of and types of construction risks that need to be managed as part of the project management process. There are also risks and factors that affect construction project delivery time which are also causes of delays (Amoako, 2011:55). Causes of delays have been identified in various parts of the world. The results reveal that there are differences and similarities regarding the causes of delays. In bridging the gap, delays have had an effect on the construction projects in Uganda.

Payment to contactors or lack of it is a common cause of disputes in the construction industry. Timeliness of payments affects many contractors, for whom receiving delayed payments from their employers is a cause of friction between the two parties. Meng (2015:20) in his works stated that all problems in construction begin when payment is not received at the exact amount or date. Disagreements then lead to arguments as relationships sour, and the stage becomes a setting for conflict, blame, finger pointing, buck-passing and lawyers. In bridging the gap, projects exceed initial time and cost estimates and experience extensive delays; and it is contractors who suffer the most when things like this occur.

Methodological Orientation

A cross-sectional analysis was adopted where people who were similar in all variables, except the one variable which was under study, were sampled and data collected from them at a point in time. As noted before, the study applied a mixed-method approach by triangulating quantitative and qualitative research methods. The study population was 190, comprising 100 procurement professionals selected from PPDA and 15 high spend government agencies/ entities (as per Ministry of Finance and Economic Planning classification, 40 engineers from UNRA, 30 civil works /road contractors from UNABSEC, 30 engineers from UACE, 20 members on the Infrastructure Committee of Parliament and 10 members of civil society organizations. A sample size of 119 respondents was drawn from this population. Quantitative data was generated from the surveys. As part of the deductive process, an interview guide was developed, piloted, refined and updated throughout the course of the empirical work. Interviews were conducted in a guided conversation style and most interviews were carried out face-to-face. However, certain interviews were conducted by telephone, as busy respondents were more prepared to find time for telephone interviews in their schedule. Quantitative data was analyzed using SPSS and qualitative data was analyzed using thematic and content analysis.

Empirical Findings

Performance of Road Infrastructure Projects

The items on the performance of road infrastructure projects were scaled using the five-point Likert scale where code 1 = Strongly Disagree, 2 = Disagree, 3 = Not sure, 4 = Agree and 5 = Strongly Agree. The categories of 'strongly agree' and 'agree' were merged to form a category of agreement and the categories of 'disagree' and 'strongly disagree' were merged to form a category of disagreement. The findings are based on the 116 responses.

Table 1: Descriptive Statistics on Performance

Performance Attribute	% disagreement	% not sure	% Agreement	mean
The road project was not implemented within the contracted costs	6	2	92	4.35
The road was never completed within the budgeted cost	4	10	86	4.25
The road costs were inflated before the start of the contract	8	4	87	4.14
Prohibiting price negotiations is affecting cost of road projects	11	3	86	4.20
The compensation process led to the rise of costs for the road project	12	4	84	4.04
Delayed compensation of the project affected persons	8	4	87	4.22
There was delay in project commencement	7	5	88	4.22
The road projects was not completed in project scheduled time	7	6	87	4.33
The delayed compensation of the project affected persons affected the scheduled completion date	6	9	84	4.26

***Source**: Primary Data (2017)*

However, the history of the construction industry in Uganda is characterized by projects with significant time and cost overruns (PPDA Annual Report, 2017). This study was conducted to investigate the how procurement practices relate to quality, cost and time overrun in road construction projects. The field survey included 11 interviews with respondents on cost, quality and time overruns. According to Mulumba (2016), the road construction industry is full of projects that were completed with significant time and cost overruns. According to Faridi (2006), delays have an adverse impact on project success in terms of time, cost, quality and safety. The effects of road construction delays are not confined to the construction industry only, but influence the overall economy of a country.

Findings revealed that, partly, the delayed payment of projects affected people and contractor advance affected the performance of Mubende- Kakumiro- Kibaale- Kagadi road, and Kyenjojo-Kabwoya-Hoima-Bulima road in terms of ability to complete the project within time which had an effect on the final project cost. Delayed payment of contractor claims, coupled with continuous design changes, slowed the road works. Puri and Tiwari (2014:66) noted that delays in payment have significant effects on works due to constrained cash flow to the contractor. Mulumba (2016:41) noted that delayed payment leads to delay in project progress which is a function of extension of time and insolvency. The findings from interviews and documentary reviews give the actual status of performance of road transport projects used to triangulate and concretize the findings from the surveys. A UNRA Engineer noted that:

> *The Kyenjojo-Kabwoya road which starts from Kyenjojo junction and two stretches Kyenjonjo-Kagadi and Kagadi-Kabwoya and one big bridge at Muzizi and road connects to Kabwoya to Hoima is showing all signs that will not be implemented within the contracted time. He said the cost and time overruns on this road is due because they found new sections of swamps that were identified and yet the initial design did not identify such swamps which increased the cost.*

This could be attributed to inadequacy of designing at planning stage by UNRA. As Ochary (2016:55) noted the swamps delay works as they need more time to be treated, filled and surfaced resulting into cost over runs.

There were mixed reactions about budget shortfalls basing on the interviews conducted. The interviewed respondents from UNRA and Consulting Engineers attributed the failure to absorb all the funds allocated for projects to have affected implementation, leading to delays in the selection procedures embedded in the procurement laws. Ochary (2016:40), in corroboration, noted that some of the issues affecting their absorption were beyond their control like delays in procurement, land acquisition and whistle-blowers whom a respondent said were interfering in road project implementation.

According to Mulumba (2016), some issues that lead to shortfalls emanate from lacunas within the procurement process for example failure to undertake market price assessment prior to commencement of the re-tender of the procurement. There was non-adherence to the construction schedule on the roads. According to UNRA Report (2016), the time overruns experienced on the project were attributed to the following factors: scope changes which resulted in the addition of the construction of the road, and delays in effecting payment to the contractor for completed civil works. The time overruns experienced on the project were attributed to design changes during construction stage, i.e. the construction of bridge foundations, unforeseen swamp filling, compensation and delays in effecting payment to the contractor for completed civil works.

Similarly, a UNRA Report (2016) noted that the time overruns experienced on the project are attributed to the following factors: design changes during construction which were effected to raise the road to counter the effects of floods in low-lying areas, fuel shortages which were experienced during the period, and lack of qualified personnel on the part of the contractor.

Similarly, Ochary (2017) noted that once a construction project is awarded, its time duration is identified, and the completion time of the project is then defined and included in the contract. It becomes the contractor's objective to schedule his construction activities and that of his subcontractors to meet the identified project duration and ensure project success.

A respondent from UNRA observed that, "*some delays on the roads are attributed to the contractor's slow mobilisation thus affecting project schedule*". She also observed that:

> *the contractor delay to engage a local sub-contractor as is required in the contract therefore UNRA could not remit payments before the local contract supposed to do the earthworks is on site. It is a requirement under the PPDA guidelines that a main contractor when foreign has to allocate a certain percentage of works to a local company as a subcontractor and that work is supposed to be accomplished with the main schedule in consideration.*

Likewise, Amoako (2011) expanded further on the subject of completion time of the project and noted that a conflict may occur between the contractor and his subcontractors if any of the parties does not adhere to the schedule. This applies to both parties, the main contractor and subcontractor, because if any party delays the execution of his scheduled construction activities, it will consequently delay the progress of the activities of the other party (Sambasivan and Soon, 2007).

Findings further revealed that the Mukono-Katosi and Kisoga-Nyenga roads had a lot of complexities. However, the increase in complexity, the over-supply of specialist firms, and the declining construction output cultivated an adversarial atmosphere which had a negative effect on the contractor relationships (Wiguna, and Scott, 2015:11). Furthermore, relationship studies between main contractors have received little to no attention (Enshassi, Najjar, and Kumaraswamy, 2017:77). This is detrimental, considering the relevance the complexities had to the eventual contract termination of the Mukono-Katosi and Kisoga-Nyenga (74.2km) road. A respondent noted that:

> *Delaying payment to contractors has not only delayed UNRA road projects but has led to contractors abandoning sites and eventual contract termination. He noted that this problem is across all sectors in government hence requiring immediate policy shift if service delivery is to be enhanced.*

The UNRA Annual Performance Report (2017) indicated that UNRA is determined to implement road projects in a timely manner but they are let down by delays by the Ministry of Finance in releasing funds for paying contractors and compensating land owners along project areas. Delay in payment at the higher end of hierarchy is likely to trickle down the chain of contracts. More specifically, delay in payment for completed works is likely to constrain contractors' cash flow, which in turn might affect timely payment of subcontractors, workers, suppliers, and service providers. Participants further associated delay in payment with slow progression of works and inefficient utilization of time; which in turn, had negative implications on time-related costs, such as maintenance of management.

An Engineer noted:

> *Payment delays may occur when the main contractor face financial problems during a project usually due to poor management, meagre cost estimates or payments delayed by the owner. Such problems can delay the payment of funds to the contractor hence delaying work. In construction, timely payment of the subcontractor is regarded as one of the most serious aspects to resolve in order to create and maintain a long term relationship between the contractor and the employer.*

However, documentary evidence (URF Report, 2015) attributed the delays to mostly continuous design changes slowing work hence resulting into contract termination.

The views held by above respondent seem to be consonant with the earlier OAG report (2016). The OAG report noted that one of the causes of delays is design changes, faults in the bidding processes and failure by the government to pay compensation prior to project commencement. This creates what Danuri, Munaaim, Abdul Rahman, and Hanid (2006) described as 'concentric circles of payoffs and delays.

Participants further noted that periodic discontinuation of works dragged the implementation of work plans into oblivion, which necessitated re-scheduling and re-sequencing of project activities, albeit with cost implications. Participants noted that re-scheduling and re-sequencing of project activities are expensive and complicated planning processes, requiring the participation of all stakeholders. Participants also linked delay in payment with the extension of timeframe and acceleration of works, which was intended to make up for lost time.

Table 2: Ranking of External Factor Related Causes of Time Overruns

Ranking	External Factor Related Causes of Time Overruns in Road Construction Projects	Frequency
1	Effects of weather on road construction works	61.7
2	Effects of sub-surface and ground conditions	60.6
3	Delays in certification and undertaking final inspections	56.4
4	Political interference	70.2
5	Delayed approvals for major changes in the scope of works	66.5

Primary Data (2017)

The five external factors which the literature review identified to be affecting time overruns in road construction projects were ranked using their frequencies in order to determine the frequent factors affecting road construction projects. Ranking results of factors affecting road construction projects based on their frequency indexes are presented above. Effects of weather were ranked highly on the untimely completion of road works. Results from the study indicated that "inadequate planning on the part of the client" was the major cause of time overruns in road projects resulting in resource idling due to incomplete/ errors in designs, compensation issues rendering sites inaccessible and delayed payments due to lack of funding. As such,

clients should ensure designs are completed, sites are accessible and secure funding is in place before awarding contracts as a way of minimizing time overruns in road construction projects.

On the quality of materials, 84% of the respondents agreed that the use of poor materials affects the performance of road infrastructure projects; 6% of the respondents disagreed; while 9% of the respondents, mainly the procurement professionals, were not sure of the effect of poor materials on the performance of roads infrastructure projects. Poor materials and material shortages slow activities and sometimes cause temporary abandonment of sites (Akaranga, 2008). The use of the incorrect equipment extends tasks while faulty equipment leads to delay due to the time spent to repair. Materials play an important role in the successful implementation of construction projects. However, projects experience material-related time due to several factors. An internet study carried out by Ochary (2016) established that poor quality materials, poor scheduling, delayed procurement and specification changes are likely to cause time overruns in construction projects. In very extreme cases, material type and quality can affect the safety of individuals on site.

In relation to this, a Consultant from UACE noted that:

> *Listed delays in approving major changes in the scope of work, poor coordination and communication, consultants' staff inadequate experience, discrepancies and mistakes in design documents, delays in the production of design documents, inadequate and unclear details in construction drawings, insufficient data collection and surveys before designs and lack of advanced engineering design software were the causes of inappropriate designs and time overruns in construction projects*

A UNRA Report (2016) reiterated, if no effective evaluation of road designs was carried out to assess the worth of every phase of the road construction project, UNRA could not achieve the 6Rs – right quality, in the right quantity, in the right time, at the right cost, for the right purpose, and from the right source. Similarly, Mulumba (2016) noted that designs that were done without extensive investigation of site could contain potential errors. This is because such designs could lead to additional work, revision of scope of work, and contract revision as the actual site conditions begin to float up at the construction phase of the project. These will no doubt affect the overall project delivery time and cost. Causes of design errors cited in the UNRA Report (2015) are mostly due to inadequate field investigation, error in design and specifications, plan errors, design changes etc. In controlling project delay and cost overrun due to design errors, the basic thing to be considered is the involvement of professional skills and application of competent tools throughout the project.

Since the majority of projects are executed by contractors, it is important to note that the procurement process and contract management are critical to the successful completion of projects. Thus poor selection of contractors due to low bids, with no technical capability to handle the project will lead to cost overruns, schedule delays, poor quality, and a final result that is not acceptable. Also, a contract management system with clients that have a slow payment schedule could lead to delay and cost overrun.

Table 3: KMO and Bartlett's Test for performance of roads projects

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.715
Bartlett's Test of Sphericity	Approx. Chi-Square	122.169
	Df	105
	Sig.	.021

Source: Primary Data (2017)

The findings revealed a Kaiser-Meyer-Olkin Measure of 0.715. This figure of the KMO implies that the factor analysis technique can be used to identify the principle components. This is triangulated by the Bartlett's Test of Sphericity which follows the chi square distribution that yielded a p value of 0.021, which is significant at the 95% level of significance. When using factor analysis, all components that yielded eigen values greater than 1 were extracted and the following seven factors were extracted and their respective factor loadings.

Table: 4 Variance explained by the principal components of performance of construction projects

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.622	10.812	10.812	1.622	10.812	10.812
2	1.378	9.185	19.997	1.378	9.185	19.997
3	1.324	8.826	28.823	1.324	8.826	28.823
4	1.259	8.395	37.218	1.259	8.395	37.218
5	1.128	7.518	44.736	1.128	7.518	44.736
6	1.086	7.241	51.977	1.086	7.241	51.977
7	1.045	6.967	58.944	1.045	6.967	58.944
8	.958	6.390	65.334			
9	.897	5.978	71.313			
10	.835	5.564	76.876			
11	.783	5.220	82.097			
12	.765	5.103	87.200			
13	.705	4.702	91.902			
14	.624	4.160	96.063			
15	.591	3.937	100.000			

Source: *Primary Data (2017)*

From Table 4 above, it can be seen that the extracted principal components explain 58.9% of the total variations in the performance of road construction projects. The individual loadings of the various individual attributes of performance to the extracted principal components are presented in Table 4

Procurement practices

The items on procurement practices are measured on a five-point Likert scale where code 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree and 5 = Strongly Agree. For each of the above items, descriptive statistics that include frequencies, percentages and means based on 116 observations are presented in Table 5.

Table 5: Descriptive Statistics for Procurement practices

Selection Attribute	% disagreement	% not sure	% agreement	Mean
The contractor selection procedure is not appropriate for complex road projects	16	8	75	3.87
The selection procedure focus a lot on preliminary eligibility requirements for road construction projects	16	10	73	3.68
The procurement procedures allow unnecessary interference through complaints which causes road project completion delays	11	20	69	3.79
The selection procedure has many unnecessary approval stages	10	13	77	4.10
The selection criteria provides for methods to analyse of contractor competency of road projects	11	25	64	3.76
The selection criteria does not require for certified evidence from bidders to demonstrate their capacity to execute road project works	15	19	65	3.90

Source: *Primary Data (2017)*

On appropriateness of selection criteria, 75% of the respondents were of the view that the existing contractor selection criteria were not appropriate for complex road projects while 16% of the respondents disagreed with the statement. Attribute had a mean score of 3.87 which indicated that on average the respondents agreed to the statement.

Whether the main focus in selection was on preliminary eligibility, 73% of the respondents agreed that the selection procedure focused a lot on preliminary eligibility requirements, while 16% of the respondents disagreed with the statement. The attribute had a mean score of 3.68, which indicated that, on average, the respondents agreed with the statement. The respondents had mixed responses about worthiness of the contractors selected. The majority of the procurement professionals condemned the act by contractors who submit falsified documents, claiming to have adequate expertise and equipment at the preliminary stages. They noted that this in itself is affecting the performance of road projects in Uganda.

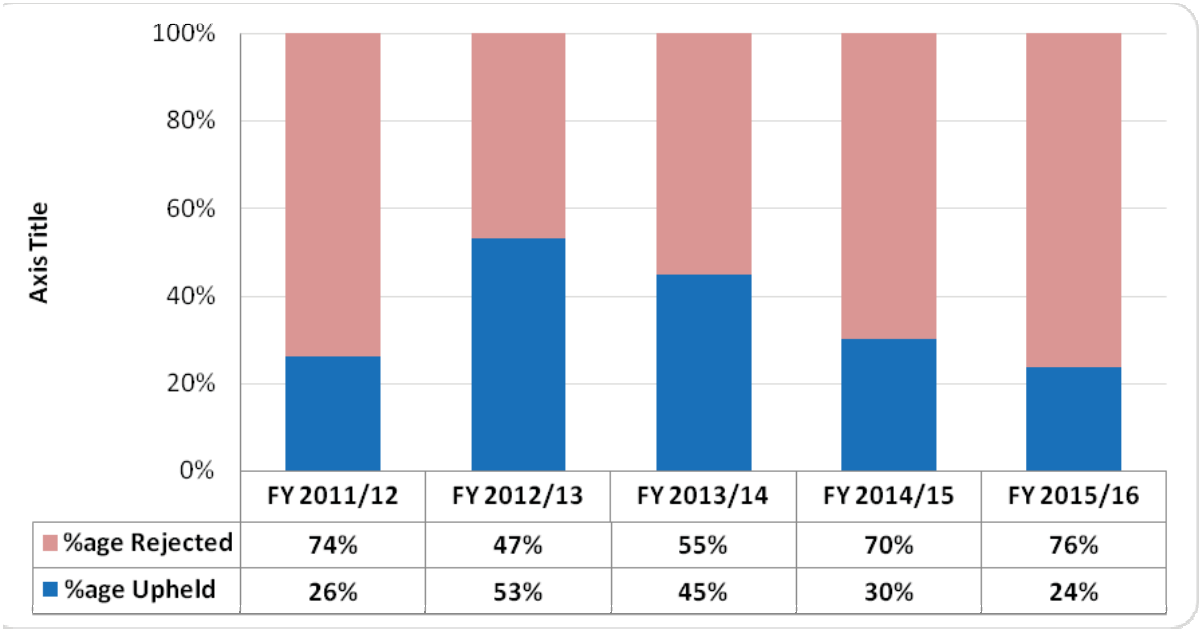
On the issue of interference with the contractor selection process, 69% of the respondents agreed that the contractor selection procedures allowed unnecessary interference through complaints which caused delays on major roads, while 11% of the respondents disagreed with the statement. The attribute had a mean score of 3.79 which indicated that on average the respondents agreed with the statement.

A UNRA official agreed with the question when he noted:

> *The interference by oversight agencies delays the completion of the selection process, this is common when bidders seek administrative review and PPDA as an oversight agency overturns the award. He noted that in all cases PPDA has order a repeat of the process the cost outcome is always higher than the earlier submitted costs.*

According the PPDA Annual Performance Report (2016), the Authority handled a total of 38 Applications for Administrative Reviews, some of which were on the selected study roads like Mukono-Katosi and Kisoga-Nyenga (74.2km), Kyenjojo-Hoima-Kabwoya-Masindi-Kigumba and Mubende-Kakumiro-Kagadi road, 24% (9) of these were upheld while 76% (29) were rejected. The administrative reviews handled were due to bidders' dissatisfaction with the evaluation process and quality of bidding documents, both of which affected the contractor selection process. The Authority recommended re-evaluating the bids to ensure fairness and transparency.

Figure1: Administrative Reviews by PPDA handled in Five Years on major Contracts



	FY 2011/12	FY 2012/13	FY 2013/14	FY 2014/15	FY 2015/16
%age Rejected	74%	47%	55%	70%	76%
%age Upheld	26%	53%	45%	30%	24%

Source: *Public Procurement and Disposal of Public Assets Annual Report 2015*

When the procurement professionals at PPDA were asked for their perception on the procurement structures, 77 per cent of the respondents agreed to the statement that the selection procedure had many unnecessary approval stages. As Mulumba (2016) noted, the contractor selection process in public procurement had various stages of approval manned by the various committees like the evaluation committee, contracts committee, user department and the accounting officer. All these approval stages had a bearing on the length of the contract process. A UNRA Report (2016) reiterated that many of the procurement processes for various key road infrastructure projects had taken longer than required to go through the procurement process, indeed it was the practice when it came to major road projects.

A senior Engineer Planning in UNRA, when interviewed on causes of delays in the selection process, noted that:

> *Evaluation process takes too long because evaluators concentrate on technical issues which ideally would be handles at negotiation with the selected contractor. He was of the view that the evaluation criteria should be adjusted such as site organization, method statement, mobilization schedule, construction schedule, quality assurance system, equipment, personnel, environmental and social management plans are handled at post qualification because these a bound to change at implementation". He further observed that the way due diligence is handled at UNRA is wrong, staff take long on travels, verifying projects even where the government has a mission, then who could handle these matters. He called for urgent policy shift and amendment of the law.*

As to whether contract monitoring staff in UNRA did not care to prepare contractor monitoring plans, 94 per cent agreed. This was confirmed by findings in the PPDA procurement audit reports for Financial Years 2014/2015, 2015/2016 and 2016/2017 which highlight failure to prepare procurement plans as the most common no-compliance areas in PDEs.

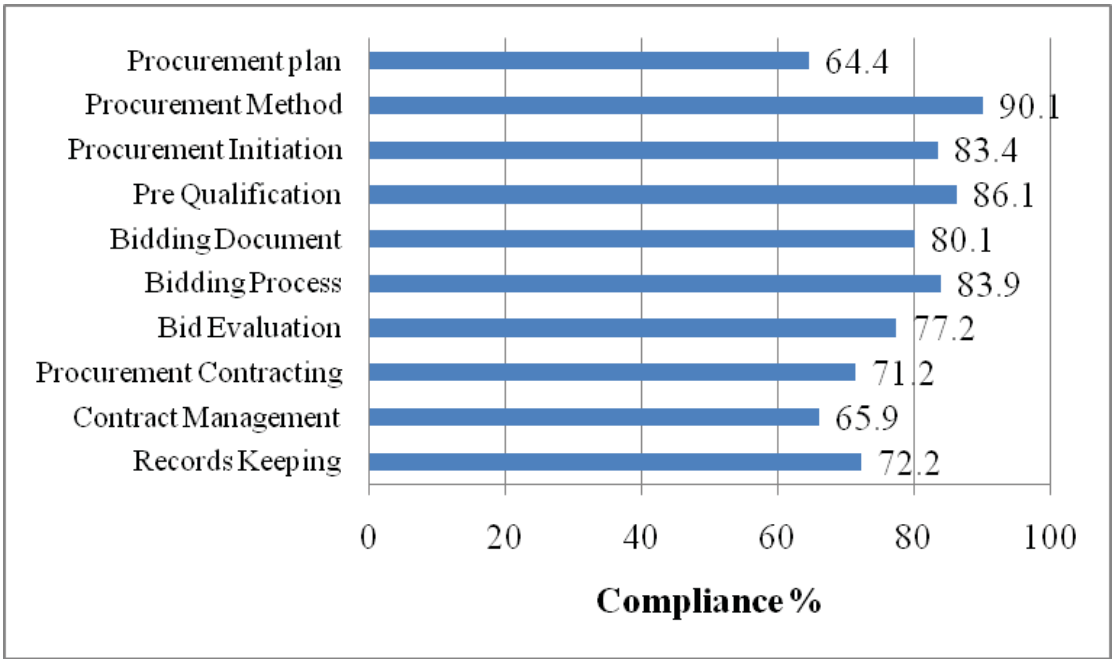
A Senior UNRA officer said:

> *Contract managers not appointed on time is a big problem and contract implementation plans not being prepared on time or not prepared and supervision lacking is another ulcer.*

Hinton (2003) makes it clear when he asserts that it is essential to develop a contract monitoring plan to ensure that the contract is well monitored. He argues that a plan that depends on the complexity of the contract helps to guide both the client and contractor on their respective obligations. He notes that among the items to be included on the plan are identification of deliverables, milestones, due dates, a list of all contract modifications issued, summary of all invoices submitted and paid, and renewal dates. It should also detail the methods that the entity will use to monitor the contractor and the individuals or offices that will be responsible for the monitoring. Ochary (2016) concurs that in order to achieve laid down goals one has to draw a guiding work plan. This then explains the need to ensure monitoring plans are prepared to guide contract supervisors at UNRA to monitor the performance of the road construction projects in terms of time, costs and quality.

A UNRA top administrator felt that contractor performance appraisal is always done during project implementation in some agencies which UNRA also adopted. However, procurement professionals (57%) had mixed responses about contractor performance appraisal being done during project implementation. They felt that most contractor monitoring teams never take contractor performance appraisal exercise as important since no appraisal reports are ever submitted by supervisors. This explains why entities continue to award contracts to the same incompetent companies. The procurement process compliance scores are presented in Figure 2

Figure 2: Average Procurement Process Compliance Level for UNRA



Source: *PPDA Annual compliance report (2017)*

As per the figure above, it is evident that the compliance levels are all above average at UNRA in as far as procurement planning and contract management is concerned. Low compliance in procurement planning has direct impact on the contractor selection process and weak contract management is a sign of weakness in monitoring, hence poor performance.

Testing Hypothesis

Our hypothesis stated that there is a significant relationship between procurement practices and the performance of road infrastructure projects in Uganda. The hypothesis was tested using Regression Analysis and Analysis of Variance (ANOVA) basing on the indicators of procurement practices

Table 6: Regression Analysis for the relationship between procurement practices and the performance of road infrastructure projects

	Summary Out put					
	Regression Statistics					
	R	.697				
	R Square	.485				
	Adjusted R Square	.401				
	Standard Error	.50252				
	ANOVA					
		Sum of square	Df	Mean Square	F	Sig
1	Regression	3969.98	1	3969.9	42.688	0.03
	Residual	7345.34	118	93.011		
	Total	11315.3	119			
Step	Variable	B	SE	Beta	T	Sig
1	Constant	60.712	.411		12.992	0.00
	Procurement practices	.708	.110	.697	5.021	0.03

Source: *Primary Data (2016)*

Table 6 indicates the R value (coefficient) of .697 henceforth R denotes the correlation between predicted and observed performance of road infrastructure projects. Since this is a high correlation, our model predicts performance of road infrastructure projects in Uganda rather precisely. The coefficient of determination (R square of .485) indicates the proportion of variance in the performance of road infrastructure projects in Uganda that can be "explained" by the legal framework. The R Square value (coefficient of determination) was 0.485. The R square value of .485 indicates how much of the dependent variable, performance of road infrastructure projects, can be explained by the independent variable, procurement practices. Therefore the r square value of .485 implied that procurement practices predict/explain the variance in the performance of road infrastructure projects by 48.5 percent. The influence of the procurement practices on the performance of road infrastructure projects is statistically significant. The moderate R square of 0.485 tells us that the model does a fair job in predicting the performance of road infrastructure projects in Uganda.

Analysis of Variance for procurement practices and performance of road infrastructure projects

The Error degree of freedom is the DF total minus the DF model, 119 - 1 =118. Mean Square are the Mean Squares, the Sum of Squares divided by their respective DF. The value for this table had total degrees of freedom of 119 because four observations had missing data and were not included in the analysis. The F-statistic is the Mean Square (Regression) divided by the Mean Square (Residual) 3969.688/93.011=42.688. The full model is statistically significant (F = .42.688, df = 119, 1, sig.= .03). F-Statistics was 42.688, given the strength of the correlation, the model is statistically significant (p is 0.03 < .05)

The Coefficient for procurement practices and performance of road infrastructure projects

As per the SPSS output generated above, the equation ($Y = \beta0 + \beta1X1 + \beta2X2 + \beta3X3 + \beta4X4 + \varepsilon$) becomes: Y= 60.712 + .708. Overall, the procurement practices affect performance of road infrastructure projects (beta=.697). The average class size (procurement practices, b=.697) is significant (p=0.03), but only just so, and the coefficient is positive which would indicate that larger class sizes are related to performance of road infrastructure projects. As a rule of thumb, we say that a b coefficient is statistically significant if its p-value is smaller than 0.05. The b coefficients tell us how many units of performance of road infrastructure projects increase for a single unit increase in each predictor (procurement practices). The beta coefficients allow us to compare the relative strengths of our predictors. The regression equation above has established that taking all factors into account (adoption of procurement practices) constant at zero, effective management of public finances will be 60.712. The findings presented also show that taking all other independent variables at zero, a unit increase in the scores of procurement practices would lead to a 0.708 increase. The effect of the procurement practices (beta=.697, p=0.03) is statistically significant and its coefficient is positive, indicating that the greater the procurement practices, the higher the performance of road infrastructure projects. The magnitudes of the respective betas suggest that the relationship between procurement practices and performance of road infrastructure projects is statistically significant. The t-test for procurement practices equals 5.021, which is statistically significant.

Conclusion

The road construction industry has many projects that were completed with significant time and cost overruns. Delays have had an adverse impact on project success in terms of time, cost, quality and safety. The effects of road construction delays are not confined to the construction industry only, but influence the overall economy of a country.

Recommendations

Timely payment of contractors for completed works is crucial for ensuring the continuity of works and completion of infrastructural projects within time, budget, and quality specifications. Payment of contractors is likely to prevent cost and time overruns, which may have significant ripple effects. In view of this, payment of contractors should be planned properly by initiating appropriate mitigating measures against potential risks, such as delayed disbursement of funds by external financiers, delayed approval of contractors' payment requests, political interference, as well as financial misappropriation by employers, among others. Monitoring intensity should be increased in both the generally successful and the unsuccessful road construction projects

References

Abdul, A, Rahman, H and Hanad, R. (2006). Production, Information Costs and Economic Organization. *The American Economic Review* 62: 777-79.

Alinaitwe, H. Apolot, R and Tindiwensi, D. (2013). "Investigation into the Causes of Delays and Cost Overruns in Uganda's Public Sector Construction Projects". *Journal of Construction in Developing Countries,* 18(2), 33–47

Amer, M. (2002). *Modeling the factors affecting quality of building construction projects during the construction phase in Gaza Strip*. Unpublished Master's Thesis: Palestine, Islamic University of Gaza

Amoako, K. (2011). *The effect of delayed payment on cash flow forecasting of Ghanaian road contractors.* Unpublished master thesis, University of Science and Technology

Akaranga, E. M. (2008). *The Process and effects of Performance Contracting in Kenyan Public Sector.* MA Dissertation submitted to the University of Nairobi

Ayudhya, B. (2012). "Factors causing delay in payment of residential building projects in Thailand". *Construction Economics and Management* 5(2) 34-50

Bagaka, O. (2010). *Enhancing Trust & Accountability in Government*. Presentation at the CAPAM African Regional Conference, Abuja, Nigeria, May 17 -19, 2010.

Barasa, H. W. (2014)."Procurement Practices Affecting Effective Public Projects Implementation in Kenya: A Case Study of Kenya Civil Aviation Authority". *European Journal of Business and Management* 6(2)36-49

Basheka, B. (2009). *Public procurement reform in Africa, a Tool for Effective Governance of the Public Sector and Poverty Reduction*. Unpublished. Kampala: UTAMU

Basheka, B. C. (2008). Procurement Planning and Accountability of Local Government Procurement Systems in Developing Countries: Evidence from Uganda. *Journal of Public Procurement* 8 (3), 379-406.

Bubshalt, A.A and Al-Gobali, K. H. (1996). Contractor Prequalification in Saudi Arabia. *Journal of Management in Engineering* 12(1), 50–54

Basheka, B.C. (2014). Public Procurement Skills Requirements Framework for Local Government Procurement Professionals in Uganda: A self- Perceptive Approach. *Journal of Public Procurement and Contract Management,* 23*(*1), 1-25.

Chetty, S. and Eriksson, K. (2002). Mutual Commitment and Experiential Knowledge in Mature International Business Relationships. *International Business Review* 14(2)305-324

CIBD. (2013). *Competency and Competency Frameworks*. Retrieved on 27th August 2017 from ttp:// www.cipd.co.uk

Danuri, M., Munaaim, M., Abdul Rahman, H. and Hanid, M. (2006). *Late and non-payment issues in the Malaysian Construction Industry - Consultants' perspective*. Quantity Surveying National Convention, Sheraton Subang Hotel.

Dunn, M. B. &Jones, C. (2010). "Institutional Logics and Institutional Pluralism: The Contestation of Care and Science Logics in Medical Education, 1967–2005". *Administrative Science Quarterly* 55(1): 114-149.

Enshassi, A., Najjar, J. and Kumaraswamy, M. (2017). "Delays and cost overruns in the Construction projects in the Gaza Strip". *Journal of Financial Management of Property and Construction,* Vol. 14 No. 2, pp. 126-151

Fandi, H. & El Sayegh, U. (2006). *Procurement Principle and Management.* England: Pearson Education Limited.

Hatush, K. and Skitmore, M. (1998). "Contractor Selection using Multicriteria Uutility Theory: an Additive Model". *Building and Environment Journal,* 33(2)31-45

Hanson, D. (2003). Causes of client dissatisfaction in the South African building industry and ways of improvement. *The contractors' perspectives, in CIDB, South Africa*

Hinton, J. (2003). *Best practices in government: Components of an effective contract monitoring system*. Retrieved on 20th November, 2017 from http://www.docstoc.com

Holt, G. D. (1996). "Applying cluster analysis to construction contractor classification". *Building and Environment,* 31(6), 557–568.

Holt, G. D., Olomalaiye, P. O. & Harris, F. C. (1995). "A review of contractor selection practice in the U.K. construction industry". *Building and Environment* 30(4) 553–561

Huang, A. (2011). "Tendering theory revisited". *Construction Management and Economics*, 17(3), 285-296.

Langston, C . (2012). *Comparing international construction performance. Mirvac School of Sustainable Development*.Retrieved on 2nd March, 2018 from http://epublications.bond.edu.au/sustainabledevelopment

Kugonza, S.P.K. (2009). *Influence of formal and informal institutions on outsourcing public construction projects in Uganda*. PhD thesis submitted to the University of Birmingham.

Meng, X. (2002). "Guarantees for contractor's performance and owners payment in China". *Journal of Construction Engineering and Management,* 13(3), 232-237.

Meyer, G. Witt, T. Kashiwagi, L & Kashiwagi, L. (2010). *Purchasing Principles and Management*. U.K. Pearson Education Limited.

Muhwezi, M. (2013). *Public procurement reform in Africa, a tool for effective governance of the public sector and poverty reduction.* Unpublished.

Mulumba, S. (2016). "Causes of delay in large construction projects". *International Journal of Project Management*, 24(2), 349–357.

Nguyen, B. (2015). *Purchasing and Supply Chain Management.* Pearson Education Limited.

Ochary, J. (2016). *Factors influencing time and cost overruns on construction projects in Uganda.* Unpublished Master's Thesis, Mbale: Islamic University in Uganda.

Office of the Auditor General. (2016). *Engineering Audit of Uganda National Roads Authority (UNRA) http://www.ugandaroadsector.org/reports accessed on 12th May 2017*

Okello, M. (2016). "The Management of construction company overhead costs in Uganda". *International Journal of project Management,* 19(1) 295-303.

Oluka, N.P. and Basheka, B.C. (2014). "Determinants and constraints to effective procurement contract management in Uganda: a practitioner' perspective". *Int. J. of Logistics Systems and Management*,17(1)104 – 124.

Ondari, J. M. (2013). "Factors influencing successful completion of roads projects in Kenya". *International Journal of Arts and Entrepreneurship, 1*(5) 1-22.

Otim, G. & Alinaitwe, H. M. (2013). "Factors Affecting the Performance of Pavement Road Construction Projects in Uganda". *Journal of ICTM 2(2)34-56*

Puri and Tiwari. (2014). "Evaluating the Criteria for Contractors' Selection and Bid Evaluation: International". *Journal of Engineering Science Invention,* 12(3) 78-90.

Regan, M. (2012). "Public infrastructure procurement: A comparative analysis of adversarial and non-adversarial contracting methods - Working for better procurement outcomes". *Public Infrastructure Bulletin: 1(2) 13-25.*

Rendon, R.G. (2010). *Critical success factors in government contract management.* retrieved on 2nd March, 2018 from *http://www.ippa.org.*

Sambasivan, M. and Soon, Y. (2007). "Causes and effects of delays in Malaysian construction industry". *International Journal of Project Management*, 25(3) 517–526.

Scott, W. R. (2001). *Institutions and Organizations.* Thousand Oaks: CA, London: Sage

Scott, W. Richard, (2004). *Institutional Theory" 408-14 in Encyclopaedia of Social Theory.* George Ritzer, ed. Thousand Oaks, CA: Sage Construction.

Singh, G. & Tiong, A. (2005). "Delays in construction projects: The case of Jordan". *International Journal of Project Management*, 26(3) 665-674.

Sodongi, I. and Amran, O. (2011). "Decision Criteria for Selecting Main Contractors in Malaysia". *Journal of Applied Sciences, Engineering and Technology,* 3(12): 1358-1365.

Takim, F. and Akintonye, Y. (2002). "Role of procurement function in enhancing performance in devolved government: A case of Machakos County". *International Journal of Social Sciences and Entrepreneurship,* 1 (11) 168-190.

Visse. (2012). Investing in the Global Infrastructure Boom. *www.forwardinvesting.com* accessed on 23rd March, 2017

Wasike, W.S. (2001). "Road infrastructure policies in Kenya: Historical trends and current challenges. KIPPRA Working Paper No. 1. The Kenya Institute for Public Policy Research and Analysis (KIPPRA)", *Infrastructure and Economic Services Division, Nairobi*, 1-42.

World Bank (2013). *Infrastructure: Global Priorities, Global Insights.* Washington D.C World Bank Report (2012). *Public Expenditure and Financial Accountability.* Washington D.C World Bank Report (2011). *Comparative Analysis of Public Finance Management Reforms.* Washington DC.

World Bank Report (2010). *World Bank Support for Public Financial Management: Conceptual Roots and Evidence of Impact*. Working Paper.