

PROCUREMENT MANAGEMENT AND PERFORMANCE OF CONSTRUCTION  
PROJECTS IN GOVERNMENT-AIDED SECONDARY SCHOOLS IN  
BUSHENYI DISTRICT, WESTERN UGANDA

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# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Introduction**

The study will examine the relationship between procurement management and performance of construction projects in government-aided secondary schools in Bushenyi district. In this study, procurement management is conceived as the independent variable and performance of construction projects is the dependent variable. Procurement management shall be measured in terms of procurement planning, contracting and control, while performance of construction projects will be measured in terms of time, cost and quality. This chapter presents the background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, research hypothesis, scope of the study, significance of the study, conceptual frame work, and operational definitions of terms and concepts.

### **1.2 Background of the study**

#### **1.2.1 Historical background**

Prior to 1900, procurement was recognized as an independent function by many railroad organizations, but not in most other industries. Prior to World War I, purchasing was regarded as primarily clerical. During World War I & II, the function increased due to the importance of obtaining raw materials, supplies, and services needed to keep the factories and mines operating(Edwards, 2003).

During the 1950s & 1960s purchasing continued to gain stature as the techniques for performing the function became more refined and as the number of trained professionals increased. The emphasis became more managerial (Were, 2003).With introduction of major public bodies and intergovernmental organizations, such as United Nations, procurement became a well-recognized

science. In 1970s & 1980s, more emphasis was placed on purchasing strategy as the ability to obtain needed items from suppliers at realistic prices increased (Were, ibid).

In September 1983, Harvard Business Review published a ground-breaking article by Peter Kraljic on purchasing strategy that is widely cited today as the beginning of the transformation of the function from "purchasing", to something that is viewed as highly tactical to procurement or supply management, something that is viewed as very strategic to the business. The renewed emphasis of the new function of procurement had implications for performance of organizations including construction projects. This was on the caveat that the function was performed diligently well. In 1990s, procurement started to become more integrated into the overall corporate strategy and a broad-based transformation of the business function was ignited, fueled strongly by the development of supply management software solutions which help automate the source to settle process (Smith, 2010).

Globally more governments are placing greater emphasis on the development of infrastructure projects (Orr and Kennedy, 2008:100). This is augmented by Howes and Robinson (2005:1), who state that infrastructure is central to the social-economic development of all countries and the well-being and prosperity of society. With increased globalization, the level and quality of infrastructure has become critical for all national economies than ever before (Arrows, 2010:67). Demand for global infrastructure spending has been projected to total somewhere between \$40 trillion and \$50 trillion over the next two decades (Visse, 2012:8). The European Union estimates that up to \$2.7 trillion in new infrastructure spending will be required through 2020 to meet the current goals (Deutsche Bank AG, 2014:4). Visse (2012:6) argued that while many developed countries face the need for substantial infrastructure improvements, the United States infrastructure is crumbling. Outside of the United States, studies in countries spanning the entire

range of economic development have also revealed positive improvements in infrastructure development (KPMG, 2013:9).

Although procurement for road infrastructure poses serious challenges that are not found in other areas of public procurement because of its complexity, its performance remains critical (World Bank, 2009:2). This is supported by Visse (2012:8) who asserts that the quality of infrastructure in general is one of the prime factors separating nations that are economic winners from those that lose ground or remain non-starters (Arrows, 2010:43).

Hoon, Kwak and Chih(2009:51), contends thatPublic Private Partnerships (PPPs) have emerged as one of the major approaches for delivering infrastructure projects in recent years. Arrows, (2010:54) on the other hand argues that the experience of the public sector with PPPs has not always been positive, many PPP projects are either held up or terminated due to: wide gaps between public and private sector expectations or lack of clear government objectives and commitment This is supported by Memon, Rahman and Azis (2012:45) who established that countries such as Malaysia, where PPPs are commonly used in the road sector, they also still face poor performance, resulting in failure to achieve effective time and cost performance.

In Africa, although use of roads dominates the transport sector, carrying 80 to 90 percent of passenger and freight traffic in most countries; the condition of these roads remains very poor by international standards (World Bank, 2011:17). In order to respond to this challenge, the World Bank report (2011:18) indicates that the African road sector has passed through a wide ranging and consistent set of policy reforms, with most countries embarking on creation of independent source of funding for road maintenance based on road-user charges. (Banaitiene, 2006:56) however, asserts that the reforms have also not fully improved the performance of roads in

Africa. According the World Bank, (2011:29) on average, about 43 percent of the main roads networks are in good condition, a further 31 percent are in fair condition, and the remaining 27 percent are in poor condition

Road infrastructure is a crucial driving force for economic growth in any country; and sustained access to roads is essential to improve living standards (Benamghar & Imi, 2011:2). Productivity, welfare, and security of both rural and urban people are greatly influenced by the level of road infrastructure development in any country (Arrows, 2010). Production costs, employment creation, markets access, and investment depend on the quality of infrastructure, especially road transport (Wasike, 2001:3). While road transport is one of the significant components of infrastructure in Africa because it is the most widely used means of transport (Wasike, *ibid*), there is poor performance evidenced by rampant delay in service delivery in the roads sector (Basheka, Oluka and Karyeija, 2013:12, Ntayi, Ahiauzu and Eyaa, 2011:23). This therefore makes performance of this sector become a matter of policy and academic concern. This study seeks to yield insight into the degrees to which procurement planning influences the construction of school projects. Individual school projects will not be considered as units of analysis in this study (Bagaka & Kobia, 2010).

In Uganda the procurement law regulates the activities of the public procurement entities and most construction projects undertaken in various Ministries, Departments and Agencies across various sectors is undertaken through applying procurement methodologies. The Public Procurement and Disposal of Public Assets Authority (PPDA) of 2003 (now amended, 2014) established the Public Procurement and Disposal of Public Assets Authority (PPDA) as the procurement oversight body but decentralized procurement to the procuring and disposing entities (PDEs). PPDA has developed a Procurement Performance Measurement system (PPMS)

that is anchored in the Public Financial reform programme. The information collected from the procurement performance measurement system is to ascertain the performance of the Public Procurement system in Uganda and to facilitate the preparation of reports to various stakeholders and enable targeted actions and funding towards the key areas identified under the measurement system as deficient or that require additional support (Final Report Baseline Survey on the Public Procurement System in Uganda, 2010)

### **1.2.2 Theoretical background**

Procurement management and performance of projects is better understood in the context of this study with the use of the institutional theory. The institutional theory adopts a sociological perspective to explain organizational structures and behavior (Dunn, 2010:4). Public procurement is a function that is heavily structure-managed and the behavior of individuals who manage the process through various structures has a significant role in improving the performance of organizations through applying the principles to make appropriate decisions.

The institutional theory draws attention to how organizations decision making is influenced by the social and cultural factors as identified by Scott, (2001:32), and in particular how rationalized activities are adopted by organizations. The theory emphasizes the use of rules, laws and sanctions as enforcement mechanism, with expedience as basis for compliance (Scott 2004:23). And by its nature, procurement is a rules-bound game. When applied, the theory helps to explain the contractor selection and monitoring as an effect of institutional decision making and the influence of the regulatory and oversight agencies in influencing performance(Scott, *ibid*).

The institutional theory further helps in showing the relevance of structures, processes and systems. However, these formal structures of legitimacy can reduce efficiency and hinder the

organization's competitive position in their technical environment. To reduce this negative effect, organizations often will decouple their technical core from these legitimizing structures. Organizations will minimize or ceremonialize evaluation and neglect program implementation to maintain external (and internal) confidence in formal structures while reducing their efficiency impact.

### **1.2.3 Conceptual background**

Conceptually, this study is guided by the concepts of procurement management and performance of construction projects as the independent and depend variables respectively. According to Leis (2011:12 procurement comes from the word procure which literally means “to obtain by care or effort”; “to bring about” and “to acquire”. “Management on the other hand means the process of planning, organizing, leading and controlling the effort of others”. It is about “organized method, approach, technique, process or procedure”. The Aqua group (1999) described procurement as the process of obtaining or acquiring goods and services from another for some consideration.

Masterman (1996) described project procurement as the organizational structure needed to design and build construction projects for a specific client. It is in a sense very true because the process of “obtaining” a building by a client involves a group of people who are brought together and organized systematically in terms of roles, duties, responsibilities and interrelationships between them. In this study, procurement management will be measured in terms of procurement planning, procurement contracting and procurement control.

The second concept of the study has its various contexts of usage. Performance has been described as “the degree of achievement of certain effort or undertaking”. It relates to the prescribed goals or objectives which form the project parameters (Chitkara, 2005). From project management perspective, it is all about meeting or exceeding stake holders’ needs and

expectations from a project. It invariably involves placing consideration on three major project elements, i.e. time, cost and quality (Project management institute, 2004).

The dependent variable is performance of school infrastructure projects. According to Clarke (2014:12), performance is the accomplishment of a given task measured against preset known standards of accuracy, completeness, cost, and speed. In a contract, performance is deemed to be the fulfillment of an obligation, in a manner that releases the performer from all liabilities under the contract. For purposes of this study, performance of school infrastructure projects will be measured in terms of time, cost and quality. There are two moderating variables which are staff competence and roles and functions of the regulator.

#### **1.2.4 Contextual background**

The main objectives of the education sector are to increase and improve equitable access to quality education, science, technology and sports at all levels, improve the relevance of education and improve effectiveness and efficiency in delivery of education services (National Development Plan, 2010). Classroom and school construction continue to be an essential intervention in improving equitable access to education at secondary level. The introduction of universal secondary education (USE), increased enrollment that has demanded a focus on construction and rehabilitation of more facilities to enable access, and reasonable class room to student ratio (Government annual performance Report FY 2011/2012).

Secondary education shall address the access issue by continuing construction of seed secondary schools and staff houses in hard to reach schools. The sector plans to construct a seed secondary school in every sub-county without any form of USE school (Bushenyi District Local Government Report, secondary sub-sector, 2013). To promote science and technology innovation, the secondary subsector education has constructed laboratories for science and ICT, as well as libraries. Slow implementation of the civil works is hampering to create required

infrastructure in time which also affects quality of education. The community raises concerns about time duration, cost and quality of the construction work (Labu, 2013). A common complaint is the capacity of contractors. Some contractors have multiple sites yet with low capacity which leads to failure to perform. The quality of the construction is poor, due to the low price.

In procurement, some school administrations carried out negotiations on price to enable contractors fit with in the available funds (or ceiling). This caused implementation problems where some contractors failed to complete projects due to under quotation. There is a need to ensure that contracts are not automatically agreed with the lowest price bidder and that bids are bench marked with available data to ensure that contractors can realistically complete agreed projects.

Poor supervision is part of the problem, resulting in poor performance on the part of contractors not being dealt with in a timely manner. Where school administrators were vigilant in supervision, works were completed in time and of good quality (UPPET implementation completion report, 2014). Creating the conditions of success involve to check how appropriate is the chosen procurement approach. While these concerns have been raised, there is no empirical basis for connecting the failure of construction projects to the way the procurement function is managed. Yet, this is the kind of information that policy makers would need to make appropriate management decisions relating to the sector. This study is intended to partially fill this knowledge gap.

### **1.3 Statement of the problem**

The inability to complete projects on time and within budgets continues to be a chronic problem worldwide and is worsening. According to Ahmed et al. (2002:23), overruns on construction

projects are a universal phenomenon. Azhar (2008:90) states that the trend of cost overruns is common worldwide and that it is severe in developing countries. Meanwhile, according to Abbas (2006:67), delay is the late completion of construction projects compared to the planned schedule or contract schedule. A cost overrun occurs when the final cost of the project exceeds the original estimates (Leavitt, Ennis and McGovern, 1993; Azhar and Farouqui, 2008). If project costs or schedules exceed their planned targets, client satisfaction could be compromised.

In a bid to improve equitable access to secondary education, the government of Uganda has over the past several years spent many resources on construction projects under universal post primary education and training (UPPET) programme. The construction projects however, have had problems with procurement process, accountability, delays and cost overruns that have caused considerable concern but no empirical analysis has been conducted to assess where the problem exactly lies. The ministry of education, science, technology and sports has demanded the head teachers of 182 secondary schools of which 3 were in Bushenyi to urgently account for construction funds under the UPPET program which they had not accounted for (New vision, Monday, April 13, 2015:49-50). Five seed secondary schools had their contracts cancelled because of shoddy and slow progress of civil works (Report, secondary sub-sector, 2013). Despite these disturbing reports, few empirical investigations to examine the root causes of the major problems originating from procurement on some of the major projects has been a rare occurrence. In an attempt to address this knowledge gap, this study has been conceived. Therefore, this study seeks to examine the relationship between procurement management and performance of construction projects in government-aided secondary schools in Bushenyi District.

#### **1.4 Purpose of the study**

The purpose of the study is to examine the relationship between procurement management and performance of construction projects in government-aided secondary schools in Bushenyi district.

#### **1.5 Objectives of the study**

- I. To establish the extent to which procurement planning affects performance of construction projects in government-aided secondary schools in Bushenyi district.
- II. To examine the extent to which procurement contracting affects performance of construction projects in government-aided secondary schools in Bushenyi district.
- III. To establish the extent to which procurement control affects performance of construction projects in government-aided secondary schools in Bushenyi district.

#### **1.6 Research questions**

- I. To what extent does procurement planning affect performance of construction projects in government-aided secondary schools in Bushenyi district?
- II. To what extent does procurement contracting affect performance of construction projects in government-aided secondary schools in Bushenyi district?
- III. To what extent does procurement control affect performance of construction projects in government-aided secondary schools in Bushenyi district?

#### **1.7 Hypotheses of the study**

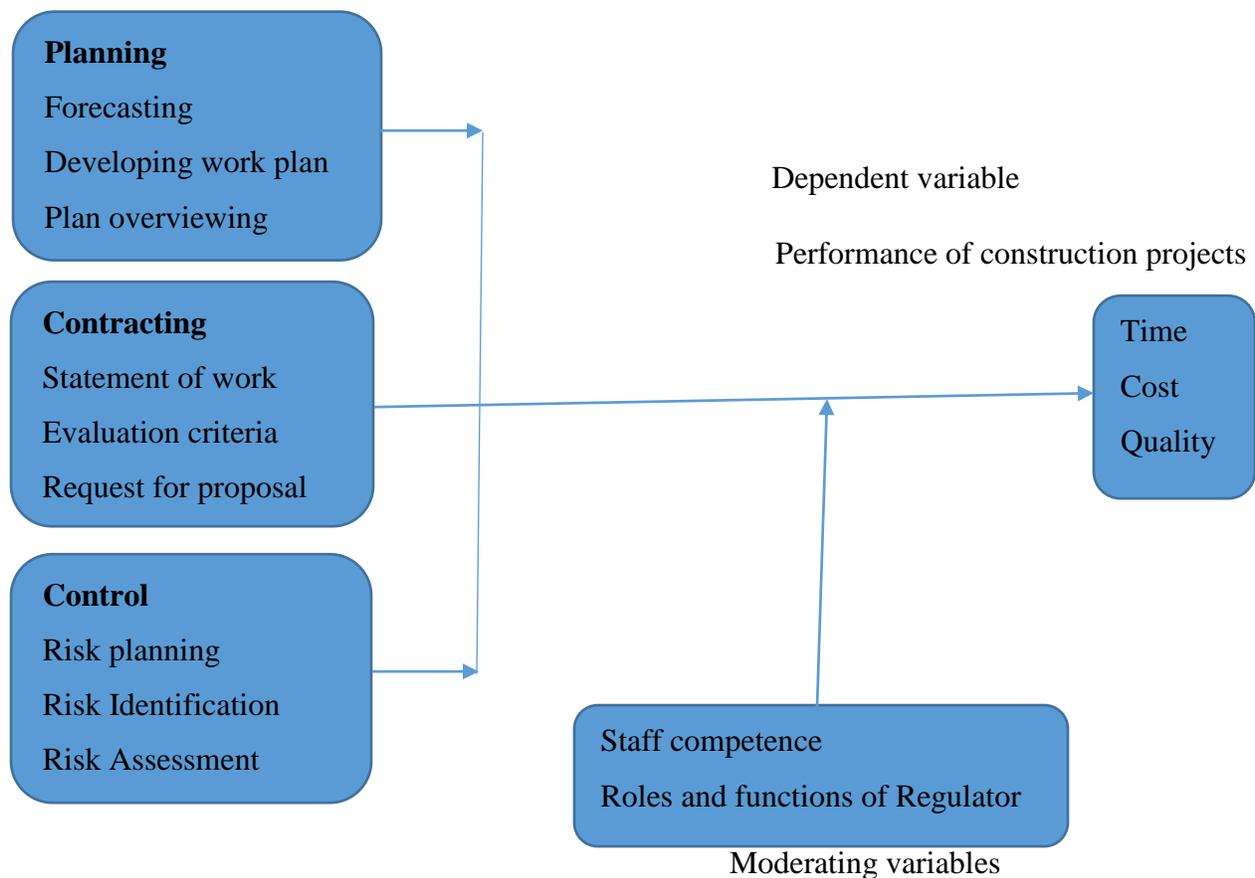
- I. Procurement planning significantly affects performance of construction projects in government-aided secondary schools in Bushenyi district.
- II. The level of procurement contracting has a significant effect on performance of construction projects in government-aided secondary schools in Bushenyi district.

III. Procurement control has a significant effect on performance of construction projects in government-aided secondary schools in Bushenyi district.

### 1.8 Conceptual frame work

Independent variable

Procurement management



**Source:** Adopted From Guyana Procurement Planning Manual, September 2010 and modified by the Researcher.

As depicted in the figure above, procurement management is related to performance of construction projects in that depending on how procurement is managed, it can affect performance of construction projects either positively or negatively. In the figure, it is assumed that procurement management is reflected in three aspects namely; planning, contracting and

control. Under planning, procurement management is reflected in forecasting, developing procurement work plan and procurement plan overview.

Under contracting, procurement management is reflected in preparing a statement of work, establishing evaluation criteria and issuing the request for proposals. Under control, procurement management is reflected in risk planning, risk identification and risk assessment.

It is further assumed that once procurement is achieved as planned, performance of construction projects can be achieved through time performance, economical performance (cost) and quality. On whether this ideal relationship between procurement management and performance of construction projects in government-aided secondary schools in Bushenyi district exist, is still an issue of concern. Hence the study is intended to assess the extent to which procurement management has contributed towards performance of construction projects in government-aided secondary schools in Bushenyi district.

### **1.9 Significance of the study**

This study of procurement management and performance of construction projects in government-aided secondary schools in Bushenyi district will provide helpful information to various stake holders as follows;

The government of Uganda through the ministry of education, science, technology and sports will benefit from the study as a source of information and foundation for the design of policies that can help to improve and control performance of construction projects in government-aided secondary school.

The government of Uganda through the ministry of finance, planning and economic development will benefit from the study as a source of information for value of money in performance of construction projects in government-aided secondary schools.

The study will provide lessons that will help PPDA come up with appropriate measures to address problems resulting from poor procurement management of construction projects in government-aided secondary schools.

Other researchers will use the findings as a reference for further research in procurement management and performance of construction projects in government-aided secondary schools.

### **1.10 Justification of the study**

The rationale for conducting this study will be providing the bench marks under which procurement management principles can be realized and performance of construction projects is improved. In a bid to improve equitable access to secondary education, the government of Uganda has over the past several years spent many resources on construction projects under universal post primary education and training (UPPET) programme. However, these construction projects have had problems with procurement process, accountability, delays and cost overruns that have caused considerable concern but no empirical analysis has been conducted to assess where the problem exactly lies.

### **1.11 Scope**

#### **1.11.1 Geographical scope**

The study will be conducted in Bushenyi district, mid- south western Uganda. Bushenyi district is bordered by Sheema district in east and south, Rubirizi district in north, Buhweju district in north east and Mitooma district in south west.

There are eleven government-aided secondary schools in Bushenyi district that include; Kyamuhunga S.S, Nyabubare S.S, Bishop Ogez H.S, Ishaka Adventist College, St. Kagwa Bushenyi H.S, Kakanju Vocational, Ruyonza School, Kyabugimbi S.S, Kyeizoba Girls, Bweranyangi Girls and Mwengura S.S.

### **1.11.2 Time scope**

The research investigations will cover a period of 5 years (2010 to 2014). This is the period when there have been a lot of flaws in the construction projects (Azhar, 2012). The government through financial support from World Bank financed many construction projects in schools over this period under the universal post primary education and training programme (UPPET) in phases; 2009-2012 and 2012-2014. Considering construction projects which were under taken during this time interval will provide adequate information to evaluate procurement management and performance of construction projects.

### **1.11.3 Content scope**

The study intends to examine the relationship between procurement management and performance of construction projects in government-aided secondary schools. Specific emphasis will be on procurement management in terms of planning, contracting and control and how they affect performance of construction projects in government-aided secondary schools.

## **1.12 Operational definitions**

**Procurement:** It is the act of obtaining or buying goods and services. The process includes preparation and processing of a demand as well as the end receipt and approval of payment.

**Management:** It is the organization and coordination of the activities of a business in order to achieve defined objectives. Management consists of interlocking functions of creating corporate policy and organizing, planning, controlling and directing an organization's resources in order to achieve the objectives.

**Planning:** It is a basic management function involving formulation of one or more detailed plans to achieve optimum balance of needs or demands with the available resources. The planning process (1) identifies the goals or objectives to be achieved, (2) formulates strategies to achieve

them, (3) arranges or creates the means required and (4) implements, directs, and monitors all steps in their proper sequence.

**Contracting:** A general contractor is an organization or individual that contracts with another organization or individual (the owner) for the construction of a building, road or other facility. A general contractor is responsible for day-to-day oversight of a construction site, management of vendors and trades, and communication of information to involved parties throughout the course of a building project. A general contractor is responsible for providing all of the material, labor, equipment (such as engineering vehicles and tools) and services necessary for the construction of the project.

**Control:** It is a management function aimed at achieving defined goals within an established time table, and usually understood to have three components; (1) setting standards (2) measuring actual performance, (3) taking corrective action. A typical process for management control includes the following steps; (1) actual performance is compared with planned performance, (2) the difference between the two is measured, (3) causes contributing to the difference are identified, and (4) corrective action is taken to eliminate or minimize the difference.

**Performance:** It is accomplishment of a given task measured against preset known standards of accuracy, completeness, cost and speed. In a contract, performance is deemed to be the fulfillment of an obligation, in a manner that releases the performer from all liabilities under the contract.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter provides a review of literature on the challenges on procurement management. Oliver (2004:4), states that the word review in literature means that one should summarize the broad content of the research study and also indicate clear ties to other studies in the field. The main purpose of a literature review is to establish the academic and research areas that are relevant to the subject under investigation. Blaxter, Hughes and Tight (2001:120) define a literature review as a systematic, explicit and reproducible method for identifying, evaluating, and interpreting an existing body of recorded work that was produced by researchers, scholars and practitioners.

This chapter presents the theories that will underpin the study and a review of literature about other studies carried out on the challenges of the implementation of construction projects. The literature is presented in relation to the objectives that will guide this proposed study that is planning, contracting and control. The researcher does not only provide a summary of the study, but also an actual critique of the strengths and weaknesses of the earlier works.

#### **2.2 Theoretical review**

The institutional theory adopts a sociological perspective to explain organizational structures and behavior (Dunn, 2010:34). The theory draws attention to the social and cultural factors that influence organizational decision-making and in particular how rationalized activities are adopted by organizations (Scott, 2001:23). The institutional theory is the traditional approach that is used to examine elements of public procurement (Obanda, 2010:45). Scott (2004:56) identifies three pillars of institutions as regulatory, normative and cultural cognitive. The

regulatory pillar emphasizes the use of rules, laws and sanctions as enforcement mechanism, with expedience as basis for compliance.

Institutional theorists assert that the institutional environment can strongly influence the development of formal structures in an organization, often more profoundly than market pressures. At this point new and existing organizations will adopt the structural form even if the form doesn't improve efficiency (DiMaggio and Powell, 1983:23; Meyer and Rowan, 1977:77).

Meyer and Rowan (1977:67) argue that often these "institutional myths" are merely accepted ceremoniously in order for the organization to gain or maintain legitimacy in the institutional environment. Organizations adopt the "vocabularies of structure" prevalent in their environment such as specific job titles, procedures, and organizational roles (Meyer and Rowan, 1977:56).

DiMaggio and Powell (1983:42) conclude that the net effect of institutional pressures is to increase the homogeneity of organizational structures in an institutional environment. Firms will adopt similar structures as a result of three types of pressures (Rowan, Tolbert, and Zucker, 2002:89). Coercive pressures from legal mandates or influence from organizations they are dependent upon, mimetic pressures to copy successful forms arise during high uncertainty and normative pressures to homogeneity the similar attitudes and approaches of professional groups and associations brought through hiring practices (Rowan, Tolbert, and Zucker, 2002:81). They add that rate of institutional isomorphism is increased when firms are highly dependent on the institutional environment, exist under high uncertainty or ambiguous goals or rely extensively on professionals (Rowan, Tolbert, and Zucker, 2002:75). Tolbert and Zucker (2003:65) extended Rowan's findings by evaluating the rate of adoption of civil service organizations in the United States from 1880-1935. Their results strongly support the institutional theories outlined above.

The theories above are useful in that when coercive pressures are high (e.g., under state mandate), organizations quickly adopt new structures. Under low coercive pressures the rate of adoption is much slower. However, increased adoption builds legitimacy in the institutional environment, accelerating the rate of adoption of the new structural form. The theory is still relevant, construction agencies are laboring to adopt the new forms including right plan, contract and control to improve efficiency, and are adopting the structural forms to maintain legitimacy.

### **2.3 Procurement Planning and performance of construction projects**

In a developing country like Uganda, having an effective procurement planning system will continue to be a challenge to many public entities (Oluka, 2013:16). Planning must become a priority for public entities. However, the Public Procurement and Disposal Authority (PPDA) must play a central role in providing training, technical guidance and ensuring compliance to all set rules (Muhwezi, 2013:45). Conceptually, this study will reveal the critical components of contract selection ranging from the process, through the expected practices, the actors to be involved, to its importance (Muhwezi, *ibid*). Planning is one area that needs careful attention from all stakeholders in public entities because it has a huge budget and if this budget can be managed in an accountable manner, then there will be improved service delivery and this is one way of accounting to the tax payers.

In Sabiti, Basheka and Muhumuza (2011:23)'s study conducted in Uganda on developing public procurement performance measurement systems in developing countries: the Uganda experience, the authors note how proper planning may influence procurement performance. The key to accountability is the capacity to select the best contractors within the public sector. The internal contractor selection process of government, procurement and personnel have long received sustained attention as the centerpiece of reforms to promote accountability (World Bank, 2000:44). Accountability of public officials is critical in deterring corrupt practices and it creates

an enabling environment for vibrant private sector activity (Kabaj, 2003). The researcher notes that the problems of accountability arise when government ignore or transgress social ethics and constitutional and legal provisions in conducting public affairs, administrative systems are fragmented, tasks to be performed are so many.

In Oluka's study on the challenges of procurement, she posits that restricted tendering is a procurement method that limits the request for tenders to a select number of contractors (Oluka, 2013:23). According to the PPDA Regulation 2014, the restricted procurement method is a two-stage process. The first stage the employer advertises his project and invites contractors to express interest to be placed on a selected list of contractors who will be invited to bid for the project (Oluka, 2013:42). In creating a nexus between the earlier study and the proposed study, it is imperative that when contractors applying should be given a list of information, and information got about them in order to 'pre-qualify. Stage two the shortlisted contractors who meet the selection criteria should be invited to submit a more detailed tender submission.

Ocharo (2013:34) in his study on the factors affecting procurement performance: a case of ministry of Energy in Kenya notes that planning is the process of choosing the most appropriate contractor to deliver a specified project so that the achievement of best value for money. Procurement methods are one of the critical steps in planning and bid evaluation methods are the key procedures through which a contractor is selected. Ocharo (2013:35) posits that planning is one of the main decisions made by the clients. In order to ensure that the project can be completed successfully, the client must select the most appropriate contractor. Ocharo (2013:27), identifies procurement methods as the procedures used by the procuring entity to acquire goods, services and works. The data by Ocharo (2013) was analyzed using qualitative data that falls short of what is expected in the proposed study whose analysis will be based on a mixed

approach. Using a mixed approach, data will be cross-validated and captured using different dimensions of the same phenomenon.

Manthosi and Thawala (2012:86) and Ganderton (2012:14) report various methods besides planning such as negotiation, competitive, open-selective, design and build tendering approaches that have been used in construction projects. The Open tendering procedure allows practically any contractor to submit a tender for the work. This procedure involves either the client or consultant (on behalf of the client) placing a public advertisement giving a brief description of the work. Normally the client will require a cash deposit when contract documents are requested (Manthosi and Thawala, 2012). The study by Manthosi and Thawala (2012:86) mainly relied on secondary data that most times a reader may not be in position to tell how data control of the study was ensured. However, different from Manthosi and Thawala (2012)'s study, the proposed study will rely on both primary and secondary data collection methods.

Planning must be done so that the chain of procurement is complete (Dawood, 2014). This method is most favoured by construction clients as observed (Murdoch and Hughes, 2015:33; Dawood, 2014:21). In the studies conducted by Merna and Smith (2010:34), Trickey (2012:45) and Smith (2014:67) competitive tendering was seen as the best way to select a bidder with the lowest price (Pasquire and Collins, 2014:41). It was argued in the above studies that using lowest price as yardstick for selecting contractors ensures that the client gets value for money through free and fair competition. However, this argument was challenged by Pearson (2013), Dawood (2014:15), Pasquire and Collins (2014:69) who argued that the lowest contemporaneous price is not a guarantee for yielding the overall lowest project cost after execution and on this note the researcher buys the idea. It is on the basis of this idea that the researcher will base his argument.

According to Lynch (2014:44) any decision to procure goods must be backed by planning (Lynch, 2014:56). And the basic characteristic of this method is that competition is confined to a certain number of firms either because only a few firms are qualified to fulfill the specific type of requirement, or certain conditions warrant the use of a limited number of firms in order to reduce the time and cost of the selection process (Arrows, 2010:34). Although considered a competitive procurement method, competition is limited to only firms shortlisted and the method involves two processes and it typically takes longer than the open competitive process which may result in contractor submitting speculative bids.

On the other hand, Pilcher (2012:50) notes that planning involves drawing up a shortlist of contractors deemed to have the appropriate qualifications to carry out the proposed work satisfactorily (Pilcher, 2012:78). While negotiated or direct tendering is where the client invites a single contractor to submit a tender for a particular project. There is a tendency for entities to prefer for using competitive methods of procurement given that they tend to promote transparency, economy and efficiency, and limit favoritism Lynch (2014:12). However, according to the study conducted by Masterman (2012:34), there is development of non-traditional procurement systems and which seem to be the favourite to most clients of the construction industry. The conclusion and recommendations of the above authors were basically based on the field of procurement and in this case the researcher intends to widen the scope as he draws his conclusions and recommendations.

## **2.4 Procurement Contracting and Performance of construction projects**

According to Mbalangu (2013:56) in his study on compliance monitoring and procurement performance carried out in Uganda notes that supplier contractor monitoring has slowly become an important component for effective supplier relationship management that is directly linked to

securing the supply of key commodities needed for sustaining business. According to Kansiime (2014:12) in his study on the impact of public procurement reforms on service delivery in Uganda, he notes that monitoring of this formalized relationship allows an organisation a degree of control over the deliverables and performance requirements. The use of contracts in business relationships has long been the lifeblood of a business, as the contracts provide the terms, pricing, and service levels of customer, partner and/or supplier relationships (Mbalangu, 2013:43). Contracts provide a framework by which an organisation manages and mitigates risk in its supplier relationships (Mbalangu, *ibid*). As a result, contracts have become the living breathing documents that control the dynamics of everyday business in an ever increasing fashion. The above study adopted qualitative techniques of data analysis compared to the proposed study that will adopt mixed methodological approaches of data analysis.

Schmitz and Platts (2004:77) in their study conducted in Ghana did investigate the procurement reforms in Ghana. They assert that the main aim of contracting is to ensure that goods or services are delivered on time, at the agreed cost and at the specified requirements. It means developing effective working relationships with your suppliers, ensuring effective service delivery, maximising value for money and providing consistent quality for stakeholders and end users (Schmitz and Platts, 2004:77). The primary goal for contractor monitoring within any company is to ensure that commitments and obligations to customers and suppliers are clearly visible to the relevant people in the organization and that they are executed upon (Schmitz and Platts, 2004:76). Contracts are used to control virtually every part of the trading relationship between buyers, sellers, and intermediaries, and have an impact on various functions within the enterprise. For example, the sell-side involves sales, marketing, finance, legal, sales operations and customer service. The earlier study pretested the results based on qualitative approaches, in

bridging the gap, this study will pretest the results using both quantitative and qualitative methodological approaches.

Agere (2009:69) in his study on the effectiveness of contract management in Austria notes that contract monitoring requires the systematic management of contract creation, execution, compliance and analysis to maximize performance and minimize risk (Agere, 2009:71). With the increase in the complexity of doing business in public entities coupled with the increase in transaction volumes and value in an ever tightening regulatory framework has resulted in businesses taking note of the importance of proper monitoring of contractors (Bagaka & Kobia, 2010:49). The missing link on the earlier study is on the sampling techniques used. Non probability sampling techniques specifically convenient sampling was adopted to select the sample, in creating a nexus between the two studies, the proposed study will rely on both probability and non-probability sampling techniques to select the sample.

According to Hinton (2003:61) in his study on the “Best practices in government: Components of an effective contract monitoring system”, contracting involves collecting and analysing information to provide assurance on the performance of the contractor on the agreed timeframes and towards providing the contract deliverables (Arrows, 2010:12). Key Performance Indicators (KPIs) should be clearly set within the contract and then measured, reported and monitored on a regular basis. Arrows (ibid), further observes that while significant contract monitoring occurs when the vendor is actually performing the service (contract period), preparation during the pre-contract period is essential to effective contract monitoring. In the proposed study, contract monitoring involves those activities performed by government officials after a contract has been awarded to determine how well the government and the contractor performed to meet the

requirements of the contract. It encompasses all dealings between the government and the contractor from the time the contract is awarded until the work has been completed.

Hinton (2003:56) further in his study carried out in England he identifies capacity of employees; written policies and procedures; contingency plans; clearly communication of expectations to vendors, performance measures, and post-award meetings; administration plan; organized contract files as effective components for contract monitoring (Arrows, 2010:34). The other components Hinton mentions are timely payment; regular reports; access to records and right to audit; and, dispute resolution procedures (Hinton, 2003:46). While these are crucial components not all contracts are monitored using the same components to measure success.

Rendon (2010:19) in his study on the 'Critical success factors in government contract management' outlines the critical success factors for contract management as being qualified workforce, clear processes, relationships, resources, leadership and policies. All these have a direct impact on an organisation's contract management processes as well as resulting outcomes (Rendon, *ibid*). The study will use the above components to test their effect of contract monitoring approach on performance of construction projects in government-aided secondary schools.

## **2.5 Procurement Control and Project Performance**

In Uganda, Oluka and Basheka (2014:19) examined the determinants and constraints of effective contract management and its implications on service delivery. The study was motivated by persistently low compliance levels reported by procurement authority as far as road construction projects is concerned. Data was collected using a closed ended questionnaire and the study identified determinants for effective contract management. These include clear definition of

processes and having in place contract management plans, appropriate methods of capturing key lessons from contract management process, accurate definition of roles and having a knowledgeable contract Manager.

Alinaitwe, Apolot and Tindiwensi, (2013:56) investigated the causes of construction project delays and cost overruns in Uganda's public sector with an intention of ranking them according to their frequency, severity and importance. A total of 30 projects at Civil Aviation Authority were reviewed. Five most important causes of delays and cost overruns were found to be changes in the work scope, delayed payments to contractors, poor monitoring and control and high inflation and interest rates. Ahimbisibwe, Muhwezi & Eyaa (2012:12), examined the relationship between supplier opportunism, contract management and service delivery in outsourced contracts in Uganda. The study was conducted in the 116 Procuring and Disposing Entities in Uganda and the findings reveal that supplier opportunism and contract management are significant predictors of service delivery. This study however does not address the impact of supplier determination process on contract performance.

In another related study, Oluka (2013) made a theoretical examination of the challenges of procurement contract management and their implications on the delivery of public services. The review concludes that contract management success is strongly influenced by what happens at tendering and award phase. Also contract management should be a continuum planned from the start of the procurement process. However this review does not provide a detailed analysis of how the tendering phase affects contract performance.

Procurement performance measurement; the process of quantifying the efficiency and effectiveness of actions has received increasing interest since the late 1980s (Lubega, 2010:41). Lubega (2010) who conducted a study on performance measurement systems notes that efficiency can be measured from the purchasing organization's context where the personnel, management, procedures, policies, and information system issues are considered (Lubega, *ibid*). In Uganda, measuring performance of infrastructural projects draws a considerable amount of attention from professional associations, scholars and practitioners, although the attention is there, it still remains wanting.

The public sector scorecard suggested by Moullin (2012:34) measures project performance on five perspectives: (1) The achievement of its strategic objectives, (2) Service user/stakeholder satisfaction, (3) Organizational excellence; (4) Financial targets and (5) Innovation and learning. To effectively achieve these, the author proposes eight essentials of Performance Measurement. The researcher notes indicators should instead measure the inputs in the sections of the procurement units.

According to Kalinaki (2011:39), during the 2009 baseline survey for the procurement performance measurement system, entities were assessed on their performance on ten critical documents basing on records management practices (Kalinaki, *ibid*). Under this key performance area, the main indicator measured was the completeness of procurement records in a procurement transaction measured against a checklist of the following 10 documents. Performance measurement has now gone beyond input and process into other sensitive areas. The researcher considered the shift of measurement systems beyond input and process into the more politically and methodologically sensitive area of assessing effectiveness as difficult and controversial.

In Africa, roads dominate the transport sector, carrying 80 to 90 percent of passenger and freight traffic; however the condition of these roads is very poor by international standards (World Bank, 2011:17). World Bank (2011:16) indicated that the African road sector has passed through a wide ranging and consistent set of policy reforms, with most countries embarking creation of independent source of funding for road maintenance based on road-user charges. However this has also not fully improved the performance of roads in Africa (World Bank, 2011:40). On average, about 43 percent of the main networks are in good condition, a further 30 percent are in fair condition, and the remaining 27 percent are in poor condition (World Bank, 2011:29). According to the World Bank report (2011), World Bank (2008:33) indicates that a number of African countries are not devoting adequate resources to maintenance of the national road network, and about half of these are not even spending enough to meet routine maintenance requirements. Chad, Niger, Nigeria, Senegal, and Uganda, maintenance spending is less than half the normative requirements. The World Bank reports give a general picture on the performance of the road project in Uganda and other African countries however in creating a nexus between the earlier study and this study, the researcher will introduce the aspect of contractor selection and contractor monitoring and incorporate within his study.

Performance measurement is viewed as a warning, diagnosis and control system, that is used to keep track of economy (looking back), efficiency (current organizational process), effectiveness (output in the short term ) and efficacy (output in the long term) (Teelken & Smeenk, 2013:56). Performance measurement movement lies within that element of organization theory that searches for a science of organizations (Mpaka, 2013:50). The public sector scorecard suggested by Malinzin (2014:67) measures an organization's performance on five perspectives: (1) The achievement of its strategic objectives, (2) Service user/stakeholder satisfaction, (3) Organizational excellence; (4) Financial targets and (5) Innovation and learning. In the proposed

study procurement performance will be measured in terms of efficiency and effectiveness of the procurement unit. In the proposed study performance will be measured in terms of speed, cost, time and quality.

Ohemeng (2010:09) in his study on procurement performance conducted in Nigeria notes that performance measurement has become a key element in modern public sector governance and many developing countries have introduced it as a means to measure organizational and individual efficiency in order to ensure that public sector organizations meet the needs of the public. Equally, performance measurement is done on road projects in Africa (Ohemeng, 2009:78). Increasing the effectiveness, efficiency and transparency of public procurement systems has become an ongoing concern of governments and of the international development community (OECD, 2006:51). Measuring performance is a graceful way of calling an organization to account (Bruijn, 2007:14) and in public sector performance measurement; accountability is the central concern (Heinrich, 2007:85). Performance measurement is viewed as a warning, diagnosis and control system, that is used to keep track of economy (looking back), efficiency (current organizational process), effectiveness (output in the short term) and efficacy (output in the long term; also called outcome) (Teelken and Smeenk, 2013:14). The researcher notes that procurement performance should be viewed in relation to planning, contracting and control which is the central focus of the proposed study.

The World Bank (2014) indicated that despite Brazil's size, the country faces a substantial infrastructure gap that threatens to limit growth and competitiveness (World Bank, *ibid*). India's infrastructure deficit is creating significant challenges for the country's continued economic growth. Accordingly, India has to significantly step up and improve the quality of infrastructure investment; India plans to spend more than US\$1 trillion over the next five years (World Bank,

2014). The studies by World Bank (2014) may not directly apply to the situation in Uganda given that Uganda is still a developing economy with a small infrastructural base.

Gill (2013:12) in his study on the evaluation criteria for contract performance carried out in Austria posits that good performance management process produces good management records (Gill, 2013:14). These can be used for verification of performance and can be referred to when a contract is ready for extension or renewal (Arrows, 2010:64). In extreme cases, these contract management records can be used as justification for termination of a contract due to the contractor's failure to perform to the standards expected.

According to Luthan (2009:37), in his study carried in Luxemburg notes that there are four main means by which contractor selection, monitoring influence the financial accountability in the procurement process. This is through dissemination, inspiration commitment, guidance and control (Forbes, 2006:31). Forbes argues that inspiration and commitment have impact on the common vision and willingness to act in a way that promotes the achievement of the plans and budgets. Guidance and control on the other hand rely progressively more on rules and enforcement mechanism (Giles, 2010). Guidance on the other hand relates to aspects such as location where services should be delivered and where development should take place, and the timing of such development through budgeting and infrastructure investment decision-making. Consensus has emerged that dissemination is the most suitable avenue for generating home grown solutions to local problems (World Bank, 2000:45). The earlier study adopted secondary data collection methodological approaches compared to the proposed study that will adopt primary data collection methodological approaches.

## **2.6 Synthesis of the Literature and Research Gaps Analysis**

The literature review above confirms that different scholars have conducted several studies to establish the correlation between procurement management and performance of projects. However, a numbers of gaps have been identified as per the literature reviewed which this research will bridge. Most of the studies on the subject are based on developed countries with a well-developed private and public sector yet the proposed study will centre on Uganda. Most studies were qualitative and do not guide us on the relationship between the study variables. The scholars did not specifically focus on the variables as laid down in this study. This therefore, creates knowledge gap. It is imperative to investigate the two variables contractor selection and monitoring in relation to performance of construction projects. Considering the above, the proposed study will focus on procurement management and performance of construction projects.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 Introduction**

This chapter presents and describes the approaches and techniques the researcher will use to collect data and investigate the research problem. They include the research design, study population, sample size and selection, sampling techniques and procedure, data collection methods, data collection instruments, data quality control (validity and reliability), procedure of data collection, data analysis and measurement of variables.

#### **3.2 Research Design**

The correlational survey design will be adopted in this study based on the fact that it provides a systematic description that is as factual and as accurate as possible (Amin 2005). A correlational survey enables the researcher to find out the relationship between the study variables (Sekaran, 2003). The study will apply both quantitative and qualitative approaches. Amin (2005) states that quantitative designs are plans for carrying out research oriented towards quantification and are applied in order to describe current conditions or to investigate relationships, including cause and effect relationships. Quantitative designs therefore will help to describe the current conditions and investigate the established relationships between the identified variables. Quantitative approaches will be adopted when sampling, collection of data, data quality control and in data analysis.

This study will also apply qualitative approaches which will involve an in-depth probe and application of subjectively interpreted data (Sekaran, 2003). Qualitative research enables the researcher to gather in-depth information about the study for example unstructured qualitative interviews will serve this purpose.

### 3.3 Study Population

The population under study is 120 consisting of 110 staff members, 04 contractors, 04 top administrators and 02 policy makers in the Ministry of Education, science, technology and sports. The top administrators are key stakeholders and participate in the decision making process. The staff members are also key stakeholders and they directly or indirectly participate in the decision making process. This population will enable the researcher to obtain the necessary data for the study.

### 3.4 Sample Size and Selection

The study will be based on a sample size of 92 drawn from a population of 120 using the Krejcie & Morgan (1970) sampling determination framework (see appendix 5). In that table as elaborated upon below, a total population of 120 results into a sample size of 92 and is scientifically sufficient. The distribution as per categories will be as follows:-

**Table 3.1: Population, Sample Size and Sampling Techniques**

<b>Category</b>	<b>Target population</b>	<b>Sample size</b>	<b>Sampling technique</b>
Top administrators	04	02	Purposive
Staff members	110	86	Simple random
Contractors	04	02	Purposive
Policy Makers	02	02	Purposive
<b>Total</b>	<b>120</b>	<b>92</b>	

**Source:** Adopted from primary data (2015) and Krejcie and Morgan tables (1970)

### **3.5 Sampling Techniques and Procedure**

Both probability and non-probability sampling techniques will be adopted in selecting the sample.

#### **3.5.1 Probability Sampling**

Probability sampling is a quantitative sampling technique which gives every member an equal chance of being selected. According to Katebire (2007:12) it minimizes bias and every member stands an equal chance of being selected. The study will use simple random sampling technique. Simple random sampling technique will be used to sample the 86 staff members. According to Amin (2005), simple random sampling gives every member an equal chance of being recruited into the sample. A sample frame will be constructed and then the members will be randomly sampled. In applying simple random sample all such subsets of the frame will be given an equal probability. Furthermore, any given pair of elements will have the same chance of selection as any other such pair (and similarly for triples, and so on). This will minimize bias and simplify analysis of results.

#### **3.5.2 Non Probability Sampling**

Non probability is a type of sampling that adopts non randomness in selecting the sample. Non probability sampling does not meet this criterion and should be used with caution. Non probability sampling techniques cannot be used to infer from the sample to the general population (Katebire 2007). The study will also adopt purposive sampling techniques to sample the 02 top administrators, 02 contractors and 02 policy makers. The researcher will choose the top administrators, contractors and policy makers based on his own knowledge and judgment. In choosing the sample the researcher will base on level of education and experience.

According to Onen (2005), purposive sampling enables a researcher choose participants of his own interest based on education and experience.

### **3.6 Data Collection Methods**

Both primary and secondary data (qualitative and quantitative) will be obtained.

#### **3.6.1 Questionnaire Survey**

A questionnaire will be used because it allows in-depth research, to gain firsthand information and more experience over a short period of time (Creswell, 2003). The researcher has chosen to use the questionnaire survey because it is practical, large amounts of information can be collected from a large number of people in a short period of time. The questionnaire is cheap and fast to administer. Questionnaire survey as a method increases the degree of reliability as well enhances the chances of getting valid data, (Amin, 2005).

#### **3.6.2 Interviews**

Interviews will be person-to- person verbal communication in which one person or a group of people will be interviewed at a time. Interviews will be used because they have the advantage of ensuring probing for more information, clarification and capturing facial expression of the interviewees (Amin, 2005). In addition they will also give an opportunity to the researcher to revisit some of the issues that had been an over-sight in other instruments and yet they are considered vital for the study.

#### **3.6.3 Documentary Review**

Documentation cannot be underestimated as it provides necessary background and much needed context both of which make re-use a more worthwhile and systematic endeavor. Secondary data will be obtained through the use of published and unpublished documents. According to Amin (2005), secondary data can be helpful in the research design of subsequent primary research and

can provide a baseline with which the collected primary data results can be compared to other methods.

### **3.7 Data Collection Instruments**

The data collection instruments that will be used are questionnaires, interview guide and documentary review checklist.

#### **3.7.1 Questionnaire**

The questionnaire will consist of only closed-ended questions. The closed-ended questionnaire is adopted because the response options for a closed-ended question are exhaustive and mutually exclusive. A closed-ended questionnaire will be administered with aid of research assistants. The questionnaire will be administered to top administrators and the staff of government aided secondary schools in Bushenyi District.

#### **3.7.2 Interview Guide**

The interview guide will be used to collect the data. Interviews will be person to person verbal communication in which one person or a group of people will be interviewed at a time. Interviews will be personal interviews and will be conducted with 02 top administrators and 05 staff members.

#### **3.7.3 Documentary Review Check List**

The documentary review check list will be used for purposes of reviewing documentary data. Documentary data will be obtained through the use of published and unpublished documents. Various publications, magazines, newspapers, reports, procurement school manuals, historical documents and other sources of published information from the government aided secondary schools on procurement will be reviewed by the researcher. Amin (2005) maintains that

secondary data can be helpful in the research design of subsequent primary research and can provide a baseline with which the collected primary data results can be compared to other methods.

### **3.8 Quality Control**

Data quality control techniques will ensure that data collected is valid and reliable; the instruments will be first tested to ensure validity and reliability.

#### **3.8.1 Validity**

To establish validity qualitatively, the instruments will be given to two experts (supervisors) to evaluate the relevance of each item in the instrument to the objectives and rate each item on the scale of very relevant (4), quite relevant (3), somewhat relevant (2), and not relevant (1). The purpose of qualitative research is to describe or understand the phenomena of interest from the participant's eyes, therefore the researcher will allow the participants to legitimately judge the credibility of the results. The researcher will document the procedures for checking and rechecking the data throughout the study. The researcher will play a "devil's advocate" role with respect to the results, and this process will be documented. The researcher will also actively search for and describe the negative instances that contradict prior observations. And, after the study, the researcher will conduct a data audit that examines the data collection and analysis procedures and makes judgments about the potential for bias or distortion. Since the idea of dependability, on the other hand, emphasizes the need for the researcher to account for the ever-changing context within which research occurs, the researcher will describe the changes that occur in the setting and how these changes affect the way the researcher will approach the study.

Quantitatively, to establish validity the researcher will conduct the Content Validity Index (CVI) test to check the validity of the questionnaire contents. The CVI will be computed using the following formula:

$$\text{CVI} = \frac{\text{Items rated relevant/Very relevant by both rates (3 or 4)}}{\text{Total number of items in the instrument}}$$

The researcher will endeavor to attain validity of coefficients of at least 0.70 or 70%. Creswell (2003) argues that items with validity coefficients to at least 0.70 are accepted as valid and reliable in research. After calculating the C.V.I, the results will be posted to the appendices of the report.

### **3.8.2 Reliability**

For qualitative data, the researcher during data collection exercise will ensure that the data recorded from interviews reflect the actual facts, responses, observations and events. The researcher will also take multiple measurements, observations or samples and check the truth of the record with an expert/ lecturer to verify response consistency and customize questions so that only appropriate questions are asked. The experts will help to confirm that responses against previous answers were appropriate and detect questions that are likely to elicit inadmissible responses. He will also use standardized methods and protocols for capturing observations, alongside recording forms with clear instructions.

The researcher will use triangulation to ensure reliability of the data collected; triangulation indicates that more than two methods are used in a study with a view to double (or triple) check results. This is called "cross examination" according to Mugenda & Mugenda (1999). According to Mugenda & Mugenda (1999) the idea is that one can be more confident with a result if different methods lead to the same result. If an investigator uses only one method, the temptation is strong to believe in the findings. If an investigator uses two methods, the results may well clash. By using three methods to get at the answer to one question, the hope is that two of the

three will produce similar answers, or if three clashing answers are produced, the investigator knows that the question needs to be amended.

And lastly a pretest of the instrument in a time lapse of 4 weeks will be carried out to establish consistence in responses. The data collection instruments will be pretested on respondents who are not part of the sample size. According to Amin (2005), test-retest reliability can be used to measure the extent to which the instrument can produce consistent scores when the same group of individuals is repeatedly measured under same conditions. The results from the pretest will be used to modify the items in the instruments.

To ensure reliability of quantitative data, the Cronbach's Alpha Reliability Coefficient for Likert-Type Scales test will be performed. The Cronbach's Alpha Reliability Coefficient for Likert-Type Scales will be done. Upon performing the test, the results that will be 0.7 and above will be considered reliable. The results of the Cronbach test will be provided in the appendix of the final report.

### **3.9 Data Collection Procedure**

The researcher through proper channels will ask for an introductory letter from Uganda Technology and Management University which he will use for purposes of introduction before the participants when collecting data from the field. The closed-ended questionnaire will be administered in a period of a week to all categories of respondents and after the instruments will be collected and data analysed both quantitatively and qualitatively as presented in sub section 3.10. Interviews will be conducted in a period of two weeks with a few selected respondents as explained in sub section 3.6.2.

### **3.10 Data Analysis Techniques**

Data will be analyzed using both quantitative and qualitative techniques of data analysis as explained below:-

#### **3.10.1 Quantitative Data Analysis**

Data will be sorted using the Statistical Package for Social Scientists (SPSS). The analysis will rely on both descriptive and inferential statistics. The descriptive statistics will include use of frequency tables, mean, and standard deviation. The descriptive statistics will entail the application of the Pearson correlation coefficient and regression analysis will be used to analyse quantitative data. According to Sekaran (2005), a correlation study is most appropriate to conduct the study in the natural environment of an organization with minimum interference by the researcher and no manipulation.

#### **3.10.2 Qualitative Data Analysis**

Qualitative data will be analyzed using both thematic analysis and content analysis. Content analysis will involve coding the data and later processing it. This is because the two approaches complement each other since the theme emerges from the researcher and the description summaries from the responses.

### **3.11 Measurement of Variables**

Procurement management and its dimensions (planning, contracting and control) will be measured using a 5 Likert scale. The items in the domain will be scored on the 5 point Likert scale ranging from strongly agree (5) to strongly disagree (1). Performance of projects- will be measured according to the dimensions developed by Applebaum (2012).

### **3.12 Ethical Considerations**

There are several reasons why it is important to adhere to ethical norms in research. First, norms promote the aims of research, such as knowledge, truth, and avoidance of error. For example,

prohibitions against fabricating, falsifying, or misrepresenting research data promote the truth and avoid error. Second, since research often involves a great deal of cooperation and coordination among many different people in different disciplines and institutions, ethical standards promote the values that are essential to collaborative work, such as trust, accountability, mutual respect, and fairness (Kaggwa, 2004). In order to promote ethics in the proposed study, respondent's names will be withheld to ensure anonymity and confidentiality in terms of any future prospects. In order to avoid bias, the researcher will use the data collected for the reason for which it is collected.

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## **APPENDICES:**

### **APPENDIX I**

#### **QUESTIONNAIRE TO RESPONDENTS**

My name is **Patrick Nshemereirwe** a student of an Executive Master in Business Administration of Uganda Technology and Management University. In partial fulfillment of the requirements for the degree, I am required to conduct a research in an area of my interest. My interest in this study is to examine the **relationship between procurement management and performance of construction projects in government-aided secondary schools in Bushenyi district.** You have been sampled to participate in this study and the information you give will be used strictly for academic purposes and will never be used against you or your office. The information obtained from you will be kept highly confidential. You are also requested not to write your name on this questionnaire. Fill out the questionnaire and return to me.

Thank you for your cooperation.

**SECTION A BIO-DATA**

Please tick the appropriate option

<b>Age</b>	18-28	29-35	36-50	Above 50	
<b>Sex</b>	Male	Female			
<b>Marital status</b>	Married	Single	Widowed	Divorced	
<b>Level of Education</b>	Masters	Bachelors	Diploma	Certificate	Others Specify

**Instructions from question 1- tick the number that best indicates your opinion on the questions using the following scale.**

<b>Scale</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
	Strongly agree	Agree	Not sure	Disagree	Strongly disagree

**SECTION B**

**PROCUREMENT PLANNING**

**Forecasting**

		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
	<b>Statements</b>					
1	Procurement requirements are defined					
2	Capacity for implementation is assessed					
3	Timeframe of project implementation is determined					
4	All items that have to be procured are identified					

**Developing the procurement work plan**

	<b>Statements</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
5	Process for acquiring items needed is defined					
6	A procurement plan is developed					
7	The procurement plan is always integrated with the budgeting					

## Procurement plan overview

	Statements	1	2	3	4	5
8	The procurement/work plan is prioritized					
9	Clear & reasonable timelines for delivery/implementation are set					
10	Authorization to proceed is obtained from appropriate authority					

## PROCUREMENT CONTRACTING

### Preparing statement of work

	Statements	1	2	3	4	5
11	All significant materials to be developed by the contractor are identified					
12	All significant materials to be delivered by the client are identified					
13	Time schedule for the provision of services/works is estimated					
14	Completion criteria for the work to be performed is specified					

### Establishing evaluation criteria

	Statement	1	2	3	4	5
15	Specifications do not restrict competition					
16	Specifications address value for money considerations					
17	A detailed, mathematically sound scoring plan is developed					

### Request for proposal

	Statement	1	2	3	4	5
18	Market research and consultation is undertaken					
19	An estimate of the cost of the goods/services is developed					
20	Request for proposal document via advertisement is issued					

## PROCUREMENT CONTROL

### Risk planning

	Statements	1	2	3	4	5
21	Policies are put in place to deal with potential conflicts of interest					
22	Appropriate procedures are in place for fair/equitable quotation process					
23	Evaluation criteria, weighting and an evaluation methodology are defined					
24	Conflict of interest documents are obtained from all members of the evaluation committee					

### Risk Identification

	Statement	1	2	3	4	5
25	Terms and conditions of the contract are always modified					
26	There are subjective not objective evaluation of bids					
27	There is always failure to obtain value for money					

### Risk assessment

	Statement	1	2	3	4	5
28	Regular audits & reviews of security processes are performed					
29	A risk assessment and management plan is developed					
30	Adequate and appropriate records are maintained throughout the procurement process					

## SECTION C

### PERFORMANCE

#### Time

	Statements	1	2	3	4	5
31	Contractors always ask for contract extension					
32	Contractors complete construction work in planned time schedule					
33	The product is ready for use according to the planned time schedule					

#### Cost

	Statement	1	2	3	4	5
34	Contractors spend funds in excess of budgeted amounts					
35	There is efficient use of materials					
36	Contractors provide correct documentation and invoices					

#### Quality

	Statement	1	2	3	4	5
37	Contractors provide adequate training to their staff					
38	Contractors use high quality materials in construction					
39	Problems are identified and corrections made					
40	Stake holders' needs & expectations are fully realized					

## **APPENDIX 2**

### **INTERVIEW GUIDE FOR ADMINISTRATORS AND STAFF MEMBERS**

#### **A: PROCUREMENT PLANNING**

- 1) How does procurement planning contribute to the declining performance of construction projects?
- 2) How best can this challenge be addressed?

#### **B: PROCUREMENT CONTRACTING**

- 3) How does procurement contracting contribute to the declining performance of construction projects?
- 4) How best can this challenge be addressed?

#### **C: PROCUREMENT CONTROL**

- 5) How does procurement control contribute to the declining performance of construction projects?
- 6) How best can this challenge be addressed?

#### **D: PERFORMANCE**

- 7) Why is the performance of construction projects in secondary schools in Bushenyi district declining?
- 8) How best can this situation be addressed?

## APPENDIX 3

### DOCUMENTARY CHECKLIST

My name is **Patrick Nshemereirwe** a student of an Executive Master in Business Administration of Uganda Technology and Management University. In partial fulfillment of the requirements for the degree, I am required to conduct a research in an area of my interest. My interest in this study is to examine the **relationship between procurement management and performance of construction projects in government-aided secondary schools in Bushenyi district.**

The following list of documents has been prepared to provide data that will be analyzed for purely academic purposes in marking conclusions on the stated topic. The contents of those will be handled with high level of confidentiality. Please kindly provide the relevant data for the success of this study.

Documents required;

- 1) Record of contracts committee meetings 2010-2014
- 2) Procurement record 2010-2014
- 3) Contract management record 2010-2014
- 4) Any other reports relevant to the study.



**APPENDIX 5:**

**Table 2; Determining sample size from a given population**

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	100000	384

Note: “N” is population size; “S” is sample size.

**Krejcie, Robert V., Morgan, Daryle W., “Determining Sample Size for Research Activities”, Education and Psychological Measurement, 1970.**