

# Procurement Practices and Performance of Private Universities in West Nile, Uganda

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## Abstract

This study examined the effect of procurement practices on the performance of private universities in West Nile, Uganda. Five private universities fully accredited by the National Council of Higher Education were analyzed. Using simple random sampling technique, a sample size of 140 employees was used. Data were sourced using a structured questionnaire. Analysis was conducted using both SPSS and SEM. The findings revealed that contract management is a significant precursor of private university performance. While unexpectedly, procurement planning and supplier selection proved to be statistically insignificant predictors of private university performance. Practically, this study will help private university owners improve performance by embracing practices such as contract inspection, documentation, relationship management, good communication and contract performance measurement. Additionally, given the need for improved performance of private universities in West Nile in particular, and Uganda in general, this study offers the understanding of a holistic view of performance from the procurement perspective and this is relevant for academicians.

**Keywords:** procurement practices, procurement planning, supplier selection, contract management, performance, Uganda

## 1. Introduction

Following the liberalisation of the education sector in 1993 by the government of Uganda and the enactment of the Universities and Other Tertiary Institutions Act 2001, over 36 private universities have been established in a bid to sustain and supplement government efforts to provide relevant and quality higher education for all qualified Ugandans (National Council of Higher Education, NCHE, 2001; Uganda Bureau of Statistics, 2021). Private universities are essential to a higher education system since they contribute significantly to achieving global and national strategic educational goals (Alonso-Cañadas et al., 2017). Typically, the rationale for the existence of private universities is explained in terms of a) the demand for more education, which the state is not able to meet (Kagaari, 2014); b) the demand for better education that public universities have failed to provide (Bhakar, 2015); and c) demand for different/unique or specialised education. There is a lack of a standard or universally accepted definition of a private university, and reports vary from country to country (Kimote & Kinote, 2018). The term 'private' university refers to a university-owned by an organisation or person (s) other than the government and funded by private rather than public funds. A private university is established by accreditation, which is an evaluation by the NCHE to determine whether an institution qualifies for a certain status and is the primary choice of governments for national quality assurance systems (Lenns, 2003). Accreditation has a dual purpose of assessment and quality improvement (NCHE, 2012).

Upon accreditation of private universities such as Islamic University in Uganda (IUIU), Uganda Christian University (UCU), Bugema University and Team University, the universities opted to open regional campuses in West Nile to decongest the Central

region-based headquarters, to bring services nearer to the West Nile people; Nile University that brings a total of five private universities in the West Nile region. However, the performance of the universities has become under public scrutiny. They have unplanned and uncoordinated purchases conducted by none procurement professionals such as academic registrar, university bursars and/or accountants. In turn, the universities experience, procure rather low-quality furniture, increased cost of operations, poor teaching and learning facilities, and undisposed university assets such as computers and vehicles that are left to rot within campus premises (West Nile Education Forum report, 2021).

The word performance is a multidimensional construct. As such, it has been conceptualised differently by scholars (Beijer, 2012; Mbabazi et al., 2014). For instance, Venkatraman and Ramanujam (1986) conceptualised performance as the growth of sales, yield, return on investment and organisation effectiveness. Upadhaya et al. (2014) considers performance as an institution's actual output or outcomes and its intended outputs, results, goals, and objectives. Performance can be measured through cost reduction, quality of goods/services delivered, productivity and lead time. Tippins and Sohi (2010) proposed six parameters for measuring performance: sales growth, lead time, cost reduction, quality improvement, return on investment and customer satisfaction. In this study, we adopt the definition of Tippins and Sohi (2010), who have defined performance in terms of quality of service, Timeliness, cost, return on investment/value for money and customer satisfaction.

The accessible literature indicates that the native scholars have concluded many studies on private university performance in Uganda. The studies include Ibrahim et al. (2017), who examined the relationship between reward management and institutional performance. Kagaari and Munene (2013) studied the effect of agency relations on performance. Nalwoga (2021) studied the financial sustainability of private universities in Uganda. Alemiga et al. (2019) sought to establish the impact of the quality of academic staff on university performance. Kobugabe et al. (2022) explored the role of financial resource mobilisation strategies in the economic sustainability of private universities in Uganda. It is relevant to observe that none of these studies specifically sought to examine the effect of procurement practices on the performance of private universities. In the decision-making of private universities to ensure the proper functioning of the university to meet its mandate, issues of acquisition and disposal of input resources become a missing link that could undermine the growth and achievement of the institutional goals. Therefore, conceptual and geographical gaps such as these need to be filled to enable all-around decision-making capacity in universities, particularly private ones.

### *1.1 Research Problem and Motivation*

The performance of private universities in West Nile, in particular, and Uganda as a whole has become under severe public and scholarly scrutiny. The performance of private universities is characterised by unplanned and uncoordinated purchases of inadequate office spaces, lecture rooms, and furniture, declining student enrollments, increased cost of

operations, reduced tuition fee collections, delayed and irregular payment of staff emoluments, poor teaching and learning facilities, dented public goodwill and image, rebranding of names, and undisposed university assets such as computers and vehicles that are left to rot within campus premises, and internal dysfunctional conflicts (West Nile Education Forum report, 2021). This status quo is unacceptable and cannot be tolerated; otherwise, private universities will fail to sustain and supplement government efforts to provide relevant and quality higher education for all qualified Ugandans to contribute to achieving global and national strategic educational goals. Procurement practices such as procurement planning, supplier selection and contract management may offer part of the reason.

### *1.2 The Purpose of the Study*

This study aims to establish the effect of procurement practices on the performance of private universities in West Nile, Uganda.

### *1.3 Research Objectives*

- i. To determine the relationship between procurement planning and the performance of private universities.
- ii. To establish the relationship between supplier selection and the performance of private universities.
- iii. To establish the relationship between contract management and the performance of private universities.
- iv. To find out the effect of procurement planning, supplier selection and contract management on the performance of private universities.

### *1.4 Significance of the Study*

This study will have both theoretical and practical contributions. Theoretically, the study adds to the knowledge of procurement practices. Scholars and academicians will also find this study an invaluable source of reference material for future studies in the area for discussions in the field of procurement. Practically, the study will be valuable to private investors and or private university owners and can use the study findings to enhance university performance. It provides essential insights for education stakeholders to better understand private university procurement practices and performance issues.

## **2. Literature Review and Development of Hypotheses**

### *2.1 Theoretical Underpinning*

Procurement practices have been grounded in many theories, some complementary and others contradictory. However, for this study, the following theories are analysed: DiMaggio and Powell's (1983) institutional theory, Wernerfelt's (1984) resource-based approach, and Williamson's (1981) Transaction Cost Economic Theory.

To prosper and survive, organizations, according to DiMaggio and Powell's institutional theory, should adapt to the rules and belief systems prevalent in the environment. For instance, private universities should conform to procurement rules, such as the PPDA Act, that define procurement activities. The theory is concerned with the more fundamental features of social structure. It implies that institutions, rules, conventions, routines, problem-solving mechanisms, promise implementation, and stakeholder involvement are authoritative guides for social behavior. Furthermore, Scott (2004) elucidates the three pillars of institutions as normative, regulatory and cultural-cognitive. The normative refers to norms and canons shared responsibility being the basis of acquiescence. The regulatory underscores the practice of instructions, decrees and sanctions as an implementation process, with decorum as the basis for concession. Finally, the cultural-cognitive rests on mutual comprehension. This concept is imperative in enacting sustainable procurement policy and practice in service sector organisations.

Institutional theory has been widely used in the social science and management has recently begun to be applied in procurement research. For example, Kauppi (2013) examined the use of institutional theory in operations and supply chain management research. Dubey et al. (2015) present a case study to show the importance of legislation in pushing organisations to adopt environmentally friendly practices. Finally, Quyen (2020) used the institutional theory to study the relationship between green procurement Practices and Organisational performance in Vietnam. We argue that institutional theory is critical in exploring private universities' procurement practices. This is because the theory emphasizes the application of rules and regulations such as the Public Procurement and Disposal of Public Assets Act of 2003 (PPDA, 2003).

The significance of institutional theory to this study stems from the fact that private universities in Uganda are still in their early stages of growth. They do not yet have a defined organizational structure. The established rules, norms, and routines have yet to be fully institutionalized. The institutional theory discusses the activities required to improve behavioral elements such as procurement and involve senior management. However, the institutional theory fails to acknowledge the difference between the ideal and actual procurement practices. Institutions may develop their procurement initiatives in response to institutional pressure, but their implementation and the associated performance results may differ; some would outperform others based on their ability to leverage tangible and intangible resources.

Another crucial perspective to this study is Wernerfelt's (1984) Resource Based View (RBV), which considers resources to be an essential source of competitive advantage for an organization. Assets, capabilities, organizational processes, corporate qualities, information, and expertise are examples of such resources. According to Wernerfelt (1984), a firm's competitive advantage is determined by its resources and capacity to use them rather than by exogenous conditions.

Private sector firms primarily compete over business and profits, ignoring service quality. RBV maintains that the capability of the procurers is a valuable resource. Thus, the human resources leading private sector organisations need to possess the basic procurement skills to acquire quality and cost-effective products and services. However, many private sector staff like administrators and accountants do not even have the basic procurement skills, depriving the universities of quality products and services.

The relevance of RBV to this study is that RBV appears especially relevant for analyzing the current performance of West Nile's private universities because the universities require bundles of precious resources to adopt excellent procurement methods. A few studies have applied RBV to illuminate procurement practices (Grandia et al., 2014b; Nasiche & Ngugi, 2014; Ngunjiri, 2018). The RBV argument is about resource value; consequently, universities with good bundles of resources such as assets, financial capabilities, organizational incentives, firm qualities, information, and knowledge are better positioned to embrace strong procurement procedures. So, using RBV to explain procurement methods, particularly in a developing country like Uganda where resources are scarce, could be both theoretical and practical. However, RBV's most significant limitation is the restriction of resource scope as defined by the boundary of the institution. Hence, focusing on an internal competitive approach may prove inadequate for institutions adopting good procurement practices because of external forces such as suppliers and type of economy.

Further, the Transaction Cost Economic Theory (TCE) developed by Williamson in 1996 was adopted to guide this study. The TCE proposes the need to shrink the rising cost of operations. Proponents claim that the cost of supply is determined by the market value of a product or service. According to Makabira and Waiganjo (2014), another crucial procurement performance metric in supplier relationship management is supplier concept implementation. Advanced procurement firms constantly seek supplier ideas for revenue development and cost savings, among other things. Transaction cost theory is a collaborative research paradigm for cost management. Grover and Malhotra (2003), for example, conducted a rigorous study involving 1000 purchasing managers on the application of transaction cost theory in supply chain management. According to their findings, transaction cost theory may be applied to organizational supply chain management in four ways: effort, monitoring, problem, and advantage.

This theory views firms as organisations comprising people with different views and objectives. It assumes that firms have outgrown to the extent that it substitutes for the market in determining the allocation of resources. This means the organisations and structure of the firm choose price and production, with the unit of analysis being the transaction. The theory suggests that managers are opportunists and arrange 'firms' transactions to their interests (Williamson, 1996).

The Relevance of transaction cost theory to this study is the contention that if private universities develop trustworthiness and engage a small set of suppliers appropriately, their procurement costs will be low. However, critics argued that TCE neglected the role of differential capabilities in structuring economic organisations and power relations. Coase (1988) also raised the issue of why business organisations exist with entrepreneurs making decisions on resource allocation independently, next to markets where buyers and suppliers allocate resources based on the price mechanism.

Table 1. Summary of theories on which the study is anchored

Theory	Author	Year	The gist of the theory	Relevancy	Limitation
INT	DiMaggio and Powell	(1983).	Conformance to rules and belief systems	Establishing ground rules to be followed by all to succeed	Failure to acknowledge superficial to actual practices.
RBV	Wernerfelt	(1984).	Firm resources are the determinants of success	Mobilisation of resources	Restricting success to resources only, thus neglecting other factors
TCE	Williamson	(1981).	Managing costs	Engaging a small set of trustworthy suppliers to keep costs low	Neglected differential organisational capabilities power relations

**Source:** Field data (2023)

## 2.2 The Concept of Procurement Practices

Procurement is one of the essential functions of organisations worldwide; private universities are no exception. However, the term procurement, like any other sociological word, lacks a universally acceptable definition. Different authors have defined it differently. For example, Okechukwu (2013) defines procurement as the acquisition of goods and/or services at the lowest total cost of ownership, in the right quality and quantity, at the right time, in the right place, and from the right source, for the direct benefit or use of corporations, individuals, and government. The Public Procurement and Disposal of Public Assets Act, 2003 (PPDA, 2003) defines procurement as the acquisition by purchase, rental, lease, hire purchase, license, tenancy, franchise or any other contractual means of any works, services or supplies or any combination. According to Lysons and Farrington (2003), procurement is the process of

obtaining materials of the right quality, in the correct quantity from the right source and delivered to the right place at the right price. Procurement is the process of finding, agreeing on terms and acquiring goods, services or works from an external source, often via a tendering or competitive bidding process (Nguyen, 2020). The term procurement, as used in this study, refers to acquiring goods and services of the right quality from the right supplier and at the right price to meet institutional needs.

As a result, procurement practices refer to actions established by an organization to govern its procurement process (Thai, 2004). According to (Kagaari, 2014), procurement practices have been known as customer orientation, strategic supplier partnership, level of information sharing, quality of information sharing, reverse logistics and information management. This formed the basis of this study with the addition of inventory management (Makabira & Waiganjo, 2014). In addition, procurement practices refer to procuring or acquiring products and services (McFalls, 2016). It can also be said that Procurement practices are those managerial actions undertaken to enhance the performance of the integrated supply chain. Procurement practices are activities involving procurement planning, controls, monitoring, and training workforce.

According to Thai (2004), procurement practices can range from supplier selection, procurement planning, soliciting, bidding, tendering or contract management, and procurement monitoring and evaluation. The procurement process begins with the identification of needs, followed by procurement planning, supplier selection, risk assessment, management of procurement contracts, procurement control, procurement monitoring, and evaluation (Lysons & Farrington, 2020). As a result, procurement procedures in this study are operationally confined to procurement planning, supplier selection, and contract administration, as mentioned below.

### *2.3 Procurement Planning and Performance in Private Universities*

Planning is the function that serves as the foundation for all other management functions. When done appropriately and implemented, planning can be a valuable instrument for extracting, distributing, and allocating resources (Basheka, 2015). Procurement planning is the purchasing function that allows organizations to get goods and services from outside vendors. Procurement planning defines how a company decides what to buy, when to buy it, and from whom (Ogwang & Waweru 2017). Planning is the function that serves as the foundation for all other management functions. When According to Wily and Njeru (2014), procurement planning is the process by which businesses or institutions plan to purchase activities for a specific period. This is typically completed during the budgeting process, and the primary concern of procurement planning is that planning will result in cost savings, more efficient business operations, and thus increased profitability. A strong procurement plan will specify the procedures for contractually appointing those suppliers. According to Basheka (2015), procurement strategy has a significant impact on performance. He emphasizes that user departments must prepare procurement strategies at the beginning of each year, which

can then be incorporated into the departmental budget. When a procurement plan is within the organization's budget capability, it influences budget results, particularly timely budget achievement.

According to Nuwagaba et al. (2021), who used a cross-sectional research design and a sample size of 119 stakeholders to investigate the influence of procurement planning on procurement performance in public sector entities, there is a strong positive relationship between procurement planning and public sector entity performance. In the same vein, Nzu and Njeru (2014) conducted a study on factors influencing the performance of public universities in Nairobi County, using a population of 166 procurement department employees drawn from three of the four major public universities, and discovered that the departments prepared procurement plans for the activities outlined in the work plans provided adequate and quality service.

Odero and Ayub (2017) also evaluated the effect of procurement practices on the procurement performance of public sugar production enterprises in Western Kenya using a descriptive survey study approach. According to the study's findings, procurement planning had a beneficial but negligible impact on the corporation's performance. The report suggests that organizations improve their planning and guarantee that procurement plans are followed. Staff in the procurement department should be knowledgeable and well-trained to carry out purchase strategies. The study also advised that procurements be carried out by the procurement department in accordance with the planned monetary values/estimated costs and anticipated delivery time. According to Bourne (2005), the performance of the organization is dependent on how the budget is implemented, and procurement planning is part of the entire tool used. Thus, we hypothesise that:

***Hypothesis 1:*** There is a positive and significant relationship between procurement planning and the performance of private universities

#### *2.4 Supplier Selection and Performance of Private Universities*

Many organizations have largely used supplier selection to identify competent suppliers who can ensure value for money in the budget process (Gonzalez & Quesada, 2004). Hugo and Badenhorst-Weiss (2011) highlight that supplier selection involves an analysis of the quotes, bids, or proposals and the selection of the supplier prior to leading to the order placement, which uses tools such as simple bid analysis to complex negotiations. According to Kimote and Kinote (2018), the basis of supplier selection is finding the proper suppliers. Suitable suppliers have the requisite quality, the financial resources to deliver on schedule, and experience in procurement service and management.

According to the PPDA, 2003, when selecting suppliers, the buying organization must shortlist all viable bidders who have the capability to compete with other organizations. According to PPDA regulation (no.70 of 2003), selecting a bidder from shortlisted bidders to be included on a shortlist can be identified by the registered Ministry, which has market

knowledge and supplier experience, which can be done through supplier prequalification for group of contracts that have previously been done. Branch (2001) determines that in order to meet budget utilisation standards and minimize losses, the organization must make an effort to clearly analyze the supplier's geographical location. Supplier selection goes on to define how suppliers must be handled. This includes the entire vendor identification and negotiating process, particularly on the costs they charge for supplying and, finally, selecting the best supplier or vendor. In this instance, the vendor becomes acquainted with the institution's operational activities (Arthur, 2009).

Monczka et al. (2008) argue that supplier selection should be a continuous process for meeting budget estimates, and that it should be undertaken within purchasing departments as a primary stage during the prequalification of suppliers. They further argue that the organization needs to compare its budget and the price of suppliers.

Several academics have studied the relationship between supplier selection and performance. Audinga et al. (2020), for example, investigated how bureaucratic discretion influences supplier selection using Italian data on municipal public works auctioned in the period 2009-13. The findings indicate that contracts awarded to politically linked enterprises grow while the winning firm's labor productivity drops, implying a potential misallocation of public funds. Furthermore, Arrowsmith (2010) contends that the quality of suppliers is a critical component of better performance. It gives you leverage to ensure that services are delivered on time. According to Lyson (2000), the quality of the organization's suppliers is a critical aspect in gaining a competitive advantage over other suppliers.

Okechukwo (2013) explored how a supplier's operational competency translates into customer performance using survey data from 158 suppliers. Their findings reveal that the supplier's functional skills improve the performance of its customers in terms of quality, cost, delivery, and flexibility. As a result, finding the finest suppliers in terms of value for money to operate inside the supply chain is one of the purchasing critical operations (Bhakar, 2015). In a word, supplier selection must be carefully managed if an organization is to obtain value for money and public credibility. Hence, the authors hypothesize that:

***Hypothesis 2:*** Supplier selection is positively and significantly related to the performance of private universities

### *2.5 Contract Management and Performance of Private Universities*

Contract management constitutes the most significant part of management at the private firm level. Once a contract is signed, it must be managed to meet the intended objectives. This involves; ensuring that whatever is required is delivered at the necessary level of quality, keeping the relationship between contracting parties open and constructive and ensuring that there is formal governance of the contract (Organization for Economic Cooperation and Development, OECD, 2011). Contract management is the active monitoring and control of the contract between the procuring and disposing of entity and the contractor to ensure

delivery of a cost-effective and reliable service at an agreed standard and price (Muhwezi & Ahimbisibwe, 2015). Contract management is the final stage in the bidding process and marks the beginning of a contractual relationship between the buyer and contractor. Contract management in this article refers to awarding and administering procurement contracts, and consists of; delivery management, relationship management and contract administration (OECD, 2011).

Contract management is referred to by various titles in the literature, including contract implementation (Noor et al., 2013), contract execution (Ancarani et al., 2016), contract supervision (Shiundu & Rotich, 2014), and contract administration (Rendon, 2008). Kakwezi (2016), in a study on procurement contract management in public procurement, noted that contract management activities could be divided into three broad sections: service delivery management, relationship management, and contract administration. In this context, service delivery management involves complete control of all the contractual deliverables, the contract's performance levels, and contract quality.

Many academics have studied the relationship between contract management and performance. Muli and Noor (2021), for example, investigated the influence of procurement contract management on the performance of commercial state businesses in Nairobi County using qualitative and quantitative research methodologies. The target demographic consisted of all 112 heads from the City County's 28 commercial state entities. The study shows that contract structure and contract monitoring have a major impact on state corporate performance.

Mbonimana and Nyiramajyambere (2021) investigated the impact of contract management on the performance of Rwandan procuring and disposing entities. Contract management was discovered to be a prerequisite for obtaining outstanding performance in the PDEs, particularly when e-contract management, top management assistance in terms of monitoring and evaluation results, change contract controls, and change management are handled well. Similarly, Oluka and Basheka (2012) emphasize that having clear plans for managing a contract and adopting appropriate means of spotting non-adherence are important parts of good contract management toward performance.

Zou, Brax, Vuori, and Rajala (2019), using a questionnaire and a sample of 177 purchasing professionals from 25 countries, studied the influences of contract structure, contracting process, and service complexity on performance. The results indicate that three major contract dimensions and follow-up management practices positively influence supplier performance. Similarly, Tallam and Kibet (2018) investigated the relationship between contract monitoring and the performance of public organizations in Elgeyo Marakwet County using staff from finance and procurement departments. Their study found that organisations that practice contract monitoring enhance procurement performance.

According to Cho and Pucick (2017), contract management improves an organisation's

operational performance as indicated by various measures, such as quality, flexibility, speed, efficiency, and supplier relationship. Beijer (2012) discovered in his study on the design of performance measurement that utilizing budget money without adhering to the contract management process can result in increasing unspent balances. He also claims that quality and delivery are budget performance metrics used to assess the operational performance of contracts or suppliers. After all, these performance criteria can be used to evaluate and compare contractors and suppliers. Furthermore, Pillai and Adavi (2013) aver that managing contracts is an important strategic issue for good performance. However, they declared that contract management is a complex exercise because each party in the transaction have varying objectives; for example, the buyer wants to achieve value for money and the contractor has profit-oriented goals. This creates a difference in behaviours, including withholding information resulting in information asymmetry. To this end, we hypothesize that:

**Hypothesis 3:** Contract management is positively related to the performance of private universities.

**Hypothesis 4:** Procurement planning, supplier selection and contract management have a positive effect on performance of private universities.

## *2.6 Conclusion and Research Gaps*

Extant literature has given the impression that procurement management is a difficult subject to grasp, with findings revealing contradictions, controversies, fragmented details, and a lack of assimilation, synthesis, and consensus. Contextually, most previous studies have been conducted in the developed world, despite the fact that procurement is an important function for developing countries like Uganda. Previous studies used exploratory designs, analytical designs, convenient sampling methods, cluster sampling, and basic analysis approaches. Thus, performing a thorough research in Uganda, a developing African country, using several variables such as procurement strategy, supplier selection, and contract administration to assess performance is both necessary and required.

## *2.7 The Conceptual Framework*

The conceptual framework expresses the relationship between procurement practices and performance of private universities. The independent variables are procurement planning, supplier selection, and contract management. While, the dependent variable is performance of private universities as portrayed in figure 1 below:

INDEPENDENT VARIABLE      DEPENDENT VARIABLE

**Procurement Practices**

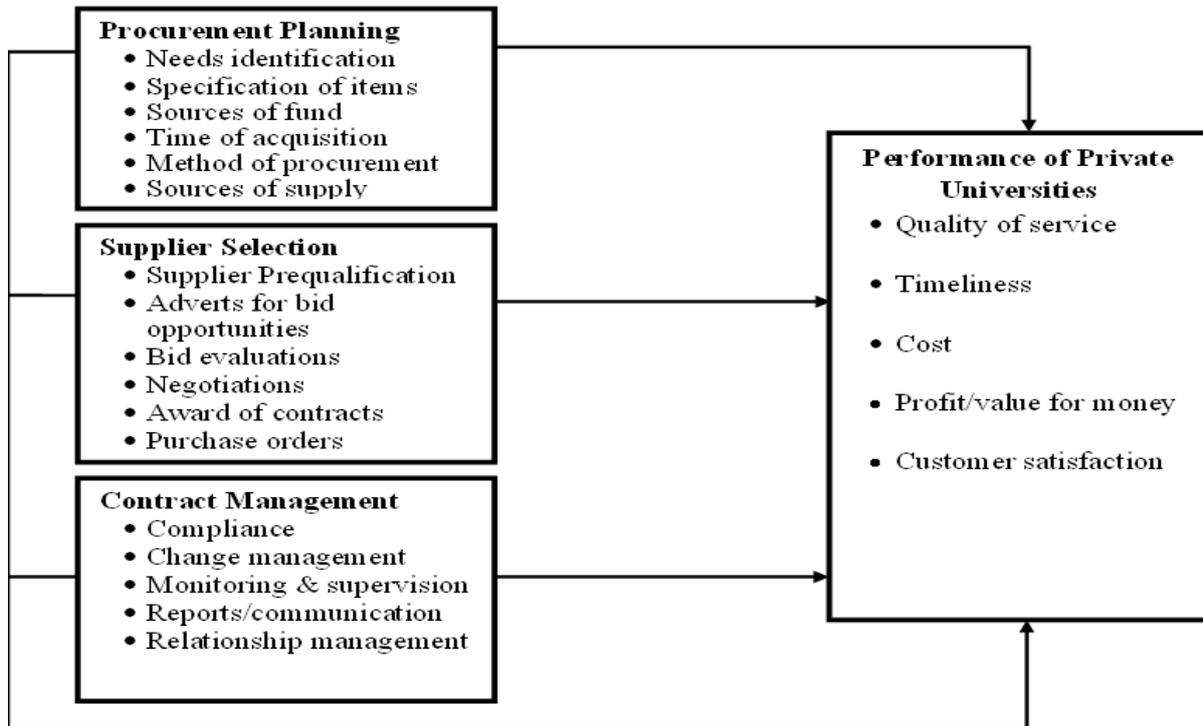


Figure 1. The effect of procurement practices on private university performance

**Source:** Adopted and modified from Thai (2004); McFalls (2016); Li et al., 2006); Tippins and Sohi (2010).

### 3. Methodology

A descriptive cross-sectional research design was adopted in this study. The target population consisted of 220 executives and administrators from the five NCHE-accredited private universities. The five private universities are Islamic University in Uganda, Uganda Christian University, Bugema University, Team University and Nile University. A sample size of 140 employees based on Krejcie and Morgan's (1970) table for determining sample size was used. A simple random sampling technique was used to obtain the required sample for the study. The respondents included directors/managers, procurement/purchasing officers, registry staff, accountants and administrators who are procurement stakeholders and have knowledge of the subject matter.

Primary data was collected using a five-point Likert scale questionnaire ranging from strongly disagree to agree with close-ended questions. To obtain comprehensive and conclusive results, this study adopted a four-stage analysis process. First, a descriptive analysis was performed to understand demographic characteristics of the respondents. Second, exploratory factor analysis (EFA) to identify a relatively small number of factors was carried out using Statistical Package for Social Sciences (SPSS). Third, confirmatory factor analysis (CFA) using analysis of moment structures (AMOS) was conducted to ascertain the constructs' dimensionality and confirm the underlying factor structures for further structural

analyses. Lastly, structural equation modelling performed to establish the predictive power of the independent variable on the dependent variable.

## 4. Analysis and Results

### 4.1 Descriptive Statistics

#### 4.1.1 Demographic Characteristics of Respondents

The demographic characteristics analyzed in this study include gender of the respondents, the education level, departments they were attached to in the university, and the number of years served, as shown in Table 2. The findings revealed that 57% of the respondents were male, while 43% were female. This finding implied that the majority of employees conducting the employees in the universities were male, but the study sample also included females, indicating that there was no gender bias in the sample size. The finding also reveals that, like in other private institutions, males dominate employment opportunities. 66% of the university staff had bachelor's degrees, meaning majority possessed the basic qualification to work in a university set up. In regard to department attached, a big number belonged to the procurement and management departments (62%), and these are the key participants in procurement activities. 51% have worked for more than 5 years, and hence know procurement practices in their universities.

Table 2. Respondents Background Information

		Frequency	Percentage
Gender	Male	78	57
	Female	59	43
	<b>Total</b>	<b>137</b>	<b>100</b>
Education	Diploma	14	10
	Degree	91	66
	Masters	32	24
	<b>Total</b>	<b>137</b>	<b>100</b>
Department	Procurement	47	35
	Management	37	27

	Administration	36	26
	Accounts	17	12
	<b>Total</b>	<b>137</b>	<b>100</b>
Job duration	1-4yrs	40	29
	5-8yrs	69	51
	9-12yrs	17	12
	Above 12yrs	11	08
	<b>Total</b>	<b>137</b>	<b>100</b>

**Source:** Field data, 2023

#### 4.1.2 Descriptive Statistics of Research Construct Items

This study adopted a 5-point Likert scale to measure the construct items, where: 1 is 'strongly disagree', 2 is 'disagree', 3 is 'neither agree nor disagree', 4 is 'agree' and 5 is 'strongly agree'. Descriptive statistical analysis was performed on each of the constructs. The mean and standard deviation were calculated and shown in Table 3 below. The research indicates that most respondents agreed with the questionnaire items as were proposed. The mean value ranged from 3.4818 (Performance) to 3.8066 (contract management). The mean, standard deviation ranged from 0.68788 (Performance) to 0.81702 (supplier selection).

Table 3. Descriptive Statistics of Research Construct Items

<b>Variable</b>	<b>Mean</b>	<b>Std. Deviator</b>
Procurement Planning	3.7211	.69008
Supplier Selection	3.5904	.81702
Contract Management	3.8066	.73447
Global Procurement Practices	3.7060	.67653
University Performance	3.4818	.68788

**Source:** Field data (2023)

#### 4.2 Reliability and Validity Tests

We tested for both the reliability and validity of the instrument using Cronbach's  $\alpha$  coefficient, composite reliability and construct validity, as presented in tables 3 and 4. In these analyses, Composite reliability is abbreviated as CR, Construct validity is abbreviated as CV, and Average variance extracted as (AVE). Cronbach (1951) requires a Cronbach's  $\alpha$  coefficient of at least 0.7 and above, and Cronbach's  $\alpha$  values for this study were all above 0.7. Similarly, examination of research instrument validity indicates that the constructs are valid. The coefficients are all above 0.5; thus, the research instrument was reliable and valid.

Table 4. Reliability results

Variables	No. of Items	Cronbach results	Decision
Procurement Planning (PP)	14	0.874	Approved
Supplier Selection (SS)	09	0.880	Approved
Contract Management (CM)	10	0.899	Approved
Institution Performance (PF)	09	0.810	Approved

**Source:** Field data, 2023

Table 5. Validity results

Variables	CR	CV	AVE	Decision
Procurement Planning (PP)	0.605	0.504	0.704	Approved
Supplier Selection (SS)	0.769	0.518	0.719	Approved
Contract Management (CM)	0.787	0.534	0.731	Approved
Institution Performance (PF)	0.645	0.502	0.695	Approved

**Source:** Field data (2023)

#### 4.3 Suitability of the Instrument for Factorisation

Kaiser–Meyer–Olkin (KMO) and Bartlett was used to test to affirm the suitability of the

instrument for factorisation. The results show that  $\chi^2 = 3272.085$ ,  $df = 861$  and  $p < 0.000$  was obtained. Middling KMO Index = 0.873, above 0.6, considered the minimum value for a good factor analysis (Tabachnick & Fidell, 2013). Bartlett's test of sphericity is significant ( $p < 0.000$ ), which is  $< p < 0.05$  cutoff point (Kaiser, 1974), suggesting that the variables are suitable for factorial analysis.

Table 6. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.873
	Approx. Chi-Square	3272.085
Bartlett's Test of Sphericity	df	861
	Sig.	.000

**Source:** Field data, 2023

#### 4.4 Exploratory Factor Analysis

In total, 64.5% of the variance is explained by the nine factors extracted. The Eigenvalue 1 and above was considered for the factors to be extracted. The rotated component matrix based on varimax Rotation was obtained.

Table 7. Total Variance Explained (Eigenvalues)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	14.462	34.434	34.434	14.462	34.434	34.434	5.193
2	2.879	6.854	41.288	2.879	6.854	41.288	3.660
3	1.706	4.063	45.350	1.706	4.063	45.350	3.598
4	1.682	4.005	49.355	1.682	4.005	49.355	3.334
5	1.451	3.454	52.809	1.451	3.454	52.809	2.981

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6	1.385	3.298	56.107	1.385	3.298	56.107	2.848
7	1.338	3.185	59.292	1.338	3.185	59.292	2.411
8	1.187	2.826	62.118	1.187	2.826	62.118	1.623
9	1.020	2.428	64.546	1.020	2.428	64.546	1.462

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Extraction Method: Principal Component Analysis.

#### *4.5 Retained Items*

Accordingly, 9 items were rejected: Under procurement planning (PP): PP5, PP7, PP10 and PP13. Under contract management (CM): CM1, and under performance (PF): PF1, PF4, PF5 and PF9. While a total of 43 items were retained and they included PP1, PP2, PP3, PP4, PP6, PP8, PP9, PP11, PP12 and PP14; SS1, SS2, SS3, SS4, SS5, SS6, SS7, SS8 and SS9; CM2, CM3, CM4, CM5, CM6, CM7, CM8, CM9 and CM10; PF2, PF3, PF6, PF7 and PF8 respectively as shown in table 8.

Table 8. Rotated Component Matrix<sup>a</sup>

Factors	Component			
	1 PP	2 SS	3 CM	4 PF
PP1	.607			
PP2	.507			
PP3	.659			
PP4	.512			
PP6	.502			
PP8	.502			
PP9	.515			
PP11	.517			
PP12	.633			
PP14	.563			
SS1		.587		
SS2		.563		
SS3		.667		
SS4		.607		
SS5		.727		
SS6		.670		
SS7		.706		
SS8		.669		
SS9		.625		
CM2			.618	
CM3			.693	
CM4			.747	
CM5			.658	
CM6			.672	
CM7			.692	
CM8			.639	
CM9			.609	
CM10			.723	
PF2				.572
PF3				.613
PF6				.523
PF7				.570
PF8				.646

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 13 iterations.

#### 4.6 Confirmatory Factor Analysis/Measurement Model

The measurement model for the current study was constructed using the dataset verified using EFA employing the SPSS) version 25. To establish the underlying factor structure, AMOS was employed to confirm and examine the latent structure of the data. The measurement model in this study was assessed using Chi-Square, p-value and

root-mean-square error of approximation (RMSEA), comparative fit index (CFI), Tucker–Lewis Index (TLI); parsimony normed fit index (PNFI) and goodness fit index (GFI) as proposed by Meyers et al. (1990).

The cut-scores adopted for the assessment were: Normed Chi-Square (CMIN) = < 5, CFI = > 0.9 (Bentler, 1990); RMSEA = < 0.08 (Byrne, 2010), TLI and PNFI with thresholds of .90 and .50 respectively (Meyers et al., 1990). Hair et al. (2010) suggest that 3 to 4 fit indices should be used to assess model fit. An examination of the model based on the criteria specified above indicates a good fit of the model.

Results of the assessment criteria employed indicate that the fit indices support the specified proposed model. The baseline model appropriate indices obtained were: Chi-square = 215.914 (more than 5), p-value = 0.000 (less than 0.05), CFI = 0.939 (more than 0.90), RMSEA = 0.064 (less than 0.08), TLI = 0.924 (more than 0.90), IFI = 0.940 (more than 0.90) and PNFI = 0.689 (more than 0.50), hence the model is considered. The fitting of this model meant a match between the data and the hypothesised model (Meyers et al., 2006). Based on Mueller and Hancock (2018), a fitting measurement model institutes high chances of a fitting structural model.

$\chi^2 = 215.914, df = 139, p = 0.000, GFI = .866, IFI = .940, TLI = .924, CFI = .939, RMSEA = .064, PNFI = .689$

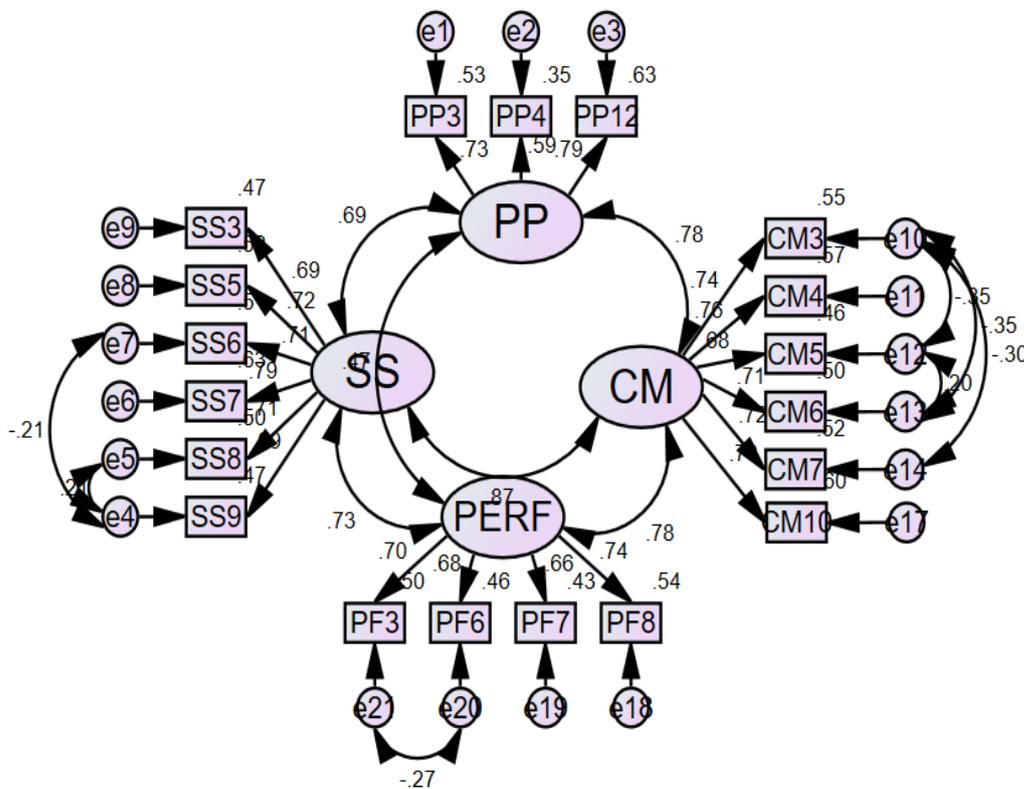


Figure 2. The Measurement Model for the study Variables

#### 4.7 Correlation Analysis

We used the Pearson correlation coefficient to establish relationships between the study variables as hypothesised from the literature review. Results have demonstrated a strong positive and significant relationship between procurement practices and institution performance (Table 9). Specifically, the results denote a solid association of contract management practices with institution performance ( $r = .708^{**}$ ), supplier selection practices and performance of SMEs ( $r = .592^{**}$ ), and procurement planning practices and performance ( $r = .453$ ). The findings imply that a unit increase in procurement practices leads to a rise in institutional performance.

Table 9. Relationship between procurement practices and institution performance

Variables	PPL	SSL	CMT	PERF
Procurement planning (PPL)	1			
Supplier selection (SSL)	.719 <sup>**</sup>	1		
Contract management (CMT)	.685 <sup>**</sup>	.776 <sup>**</sup>	1	
Performance (PERF)	.453 <sup>**</sup>	.592 <sup>**</sup>	.708 <sup>**</sup>	1

<sup>\*\*</sup>. Correlation is significant at the 0.01 level (2-tailed).

#### 4.8 Structural Equation Model

Structural Equation Modeling was conducted using AMOS to establish the independent variable's predictive power on the dependent variable.

$\chi^2 = 213.991$ ,  $df = 137$ ,  $p = 0.000$ ,  $GFI = .869$ ,  $IFI = .940$ ,  $TLI = .923$ ,  $CFI = .938$ ,  $RMSEA = .064$ ,  $PNFI = .681$

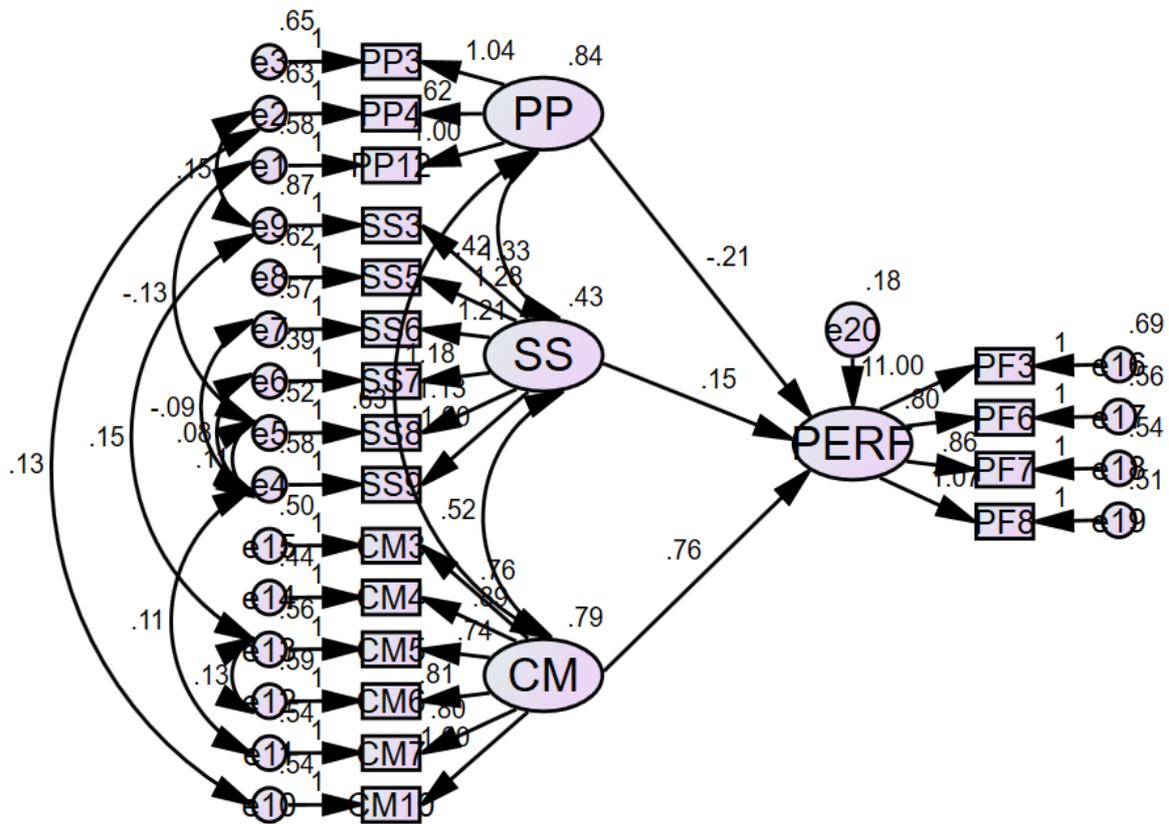


Figure 3. The Structural Equation Model

#### 4.8.1 Model Fit Indices

The model fitting results indicated a good fit based on the specified assessment criteria. The results are presented in Table 10 below.

Table 10. Fit Indices Criteria Compared to Baseline Model Results

GoF Category	Fit Index	Threshold	Result	Comment
Absolute fit	CMIN-chi.Sq	$\chi^2 > 5$	213.99 (137)	Achieved
	Chi-Sq.	$p > .05$	.000	Not achieved
	GFI	$> .90$	.869	Not achieved
	RMSEA	$< .08$	.064	Achieved
Relative fit	CFI	$> .90$	.938	Achieved
	TLI	$> .90$	.923	Achieved
	IFI	$> .90$	.940	Achieved
Parsimonious fit	PNFI	$> .5$	.681	Achieved

**Source:** Field data (2023)

#### 4.9 The Predictive Power of the Independent Variables

In order to establish the prediction power of the independent variables on the dependent variable, regression weights from the SEM default model was extracted. The regression

weights as displayed in Table 11 indicate that contract management is a significant predictor of university performance, p-value for contract management (CM) = 0.005 (less than 0.05). However, both procurement planning (PP), p-value = 0.139 (more than 0.05), and supplier selection (SS), p-value = 0.610 (more than 0.05) are not significant predictors of performance.

Table 11. Regression weights: (Group number 1-Default model)

			<b>Estimate</b>	<b>SE.</b>	<b>CR.</b>	<b>P</b>
PERF	<---	PP	-.205	.139	-1.478	.139
PERF	<---	SS	.149	.291	.510	.610
PERF	<---	CM	.761	.268	2.840	.005

**Source:** Field data, 2023

Table 12. Decisions on the study hypotheses

<b>Label</b>	<b>Hypothesis</b>	<b>P-Value</b>	<b>Decision</b>
H1	There is a positive and significant relationship between procurement planning and the performance of private universities.	$P=0.139>0.05$	Reject
H2	Supplier selection is positively and significantly related to the performance of private universities.	$P=0.610>0.05$	Reject
H3	Contract management is positively related to the performance of private universities.	$P=0.005<0.05$	Accept

**Source:** Field data, 2023

## 5. Discussion of Results

### 5.1 Discussion

The results revealed a strong positive and significant relationship between procurement practices and the performance of private universities. Specifically, the results denote a solid association between contract management and the performance of private universities ( $r = .708^{**}$ ). This also implies that a unit change in contract management leads to a unit change in the performance of private universities. This finding corroborates with Cho and

Pucick (2017), who established that contract management improves an organisation's operational performance as indicated by various measures, such as quality, flexibility, speed, efficiency, and supplier relationship. The results further established a significant relationship between supplier selection and the performance of private universities ( $r = .592^{**}$ ). This implies that careful supplier selection practices are positively associated with performance, this is consistent with Arrowsmith (2008), who argues that the quality of suppliers is a cornerstone to improved performance. Similarly, a positive correlation has been found between procurement planning and the performance of private universities ( $r = .453^{**}$ ). This is consistent with the findings of Odero and Ayub (2017), who asserted that procurement planning had a favorable but negligible impact on the corporation's performance.

In terms of the study variables' predictive ability, results (Table 11) demonstrate that contract management is a significant predictor of private university performance ( $p = 0.0050 < 0.05$ ). This infers that when universities engage in procurement practices such as inspection of incoming items, documenting all their transactions, maintaining good relationships with suppliers, developing well defined change management procedures, establishing suitable communication protocols, and undertaking contract performance measurement at the end of every contract, their performance is bound to improve. This is agreement with Pillai and Adavi (2013) who aver that contract management is strategic matter for good performance. However, results indicate that procurement planning ( $p = 0.139 > 0.05$ ) and supplier selection ( $p = 0.610 > 0.05$ ) are not significant precursors of performance of private universities. This is contrary to the findings of Odero and Ayub (2017) who found that procurement planning had a positive and insignificant impact on organisational performance. Similarly, the findings contradict the results of Arrowsmith (2008), who contends that the quality of supplier is a cornerstone to enhanced performance. Regarding H3, which states that contract management is positively related to the performance of private universities, the study accepted the hypothesis and rejected H1 and H3, respectively (Table 12). The study supports the institutional theory (DiMaggio & Powell, 1983), which assumes that the environment and belief systems, such as contractual terms and conditions prevailing in the environment enhance organizational performance and survival.

## *5.2 Conclusion*

This study sought to establish whether procurement practices influence the performance of private universities. Results have shown that procurement practices affect the performance of private universities. Specifically, the findings have indicated that contract management as a construct of procurement practice is a significant predictor of private university performance at 76%. Therefore, owners and or investors of private universities should embrace contract management to improve their performance, growth and survival in the contemporary business world.

### *5.3 Implications of the study*

Private university owners can embark on superior procurement contract management practices such as contract inspection, documentation, relationship management and good communication to help improve performance. Theoretically, given the need for improved performance of private universities in West Nile, and Uganda as whole, this study offers the understanding of a holistic view of performance from the procurement perspective and this is relevant for academicians.

### *5.4 Limitations of the Study*

The study's findings should be viewed in light of the following potential limitations: The data gathering technique was a standardised questionnaire that was operationalized through quantitative methods. An in-depth interview could have provided remarkable insights into the researched phenomenon. The selected procurement practice concepts may not encompass the entire extent of procurement practices, leaving out other significant antecedents.

### *5.5 Suggestion for Further Research*

Based on the findings, we recommend additional research in the following areas: First, a qualitative investigation involving in-depth interviews could have provided remarkable insights into the topic under investigation. Second, a long-term study design should be commissioned in order to obtain more accurate data. Finally, more concepts/variables can be included in future studies to completely explore the extent of procurement practices.

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## **Authors contributions**

Mr. Olema was responsible for study design, manuscript development and revising. Mrs. Lawino, Alwayo and Isaburu were responsible for data collection. Dr. Amandu was responsible for data collection analysis. Thus, authors contributed equally to the study. All authors read and approved the final manuscript.

## **Competing interests**

We, the authors declare that we have no known competing financial interests or personal relationships that influence the work reported in this paper.

## **Informed consent**

Obtained.

### **Ethics approval**

The Publication Ethics Committee of the Macrothink Institute.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

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### **Data availability statement**

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

### **Data sharing statement**

No additional data are available.

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