ORGANISATIONAL DRIVERS AND INTEGRATED FINANCIAL MANAGEMENT INFORMATION SYSTEM EFFECTIVENESS IN PUBLIC UNIVERSITIES IN UGANDA: A CASE STUDY OF MUNI UNIVERSITY

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DECLARATION

I affirm that this dissertation is my first hand work and has not been made available or given to any University or institution of higher learning for any honor.

Sign…… Date……...

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APPROVAL

We acknowledge that this dissertation was written with our guidance and has satisfied the dissertation requirements of Kyambogo University and is now ready for submission.

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DEDICATION

I dedicate this dissertation to my family that has stood with me all the way through this academic drive up to the culmination.

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LIST OF ACRONYMS

IFMS: Integrated Financial Management Information System

MOFPED: Ministry of Finance Planning and Economic Development

FY: Financial Year

MDA: Ministries and Development Agency's

PFM: Public Finance Management Reforms

TSA: Treasury Single Account

GOU: Government of Uganda

ICT: Information Communication Technology

DC: Developing Countries

GFS: Government Finance Statistics

EFMP: Economic and Financial Management Project

AIS: Accounting Information System

PBS: Planning Budgeting System

IPPS: Integrated Personnel Payment roll System

BMU: Budget Monitoring Unity

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ABSTRACT

The study examined the organisational drivers that influence the effective implementation of the Integrated Financial Management Information System in public universities: a case of Muni University. The study set out to assess how internal organisational control system, system integration and interface and information interdependency influence effective IFMS implementation. The study adopted the open system theory and institutional theory to conceptualize the variables and to guide the overall conceptualization of the study as used in the study. In the study, a case study research design was adopted; systematic sampling technique was used to select a sample of 288 transactions processed by respondents. 288 questionnaires were administered to respondents who directly interact with the transactions and 155 questionnaires were filled and returned providing 54% response rate. In the study, analysis was done at different levels first with descriptive statistics and later regression analysis was performed after meeting the requirements to run a regression. The findings of the study revealed that internal organisational control system emerged to be the strongest predictor of IFMS effectiveness, this was by followed information interdependency. However, Systems Integration and interface was found to be a non-significant predictor of IFMS effectiveness. The study recommended that efforts should be made by the university management to improve internal organisational control systems over the transactions entered in IFMS, this could be done through strengthening the control procedures such as authorisation and approval, arithmetic and accounting controls, segregation of duties and reconciliations so as to increase effectiveness of the IFMS system. In addition, efforts ought to be made by the university management to improve the level of information interdependency among the departments that interface with the system in processing the same transactions. Future studies should be done using more public universities, thorough research could also be undertaken by integrating institutional variables, in and it could be also interesting to use other measurements for the studied factors.

Key words: IFMS; internal organizational control system; systems integration interface; information interdependency; perceived effectiveness.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This study sought to examine the drivers for the effectiveness of the integrated financial management system (IFMS) in public universities. The study focuses on the case of Muni University. Specifically, in the study, the influence of internal organizational control system, systems integration and interface and information interdependency are the independent variables and IFMS effectiveness is the dependent variable. The study was motivated by the inconsistencies presented in the financial performance reporting registered by Auditor General report in the FY2018/19 where that percentage improvement in un-qualified audit opinions in the previous two financial years was 47% to 50% below the required standard (MoFPED Report ,FY, 2015/2016).

This chapter presented the background, problem statement, purpose of the study, the specific objectives of the study, research questions, conceptual framework, the significance of the study, justification of the study, scope of the study, and operational definitions of terms and concepts. The background is presented under four perspectives as indicated below.

1.1 Background to the study

1.1.1 Historical background

Around the world, organizations are stressing to survive in the innovative technology implementation in the international finance management sectors. They are trying to advance on their standards of creating managerial decisions to overcome the trials related with non-conformity with the new technology (Njeru, 2017). Due to this, organizations have been

implementing modern financial management information systems to move with the trends in new technology (Karim, 2011).

United states of America implemented IFMS with the aim of providing accountability and transparency of all accounting information (Gathogo, Kahari &Wanyoike, 2015). The system was embedded with the help of Department of Homeland Security founded on financial management system and accounting. It was essential for the new system to undertake adequate planning due to its complication and difficulty in implementation so to ensure that the set goals are met. Bouckaert, Scheers, & Sterck (2005) assert in early 1980s, the government of Australia prepared attempts on the budget controlling scheme additional operative in the government. Furthermore, mid-1990s saw much emphasis put towards the incorporation and inclusive modification plan and the government started reporting based on accruals and budgeting system.

In Japan, public finance management systems made a lot of effect to the country via application of various modifications in 2001 aimed at advancing the system and achieve the international economic demands (Nishigaki, 2006). China saw the introduction of integrated system in 2010 by the Ministry of Finance however actual usage and implementation was in 2011 through Accrual Government Comprehensive Financial Reporting Reform Plan. This was necessary due to vast accounting information in all government levels which required advanced accounting authority for accountability and transparency (Hang, 2015). In Africa, Governments were gradually discovering procedures and structures to modify and progress financial public management. Introduction of the IFMS was seen over the years as one of the mostly used accounting administration modification practices, aimed at the promoting accountability, efficiency, transparency, effectiveness, data management security and inclusive fiscal reporting (Chene & Hodess, 2009).

IFMIS usage in South Africa was undertaken by the National Treasury so as to systematize the government processes for effective overall management and financial performance (Hendriks, 2012). There was connection and configuration of basic system architecture that worked for the organisational (Hodess, 2009).

For efficient implementation of the system in Nigeria, there was need to have a strong monitoring criteria (Dauda & Ibrahim, 2014). This overcome increased malpractices in government. In Tanzania IFMS was introduced in 1994 and implemented to various government agencies in 1998 (Robinson, 2007).

In Kenya IFMS was introduced in 2005. Due to the perceived importance of IFMS it resulted into its application in the Kenyan government. The Public Financial Reform Management Strategy Paper 2001-2006 suggested computerization as well as incorporation of main public units such as the department of human resource, finance, purchasing and costing quoting openness and accounting as some of the benefits (Government of Kenya, 2001). The government of Uganda initiated the implementation of IFMS in 2003 in 22 ministries, 25 central gov't votes and 8 local gov't but now it has been rollout in all MDA except newly created local gov'ts units (MoFPED Report, 2015).

1.1.2 Conceptual Background

Organizational drivers are vital motivators influencing the failure or success during the application of IFMS (Combaz, 2015). These drivers are customer demands, approach and vision, support from donors, high tech change, and pressure from external partners, modernization, and globalization. Organizational drivers under this study was measured as

internal organizational control systems, system integration and interface and information interdependency as considered in this study.

An Integrated Financial Management System refers to a monetary and accounting system that integrates all departmental activities into one component for easy planning, procurement and payment (MoFPED Report, 2015). IFMS refers to an accounting software that links all department to share information with the aim of proper visibility of where the money is being spent. It creates enough accountability avenues, offers informed decisions, allocates accountability and preparation of well audited financial statements (Dorotinsky, 2003) & Rozner, 2008). An IFMS is an financial method structured to purpose authorizing to the requirements and necessities of the condition in which it is connected (Rodin-Brown, 2008).

IFMS focuses on the computerization of management of financial processes originating from planning, conducting accounting and reporting of the financial performance with the help of incorporation of the system (Arnety, Ujunju & Wepukhulu, 2013). An integrated IFMS provides appropriate, exact and reliable information for administration and budget decision-making; allow more financial regulation and reduce preference in using public funds; offer information for budget preparation and analysis; support preparation of financial statement and; enable audit by providing their queried audit trail (Rodin-Brown, 2008).

An integrated IFMS will provide suitable, precise, and dependable information for management and budget decision-making; allow more financial control and minimize discretion in using public funds; offer information for budget preparation and analysis; support preparation of financial statement and; support audit by providing their queried audit trail (Rodin-Brown, 2008). A well-designed system should have the following attributes: modules, with ability for progressive upgrading for forthcoming requirements; offer a shared stage and operator interface to the users in altered units and sectors interested in accounting

information; automate all continuous activities in organization while incorporating approvals, checks and controls; and should be flexible to avail user-defined information, combined at the required level of detail (Diamond & Khemani, 2005).

Integrated financial management information system was conceptualized as inter organisational control system, system integration and interface and information interdependency as bench marked from other scholars who studied similar systems (Nicolaou, 2000).

Effectiveness is seen as views of decision-makers that the output information present to them through transaction processing, management reporting, and budgeting systems meets their requirements for organizational management and control (Nicolaou, 2000). It is composed of numerous vital sub-systems which budgets, execute and offer accountability on the use of public resources (Njihia & Makori, 2015).

Effectiveness under this study was measured as information quality, user friendliness, inclusiveness and stakeholder satisfaction as used by other researchers (Mbamba, 2003; Negash, Ryan & Igbaria, 2003). However, there is limited evidence of literature that joined the four contructs.

1.1.3 Theoretical Background

This particular study was drawn on two theories useful in guiding the influence of internal organizational control system, systems integration and interface and information interdependency on effectiveness and this included the open system and institutional theory. This is because, researchers have agreed that no single theory can be used to explain a specific phenomenon (Shaffer & Kipp, 2002).

Open System Theory

This theory was first introduced by (Katz & Kahn, 1966; Bertalanffy, 1951) who adapted general systems theory to organizational behavior. The theory points out a system that operates as inputs which are processed and an output produced at the end with feedback being provided. Inputs can be other factors of production like raw materials and information. However, without people, this system can't be completed since these people are the ones that enable processing of inputs into final output. The key ideas of the open system theory are responsibility for control, direction and goals (Emery, 2013).

According to this theory, it is important to tally the IFMS plan application procedures with the end users' desires and closely follow up and adjust where there are deviations strategies are laid to continuously improve with the aim of achieving the corporate objective of having efficiency in financial public management.

Institutional Theory

This theory was advanced by Meyer & Rowan, (1977); DiMaggio & Powell (1983). Institutional theory explains how an organization functions in relation to policies, organisational structures, roles and responsibilities, reporting and communication lines. Institutional theory hinges on how the customs, beliefs, organizational structure, culture affects how the organization operates or has an influence on society and the market.

As explained by Scott (2002), organizations coil their norms, values beliefs and cultures in core values, mission, vision and motto as these are the basis of making decisions at all levels of the organization. There are principles that govern how business execute their activities.

According to Kraft and Furlong (2007), Institutional Theory is rule or procedural making which illustrates all the aspects that govern the organization in terms of say ethical code of conduct, reporting procedures, clear roles and responsibilities plus delegation powers.

Organizations work so hard to ensure that the institutional norms are adhered to with the aim of achieving the set goals and objectives.

Organizations should strive so hard to ensure that the staff understand the direction an organization is taking in terms of new developments so as to accept the change and implement the change say technology introduction because if they reject the new culture then the implementation won't be a success. The effectiveness of IFMS can only be achieved when all key aspects of institutionalization has been put in place.

1.1.4 Contextual Background

IFMS in Uganda was implemented through a project named the Economic and Financial Management Project (EFMP II) in the FY 2003/2004. This implementation aimed at improving proficiency in accounting recording and reporting. IFMS was introduced in Muni University in 2017 with the aim of improving performance in terms of effectiveness of cash management. However, the Auditor General's Report of 2019 for FY 2019/2019 indicated that there are still inconsistencies in financial performance reporting, charged wrong expenditure codes. The above inconsistences and mismatches indicate the need to understand the system ineffectiveness as far as meeting its intended objectives. This therefore calls for research to be done on analysis of the organizational determinants specifically looking at the role of the internal organizational control system, the nature of the system integration and interface, and information interdependency in influencing the IFMS effectiveness in public universities using a case study of Muni University.

1.2 Statement of the Problem

The introduction of IFMS in Uganda was aimed at increasing efficiency in budget allocation, eliminate wasteful spending, intensify accountability and also strengthen public sector

institutional reporting (MoFPED Report, 2015). With these intended benefits of IFMS, all Ministries, Departments, Agencies and Local Governments were mandated to use the system so as to advance financial reporting and performance in terms of effectiveness of cash management and budgeting systems, which saw a percentage improvement in un-qualified audit opinions from 47% to 50% (MoFPED Report, 2015). This trend has not greatly improved as number of qualified opinions increased in the last three years against decrease in number of votes as indicated in Table 1 below (Auditor General's Report, 2019).

Table 1: Types of opinions

Type of opinion	**2018/2019**	**2017/2018**	**2016/17**
Unqualified	433	428	501
Qualified	54	37	50
Total	487	465	551
Unqualified in %	89	92	90
Qualified in %	11	8	10

Source: Auditor General Financial Report for FY 2018/19-on Muni University

Also, in spite of a well set IFMS objectives a lot of inconsistencies in financial performance reporting still exist. Below in Table 2 are some of the inconsistencies registered by Auditor General in the FY2018/19 Audit report.

Table 2: Inconsistencies registered

Item	**Hard copy TB 2019 (000)**	**IFMS TB (000)**	**Variance (000)**
Transfers received	16,293,821,863	16,294,020,970	199,108
Expenditure Accounts	585,732	784,840	199,108
Sub program	**Cash flow statement**	**Statement of appropriation**	**Variance**
Total	15,282,802,932	15,307,168,194	(24,365,262)

Source: Auditor General Financial Report for FY 2018/19-on Muni University.

The overall Auditor Generals Financial Report for Financial Year 2018/19 further indicated that various public entities including public Universities charged wrong expenditure codes to the tune of UGX. 384,756,648,951. Expenditure by various entities amounting to UGX. 19,522,744,433 was not accounted for by the time of the audit contrary to the Public Finance and Accounting Regulations. The Report also indicated that the statement of contingent liabilities for the various entities increased to UGX. 10,782,352,998,158 in 2018/2019 FY up from UGX. 8,768,232,753,097 reported in the previous year 2017/2018.

The above inconsistences and mismatches indicate the need to understand the system ineffectiveness as far as meeting its intended objectives. This therefore calls for research to be done on analysis of the organizational determinants specifically looking at the role of the internal organizational control system, the nature of the system integration and interface, and information interdependency in influencing the IFMS effectiveness in public universities using a case study of Muni University.

1.3 Purpose of the study

The purpose of the study was to examine the organisational drivers of the effectiveness of the IFMS in Public Universities in Uganda. A case study of Muni University.

1.3.1 Specific Objectives

1. To assess the influence of internal organizational control system on effectiveness of IFMS in Muni University.
2. To assess the influence of systems integration and interface on effectiveness of IFMS in Muni University.
3. To assess the influence of information interdependency on effectiveness of IFMS in Muni university.

1.4 Research Questions

1. What is the influence of internal organizational control system on the effectiveness of IFMS in Muni University?
2. What is the influence of integration and interface on the effectiveness of IFMS in Muni University?
3. What is the influence of Information Interdependency on the effectiveness of IFMS in Muni University?

1.5 Scope of the study

The scope of the study was discussed in 3 aspects namely; content scope, geographical scope and time scope

1.5.1 Content scope

The study was on the organisational drivers on the effectiveness of IFMS in Public Universities in Uganda. The study focused on the extent to which internal control system, systems integration interface and Information interdependency influenced IFMS effectiveness. The study targeted the transactions made in the system as unit of study.

1.5.2 Geographical scope

The study was conducted in Muni University located in Arua District, 3Km South of Arua town in North-Western Uganda. The reason for selecting the University was that it is a newly established Public University in Uganda and have just been rolled out by the government to implement IFMS in October 2017. Public Universities have got different administrative unit of operation that makes their operations unique from other government entities.

1.5.3 Time scope

The study was carried out between May 2020 to December 2020 as a university requirement for the award of a master's degree and literature used was mainly from the 2000s as this is the period when IFMS was being introduced and implemented among government bodies in the majority of the countries in the world.

1.6 Justification of the study

The justification of the study was hinged on the recorded inconsistencies in the implementation of IFMS were mismatches, wrong expenditure charges by the personnel, inconsistency between the system generated trial Balance & the submitted hardcopy trial Balance (Auditor General's Report, 2019).These shortcomings in the implementation have induced the study to examine how internal organisational control system, system integration and interface and finally information interdependency influence the perceived effectiveness of IFMS in Muni University.

1.7 Significance of the study

Public Universities

The study findings and recommendations might act as a basis for evaluating the performance of IFMS in public universities in Uganda and designing the appropriate models to bridge the identified gaps in the implementation.

The findings of this study would further provide gaps for financial management practitioners to improve on their knowledge of IFMS and its importance in public universities management and performance.

Muni University

The findings of this study might be of benefit to the management of Muni University since gaps are identified in the use of IFMS and this may help the management to design strategies on how to address such gaps.

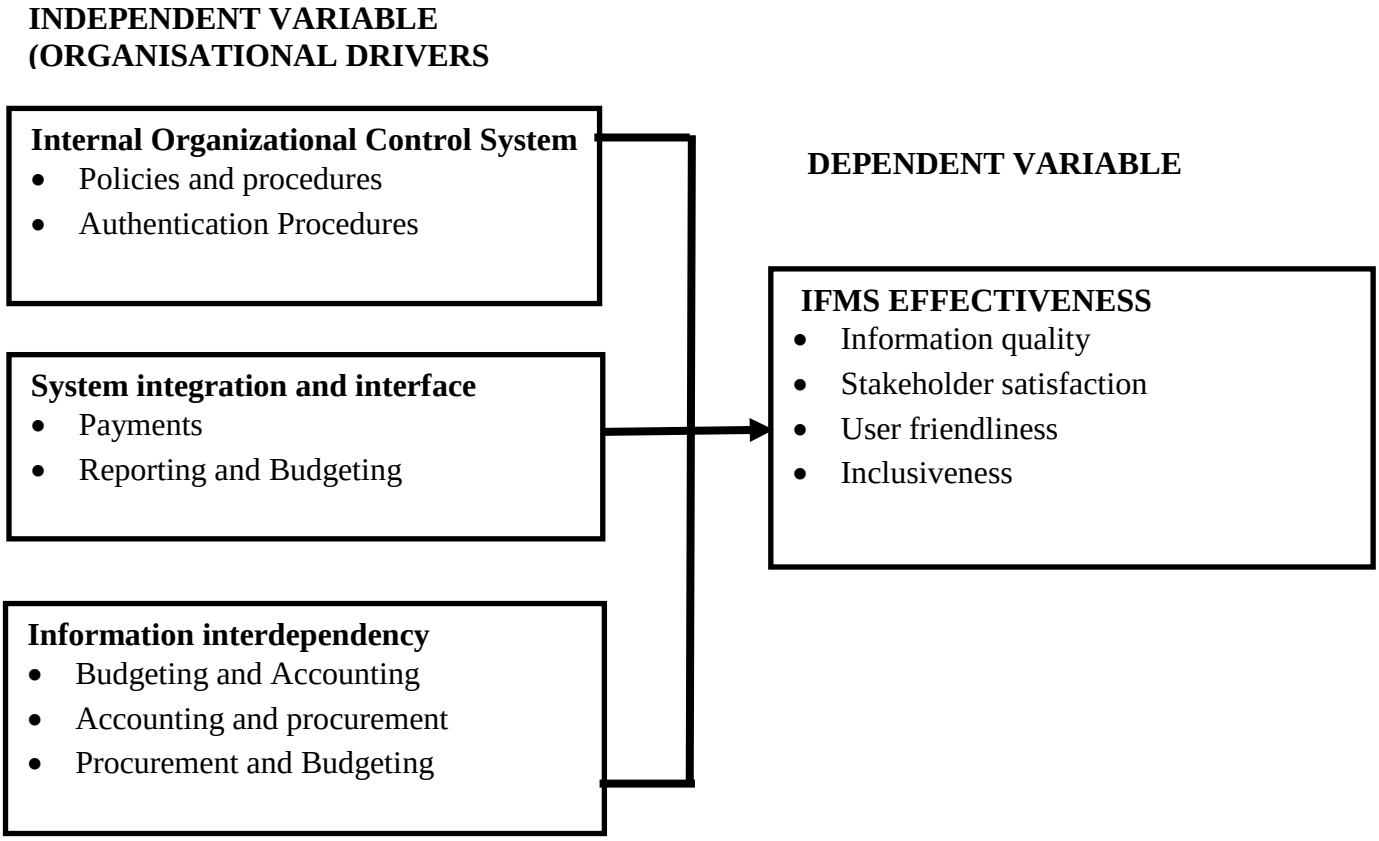
Researchers/Scholars

The findings of the research project might be beneficial to future researchers as secondary information and literature since it will highlight areas requiring further research. This research would also broaden not only the researcher's knowledge but also the public sector on the key determinants of internal organisational control system, system integration and interface and information interdependency that need to be addressed to ensure effectiveness of Integrated Financial Management System in public University in Uganda.

1.8 Conceptual framework for the Study

Grounded on the literature reviewed and theoretical background, a conceptual framework was established for this study. The framework is given in figure 1 below. Specifically, the Figure shows the relationship between the Organisational determinants of IFMS effectiveness that is to say internal organizational control system, system integration and interface, and information interdependency as the independent variable and IFMS effectiveness as the dependent variable.

Figure 1: Conceptual Framework



Source : Adapted from Davis (1989); Al-Jabri (2018);Demeke (2018)

The conceptual framework above showed the independent variable the integrated financial management system measured by internal organisational control system, system integration and interface. An Integrated Financial Management System refers to a monetary and accounting system that integrates all departmental activities into one component for easy planning, procurement and payment (MoFPED Report, 2015). (MoFPED Report, 2015).

Effectiveness on the other hand is defined as the views of decision-makers that the output information available to them through accounting processing, management reporting, and budgeting systems meets their requirements for entity direction and control (Nicolaou, 2000). Effectiveness under this study was operationalized as inclusiness, stakeholder satisfaction, information quality and user friendliness (Chalu, nd).

1.9 Definition of key terms

Information interdependency; means making use of information from other departments integration (information for the department only to information from other departments). Increased system integration has been pointed to advance communications in and out of the organizations (Huber, 1990).

Information quality; means relevance, timelines, accuracy, consistency and completeness.

Stakeholder satisfaction; measure the social aspect of IFMS implemented in the organization. Stakeholder satisfaction is expressed by the extent to which stakeholders are being satisfied with the output of IFMS and whether the system can produce the output they want.

IFMS; means an information system that follows up accounting processes, events and provides a summary of financial information.

Inter organisational control system; means an integrated system with interrelated components, supporting principles and attributes.

System integration and interface; this means combining or incorporating all the different departments of the organization while executing their responsibilities with a common goal of minimizing financial inconsistencies.

Effectiveness is seen as views of decision-makers that the output information present to them through transaction processing, management reporting, and budgeting systems meets their requirements for organizational management and control (Nicolaou, 2000). Organizational drivers are vital motivators influencing the failure or success during the application of IFMS (Combaz, 2015).

Organization of the report

This report comprises five chapters: Chapter one introduced the, historical, conceptual, theoretical and contextual aspects of organizational determinants specifically looking at internal organizational control system, system integration and interface, and information interdependency in influencing the IFMS effectiveness. This draws up the basis for presenting the research problem, the research objectives and the value for the study to support the research. This chapter also presents the organization of the report which encompasses five chapters.

Chapter two gives review of the theories and empirical literature that explains the association among study variables. Open systems theory and institutional theory was reviewed and a summary of the empirical studies and research gaps have also been availed in this chapter.

The third chapter presents the methodology used in the study and included the research design, study population, sample size and sampling technique. The chapter discussed reliability and validity and also considered the diagnostic tests that were used in the study. The chapter also presented methods adopted in data collection, measurement of research variables, data analysis techniques, analytical models, ethical issues and limitation for the study.

Chapter four presents the background information of respondents and transaction used in the study, descriptive statistics for internal organizational control system, system integration and interface, information interdependency and IFMS effectiveness was also presented. Various diagnostic tests were carried out and a Pearson correlation analysis and a multiple regression analysis presented together with the interpretation of findings. Finally, chapter five revealed the summary and discussion of findings, conclusion of the study, recommendations and areas for further research.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter seeks to review the current literature on theories underpinning, and the empirical literature which focused on the following variables in the research objectives; the influence of internal organizational control system on effectiveness; the influence of systems integration and interface on effectiveness of IFMS; the influence of information interdependency on effectiveness. It compared and contrasted the findings from previous researchers.

2.1 Theoretical Review

The study was based on open systems theory and institutional theory which were explained below;

Open System Theory

The reliance of an entity and surrounding is important for the achievement of any institutional goals. An organisation exists in a business environment which is both external or internal (Ansoff & McDonnell, 1990). Where the company operates, the company is able to network with the all factors and enablers that exist with the aim of making profits (Davis & Powell, 1991).

According to Kang (2002), a system is defined as the interaction between components with the aim of working together to produce a desired outcome. The desire to achieve efficiency and effectiveness pushes human resources to work for harmony and synergy in all their undertakings

There is need to work with people since they are the enablers that put factors of production together to produce the desired output the company can sale to gain a profit or deliver a

service in case of public sector. The key ideas of the open system theory are responsibility for control, direction and goals (Emery, 2013).

The theory talks about two systems A and B where in A, there is information asymmetry, competition, goals are set by managers or supervisors, individuals being viewed as replaceable parts and decrease in motivation over time yet in B, there is openness, cooperation, flexibility, collective idea seeking. It continues to emphasize the shift of organisational plan principle from the idleness of parts to the idleness of role. Staff with multi skills should be assigned extra responsibilities to avoid under utilisation and boredom (Emery, 2013).

Organizations with bureaucratic tendencies make their employees to be responsible for only one task which actively demotivates them. Solely owned groups put their management and authority with the people performing tasks. Therefore, the theory applies to a number of open space technologies that arrange social agency through a temporary organization (Emery, 2013).

Organisations usually relate and operate with other organisations in the environment who do similar or related activities as this helps in benchmarking on how production and marketing is done so as to capture a large market share. Organisations are then estimated to make decisions from an informed point of view in embracing effective reactions or plans which will rearrange them and take advantage of the environmental offers and improve on their offerings with the view of being modest and achieving the set goals. According to this theory, it is important to tally the IFMS plan application procedures with the end users' desires and closely follow up and adjust where there are deviations strategies are laid to continuously improve with the aim of achieving the corporate objective of having efficiency in financial public management.

Institutional Theory

Institutional theory in companies focuses on how work is done in an entity (Selznick, 1957). An organizational strategy is how the organization establishes itself in the market and among other competitors by looking at how they conduct business in terms of culture, norms and beliefs. The theory proposes management have a specific way in which its institutionalized. Institutionalization refers to the norms, culture, values and beliefs for which an organization stands for while executing its obligations and activities. Each organization has its own way of doing things. (Dimaggio & Powell, 1983). The effectiveness of IFMS can only be achieved when all key aspects of institutionalization has been put in place.

2.2 Conceptual review

2.2.1 Integrated Financial Management System in Uganda

The Ugandan government in 1980s that there was a need to improve on how the financial information was to be handled. Uganda was facing hindrances like erroneous, late and unsuitable accounting budget information. Most of the work was done manual with a little automation of some activities, centralized systems were present characterized with inadequacy in application and examination, inadequate schemes for tax collection and fostering compliance, cost overruns due to poor budgeting, failure to comply with reporting standards, few IT technologies were in existence and inadequate information about of a uniform Chart of Accounts that complied with Government Finance Statistics (Government of Uganda working Paper, 2017).

IFMS in Uganda was implemented through a project named the Economic and Financial Management Project (EFMP II) in the FY 2003/2004. This implementation aimed at improving proficiency in accounting recording and reporting. IFMS is a monetary system that integrate the activities of all department units in an organization say accounting, budgeting

and planning into one aspect. This is an information technology network based that enables the government to plan, budget, execute and account for expenditure (Government of Uganda working Paper, 2017).

An Integrated Financial Management System refers to a monetary and accounting system that integrates all departmental activities into one component for easy planning, procurement and payment (MoFPED Report, 2015). IFMS refers to an accounting software that links all department to share information with the aim of proper visibility of where the money is being spent. It creates enough accountability avenues, offers informed decisions, allocates accountability and preparation of well audited financial statements (Dorotinsky, 2003) & Rozner, 2008). An IFMS is an financial method structured to purpose authorizing to the requirements and necessities of the condition in which it is connected (Rodin-Brown, 2008).

IFMS provides a unified automated financial package to provide efficiency and transparency of tax payer's resources by computerizing accounting and planning scheme for a management. It consists of numerous important components for planning, processing and reporting of how public payers' money has been utilized (Rodin-Brown, 2008). How IFMS operates is different for countries, governments and counties however, these are common to all IFMS applications irrespective of where its implemented from like costing, planning, financial management, liability administration and reserve systems. Other countries have included and connected all the other functions of the organization like procurement, human resource, asset management, tax management, payroll systems, retirement pension and social security (Rodin-Brown, 2008).

According to Dorotinsky (2003), IFMS seek to improve on how the financial information is recorded and kept to increase its accuracy, efficacy and effectiveness aimed at making knowledgeable choices. It also promotes financial morals as only realistic costs are included

and also lowers unplanned expenditures. This, as a result provision of timely and accurate financial reports, proper record keeping and reporting. Success due to efficiency and effectiveness computerized bank reconciliation which allows faster administering of unsettled bills and cash in bank accounts (Dorotinsky & Junghun, 2003).

Diamond and Khemani (2006) further mention balance sheets, reports on payables and receivables, returns on investments, cash flows, budget deviations among others can be produced by IFMS. Managers can make use of this information for many purposes such planning, budgeting and execution. Also, to follow up the positions of liabilities, assess the outcome against the budget and plans, control cash balances, and debtors, monitor the repair and usage of non-current assets and the performance of defined functions and finally make edits and changes where required.

2.3 Empirical Literature

Under empirical literature, the section has been structured in agreement with the objectives of the study, the influence of internal organizational control system, systems integration and interface, information interdependency on effectiveness of IFMS in Public Universities.

2.3.1 The influence of internal organizational control system on effectiveness of Integrated Financial Management System

Internal controls can be viewed as a system which works as a set of combined modules with an aim of meeting a set goal however if one component fails to function then other components or units can't achieve the desired outcome therefore there should be coordination and teamwork in the entire system (Mihaela & Iulian, 2012). Organizations with different departments are supposed to have a procedure on how they manage finances to ensure the interdependency and success. Proper and working control system consists of linked checks

and measures within an organization to ensure that there is monitored usage of public finances (Ayagre, Appiah-Gyamerah & Nartey, 2014). Internal controls are made of control environment, accounting system and control processes (Harvey & Brown, 1998). Internal control consist of control activities, environment, monitoring and communication among all departmental units (Grieves, 2000).

Internal Control Integrated Framework by COSO (1992) classifies entities' internal control system into five unified modules as control activities, control environment, monitoring, risk assessment and information and communication. Internal control system refers to measures and checks that are employed by the company to monitor and manage the operations of the business that's to say daily activities, finances, reporting and delegation, accountability and performance measurement (Bayyoud & Sayyad, 2015) The definition expounds the idea from a wider attention, assessing its role in recognizing and measuring acts associated to performance.

Ndiwa, (2014) investigated how financial performance of African Institute of Research and Development Studies was affected by internal control systems. The study was undertaken in African Institute of Research and Development Studies campuses only. The study recognized that whereas the institutions had enough assets there were financial performance gaps resulting into the shutting some of them. Despite the presence of internal control strategies and audit department, staffing was a challenge. The study found out that there was a positive association among financial performance and internal control.

In the study conducted by Ndifon (2014), about internal control activities on the financial performance in tertiary institutions in Nigeria, the results exposed that all the control activities in the institution were fronted by the management. In addition, there was supervision of assignments and division of work among workers. In addition, the school

undertook yearly external audit of financial statements. However, there occurred no statistically significant association between financial performance and internal control activities. The study indicated inadequate transactional checks, balance and security with the aim of reducing stealing and scam.

Mwakimasinde, Odhiambo and Byaruhanga (2014) studied the effect internal control systems have on the performance of sugarcane farmers in Kenya financially where results portrayed that the variables were statistically significant. Additionally, Kinyua (2016) examined the effect of internal control environment on financial performance of Nairobi Securities Exchange companies the same conclusion as for Mwakimasinde et al., (2014). These verdicts were backed by the results of Mawanda (2008) that stated that actual application of appropriate control systems may advance the financial performance of an organization.

Kamau, (2013) researched on how internal controls affect financial performance of manufacturing firms in Kenya and found out the most of these companies had the controls in place say efficient communication, supervision of employees, segregation of duties, risk planning and provision of feedback. Palfi and Muresan (2009) investigated the significance of proper internal control system in the baking industry where the results indicated that working together amid the internal audit department and management through consistent meetings was very key.

Abu-Musa (2010) concluded that many banks in Saudi had provided efficient communication system and security measures with well trained staff having computer knowledge (Simiyu, 2011).

A study by Muraleetharan (2010) in assessing the effect of internal control on financial performance indicated an association between the two studied aspects. This result is also in agreement with that of Mawanda (2008) who wanted to find the effect of internal control

systems on financial performance in bodies of higher learning in Uganda. The study noted a significant association between internal control systems and financial performance.

A study conducted by Nilniyom and Chanthinok (2011) on accounting system innovation and stakeholder acceptance of Thai listed firms stated that internal control effectiveness had a positive association with stakeholder acceptance. Feng and McVay, (2009) also carried out a study on internal control and management guidance, and established that internal control quality has an economically significant impact on the correctness of management guidance.

2.3.2 The influence of systems integration and interface on the effectiveness of Integrated Financial Management System

Modern IFMS platforms enables regimes to imitate to international reporting standards and agree with dispersed activities through unified web-founded answers, making available approved budgets to all the different units (Minani, 2012). Studies indicate that positive importances of computerized IFMS solutions include improved efficiency and transparency through direct payments to vendors and service providers (Rotich, 2015). This leads to reduction in market prices and a comparative analysis of the market offering before a decision is made. Further, Qwabe (2014) adds that IFMS creates a good working relationship among all the departments of the organization.

Brbidge, Falster and Riis (1987), integrating all activities of the business stems from the desire to share similar goals and objectives (Voss, 1989).

Application of IFMS portrayed a positive effect on financial management. The system reduces redundant spending of public funds, enhances accountability, efficiency, accountability and improves on the management of finances an institution (Hove & Wynne, 2010). Odei-Lartey, Kwabena and Eliezer (2015), contented that apart from IFMS helping as

a tool in financial management, limits unplanned procurements, only planned expenditures are prioritized and plans and activities on improved projects with a goal of realizing extreme output and similarity in the allocation of funds; spend within the budgets and limit un approved budget reallocations.

According to MoFPED Report (2015), although MDAs were using many other systems, none were interfacing with the IFMS. However, some were reported to be complementary to the IFMS. These include the PBS, IPPS. BBS Connect and PPMS. This therefore requires us to investigate more on the influence of integration and interface on the effectiveness of IFMS.

Hendriks (2012), submits that a well-made IFMIS can delivers a number of characteristics that may help notice misallocation of payments, scam and stealing. These include, for example, computerized sourcing of exemptions to usual procedures, designs of doubtful activities, computerized cross-referencing of individual identification numbers for scam, cross-referencing of asset stock with equipment procure to find theft, computerized petty cash rules and identification of nonexistence workers.

According to Diamond and Khemani (2005), an IFMS has for long time enabled the following up of financial events and recording accounting information. It backs up sufficient fiduciary responsibilities and the preparation of auditable financial statements reporting and policy decisions. The interaction between IFMS and other functionalities has been labour intensive mainly resulting into the possibilities of mistakes in reporting and financial statements. The interface leads to improved Public Financial Management and increased service delivery. IFMS integration requires guidance on the conversion of duty in the financial public management procedures, from preparation of the budget and implementation to accounting and reporting, with the help of an integrated system for the with the aim of proper management of finances in most of government entities (Harwlow, 2008).

2.3.3 The influence of information interdependency on effectiveness of Integrated Financial Management System

Information interdependency is defined as the degree of desired information division among sets of organizational functions that are sustained by Accounting Information System applications. Applications in an AIS were recognised by a large-scale study in America to associate to the following four areas: procurement, reporting, distribution and accounting (Deloitte and Touche LLP & Hyperion Software, 1995). These parts cover a set of networking accomplishments that share financial information processed by an AIS.

Govindarajan and Fisher (1990), measured interdependency measured as the extent of resource sharing among organizational subunits. Kim (1988), used a single item to measure task interdependency or a two measure of workflow interdependency (Chenhall & Morris, 1986). The current method straight relates interdependency to desires for entity management and control that are relevant to the design of an Accounting information system. The studies reviewed were dedicated on information interdependency, financial information processed by an Accounting information system.

Daft and Lengel (1986) affirmed that information interdependency results into organisational management and monitoring. While Rogers and Whetten (1982) recommended that information interdependency allowed an entity to handle inadequacies, reduce disintegration in services and continue to improve on the control levels.

A research undertaken by the World Bank (2011) in 51 countries found that countries should develop their own customized IFMS solutions to meet their own functional and technical demands and desires of financial public management instead of just implementing an already tailored solution from a different country.

2.4 Conclusion and Critique of the Literature

For the summary, the literature reviewed and discussed above, which is primarily focused on the key determinants of effectiveness of Accounting Information System and Integrated Financial System to achieve the perceived desired goal. From the above literature a number of potential key factors hinder the effectiveness of IFMS. The above studies provide an important aspect regarding effectiveness of IFMS. They also provide results and conclusions of researches done on IFMS.

A careful review of the literature on the topic has been and found that none of the studies have tackled key determinants of effective Integrated Financial Management System to achieve quality performance of IFMS in Public universities in Uganda and there is a clear gap of knowledge that need to be addressed. Therefore, this research sought to fill that existing gap by seeking to find out the key determinants of effective IFMS in public universities in Uganda. Study is explicitly built on factors identified in prior studies, it is envisaged that it would provide a far deeper and richer data set, upon which to draw conclusion

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter enlightens the methodological choices that were adopted in the study. The chapter specifically highlighted the research design that was employed in the study, the study population, the description of the sample size and selection, the sampling techniques that were utilized, and as well as the procedure of data collection and data collection methods. Further, in this chapter attempts that were utilized to address validity and reliability concerns were discussed in addition to the data analysis methods as well as the necessary diagnostic tests to ensure the data analysis methods adopted are appropriate for the data to be collected. Also, the ethical consideration and limitations of the study were presented.

3.2 Research Design

The study was based on a case study research design. Yin (2013) that case study design enables the researcher to clearly understand the current condition of what is being studied, its exploratory in nature. The choice was premised on the fact that the study was to seek respondents' views and opinions on the objectives of the study. Only quantitative data was collected and used for analysis. According to Saunders, Thornhill, & Lewis (2015) ; and Bhattacherjee (2012), a case study research design collects quantitative data from respondents.

3.3 Study Area

This study was undertaken in Muni University Arua City in West Nile Uganda. Muni University was selected as the study area because it is one of the newly created public universities that was rolled on IFMS in 2017. The focus of the study was on the transactions made in IFMS in the fourth quarter of the FY2019/20.

3.4 The target Population

The study focused on the users of IFMS system who are responsible in capturing the various transactions in the system and these included (a) the office of university bursar (1) who are responsible for processing or entering invoices in the system, paying utilities like water, electricity, NSSF, URA and payment of supplies, living out allowances, processing salaries. (b) The vote controllers who initiates procurement contracts and payments in the system (3). (c) Human resource office responsible for salary processing, (d) Planning unit (3) responsible for budgeting execution in the system (e) the accounting officer (1) who does the approval of all payments and the procurement officer responsible for initiating and approving suppliers' contracts and payments.

The unit of analysis was the transactions that the above mentioned individuals carry out in IFMS. This was the case in order to achieve variance for quantitative analysis in a single case study. Specifically, the focus of the study was on the transactions made in IFMS in the fourth quarter of the FY2019/20. Financial year 2019/2020 was selected because it was the most recent financial year and this is the time where government calendar year ends. It is also the time where there was over spending by government entities since unspent money is send back to government singly treasury account and during this time there are usually a lot of mischarge registered by Auditor General.

Using the unit of analysis as a transaction, the study population constituted of 1,189 transactions carried in IFMS master data of Muni University for last quarter financial year 2019/2020 in order to collect quantitative data to assess the system effectiveness. Since the population was too big, the target population was selected basing on the total number of transactions posted on daily basis in IFMS in the fourth quarter as unity of analysis.

3.5 Sample size

Krejcie and Morgan (1970) scientific guideline was used in determining the sample size of the study. A sample of 288 transactions out of sample size of 1188 transactions were chosen. The various individuals responsible for processing those various transactions in the IFMS were identified and 288 questionnaires circulated to them. However, 155 questionnaires were obtained providing 53.82% response rate.

Table 3: Population and sample size

Category of the Population	Population size	Sampling Method	Sample Size
Accounting Officer	1	Purposive	1
Head of Finance	1	Purposive	1
Finance Department Staff excluding HoF	5	Simple random sampling	5
PDU	3	Simple random sampling	1
Planning Officers	3	Simple random sampling	1
Vote controllers	8	Simple random sampling	4
Head of departments	16	Simple random sampling	7
	37		20

Source: Primary data 2020

3.6 Sampling Technique

The study used systematic sampling technique when selecting the transactions in Muni university IFMS master data. The systemetic sampling was used at every 4 interval to select transactions as a sample of the study in order to give equal chances to all the transactions of the population to be selected hence reducing on bias when collecting data as well as

increasing the validity of the results (Saunders et al., 2015). Thereafter, the respondents who were responsible in processing the transactions identified at the stage of the systematic sampling were identified.

3.7 Data Collection Methods and Instruments

Primary data sources were considered appropriate for this study, a structured questionnaire and an interview guide were used by the researcher to gather firsthand information from the individuals who process transactions in the system and these included respondents from the office of university bursar, the vote controllers, respondents from Human resource office, respondents from the Planning unit and accounting officer.

3.7.1 Data Collection using a Questionnaire

A structured questionnaire was drafted following views by several researchers Kothari, (2004) and Sekaran & Bougie, (2010). The initial part of the tool focused on background information, section two effectiveness of IFMS, section three focused on issues of Internal organizational control system, Section four focused on issues of Systems integration and interface and section five addressed issues of Information interdependency. In each section, the respondents were given clear instructions on how to complete the item and the questions provided options providing ranks. The questionnaire was refined after the pilot test study.

3.8 Procedures of data collection

Approval was sought from the graduate school to ensure that the ethical guidelines are followed throughout the data collection process. At the onset of data collection, the researcher was given and introduction letter and proceeded to the university authorities for permission to conduct the interviews and administer the questionnaires.

Data collection was conducted in two phases: a pilot study and main study. The pilot test study was conducted with 5 respondents who were systematically selected outside the actual sample for the study and questionnaires were administered to the respondents. The objective of the pilot study was to test the internal consistency of the instrument in regards to addressing the objectives of the study. The data collected from the pilot study was analyzed and the results were used to revise and modify the instrument before the main study the results of the pilot-study were not included in the final sample. In the main study, a self-administered questionnaire was given to the respondents (Muni University staff) with the help of research assistants in order to obtain quantitative data.

3.9 Validity and reliability of instruments

Reliability

For reliability, consistency was examined by establishing internal consistency reliability of the measurement scales for the study variables as well as split-half reliability using Cronbach's alpha (Cronbach, 1951; and Sekaran, & Bougie, 2010). All the reliability coefficients were above 0.70, a cutoff recommended by Nunnally (1978). After the data collection, reliability analysis was done and the findings for each of the variables are presented below in Table 4

Table 4: Reliability of the research variables

Variable	No. of items	Cronbach Alpha
IFMS perceived effectiveness	6	0.857
Internal Organisational control system	5	0.846
System integration and interface	6	0.880
Information interdependency	3	0.916

Source: Primary data 2020

Validity

A face validity was used where items included in the questionnaire were derived from previous empirical studies as those that were found to explain the construct variables well. Also face validity was achieved through consulting the supervisors of this study for further analysis after collection of data, convergent and construct validity tests were conducted for the research variables. To demonstrate convergent validity, magnitude of the structural relationship between the item and the latent construct (factor) should be statistically different from zero (Smith, Gildeh & Holmes, 2007).Construct validity being the extent to which a particular item relates to other items measuring the same variable were examined using factor analysis. All the factor loadings were greater than the cutoff point of 0.50, as recommended by Nunnally (1978), this shows strong convergent validity and thus all the items above the threshold were considered for final study as shown below in Table 5

Table 5: Factor analysis for the study variables

Variables and their measures	**Factor loadings**
Perceived IFMS effectiveness α=0.857	
This transaction was handled in line with government policies and guidelines (PFM Act 2015 (Amended))	.610
This transaction was paid from one charge Account.	.834
This transaction was paid from the correct chart of account.	.868
This transaction was not rejected	.743
This transaction can easily be reconciled for generating final Account/Trial Balance	.792
This transaction was from a clear output speculated in the Budget Chart of Account	.819
Eigen value	**3.671**
Total variance explained	**61.187**
Kaiser-Meyer-Olkin (KMO)	**0.846**
Bartlett's Test Sphericity	**445.691*** **

Internal Organisational control system α=0.846	
This transaction was paid on the correct chart of account	.862
The transaction invoice was posted in the correct payment group	.876
This transaction was handled under the correct Vote Cost Centre	.652
This transaction was handled under the correct program	.819
This transaction was handled under the correct Output	.754
Eigen value	**3.175**
Total variance explained	**63.506**
Kaiser-Meyer-Olkin (KMO)	**0.694**
Bartlett's Test Sphericity	**402.012*** **
System integration and interface α=0.880	
The System integration for this transaction was delivered as expected	.805
The interface with different sub-systems (AIMS, IPPS, BPS, NSSF, URA etc.) were able to create necessary reports.	.846
The system was able to update satisfactorily information required of this transaction on ledger reports in IFMS	.550
With this transaction it was easy to coordinate information between IFMS and other sister systems like IPPS, PBS.	.923
The interface was able to complete and capture all the necessary required information on the transaction.	.898
In processing this transaction, the system integration and interface was handled timely.	.724
Eigen value	**3.849**
Total variance explained	**64.143**
Kaiser-Meyer-Olkin (KMO)	**0.853**
Bartlett's Test Sphericity	**575.3465*** **
Information interdependency α=0.916	
This transaction was in line with approved procurement budget plan and chart of accounts	.863
This transaction shared information between accounting and procurement plan	.963
This transaction shared information between procurement plan and budgeting	.956

Eigen value	**2.587**
Total variance explained	**86.249**
Kaiser-Meyer-Olkin (KMO)	**0.689**
Bartlett's Test Sphericity	**456.611*** **

N=155, ***p<0.00, **p<0.01, *p<0.05, α is Cronbach Alpha coefficient computed for scales with three items and more

3.10 Measurement of study variables

3.10.1 Measurement of the Independent variables

The independent variables of the study were Internal organizational control system, systems integration and interface and Information interdependency. The items that were used to measure these constructs were put on a five point likert scale ranging from "strongly disagree" to "strongly agree" and means were computed to enable the analysis, a similar measurement was adopted by other researchers such as (Davis 1989; Al-Jabri 2018;Demeke 2018)

3.10.2 Measurement of the Dependent variable

The dependent variable of the study was IFMS perceived effectiveness. The items that were used to measure these constructs were put on a five-point likert scale ranging from "strongly disagree" to "strongly agree" and means were computed to enable the analysis, a similar measurement was adopted by other researchers such as (Al-Jabri 2018).

3.11 Data Analysis

The Collected data from the questionnaire was edited, coded and then quantitatively analyzed. The SPSS tool version 23 was used to capture and analyze the data. The analysis involved multiple regression equation model to test the influence of independent variable (internal organizational control system, Systems integration and interface, Information

interdependency on IFMS) and the dependent variable (Effectiveness of IFMS). For these analyses to be utilized the researcher needed to ensure that the data was appropriate along the assumption of Field (2009) that data that exhibits non – normality characteristics may lead to inaccuracy and distortion of the results. In this study, different diagnostic tests were performed to ensure that data was normally distributed.

The Shapiro – Wilk Test was formed to test for normality in the study. This test is deemed appropriate for samples that fall between 7 and 2,000 Shapiro & Wilk, (1965) and for samples that fall between 2,000 and 5,000 the Kolmogorov – Smirnov test is deemed Appropriate. De Vaus (2002), asserts that skewness values between -1.00 and 1.00 are within the acceptable range and indicate a symmetrical distribution. Further, research using Monte Carlo simulations indicate that significant problems tend to arise when skewness is greater than 2.00 and kurtosis exceeds 7.00. The descriptive statistics in Table 6 below show that the skewness of all the items were below 2 and kurtosis was below 7 showing that all the items were normally distributed. Further still the Shapiro – wilk was insignificant suggesting that data was normally distributed.

Table 6: Tests for normality of study variables

Variable	*Statistics*	*df*	*Sig.*
IFMS perceived effectiveness			
Kolmogorov-Smirov	.072	90	.200*
Shapiro-Wilk	.980	90	.183
Skewness	.178		
Kurtosis	-.345		
Internal Organisational control system			
Kolmogorov-Smirov	.082	90	.179
Shapiro-Wilk	.982	90	.237
Skewness	.067		
Kurtosis	-.188		
System integration and interface			
Kolmogorov-Smirov	.083	90	.170
Shapiro-Wilk	.971	90	.038
Skewness	-.025		
Kurtosis	-.785		
Information interdependency			
Kolmogorov-Smirov	.105	90	.016
Shapiro-Wilk	.957	90	.007
Skewness	-.112		
Kurtosis	-.570		

N=155, ***p<0.000, *p<0.01, *<0.05

Multicollinearity tests were also done to test for collinearity and this arises when some individual independent variables are highly correlated (Field, 2009, Hair et al., 2010). This problem was evaluated by using variance inflation factor (VIF) estimates to detect multi-collinearity that decreases the reliability and accuracy of empirical results. The higher VIF meant that multi-collinearity effects are present. Hair,Black, Babin and Anderson (2010) stated that a problem of multi-collinearity is present if the factor is greater than 10. All

Variance Inflation Factors (VIF) were less than 10 indicating that items had achieved multicollinearity condition of independent variables as indicated in Table 7 below,

Table 7: Variance Inflation Factors

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Internal Organisational control system	.809	1.236
	System integration and interface	.839	1.192
	Information interdependency	.898	1.114
a. Dependent Variable: IFMS perceived effectiveness			

Source: Primary data 2020

Model specification

The multiple regression equation assumed was of the form:

$$\hat{Y} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where: $\hat{Y}$ = Effectiveness of IFMS in public universities (Information quality, Stakeholder satisfaction, User friendliness and Inclusiveness)

β_0 = constant

X_1 = ***Internal Organizational Control System (***Policies and procedures Authentication Procedures)

X_2 = ***System integration and interface*** (Payments**,** Reporting and Budgeting)

X_3= ***Information interdependency within departments.*** (Budgeting and Accounting, Accounting and procurement, Procurement and Budgeting)

$\beta_{1, 2, 3,}$ = effect of unit increase associated with X1, X2 and X3 respectively on Y

ε = Error term or the random disturbance term

The test of significance (coefficient of determination (R^2) was also conducted to measure the extent of level of influence of the independent variables on the dependent variable

3.12. Ethical Consideration

A number of ethical issues were put into consideration including:

1. Confidentiality: Respondents were not required to reveal their names nor their contacts on the questionnaires. Identification numbers were used instead of names to avoid information given being traced to a respondent.

2. All data gathered was used only for the purpose of the study and nothing else.

3. The research procedures were explained to all the respondents before they took part in the research and their informed consent obtained.

4. All the sources of literature were acknowledged throughout the whole study through proper citations and referencing.

3.13 Limitations of the study

1. The study also relied on primary data without use of secondary data which could have reinforced the quality of data collected and also some respondents were quiet careful on giving salient information regarding the effectiveness of IFMS.

2. Delayed response from system implementers especially the administrators limited the study due to the nature of their work which was too demanding in terms of sparing their time to respond on the questionnaire. This limited the timeframe for the study but they were allowed for more time to respond to ensure most of them gave their views.

3. Also some officers were unwilling to provide the information due to job security.

4. The study focused on organisational drivers of the effectiveness of the IFMS in Public Universities in Uganda; a case of Muni University thus it may not generalize for all public Universities in Uganda. This should be replicated in all public Universities in Uganda.

3.14 Chapter Summary

The chapter presented the methodology that the study used. The study employed a case study design. A sample of 288 transactions out of sample size of 1188 transactions that were selected. The various individuals responsible for processing those various transactions in the IFMS were identified and 288 questionnaires distributed to them. However, 155 questionnaires were collected back making an effective response rate of 53.82%. Data was collected using a questionnaire and interviews were later conducted for triangulation purposes. Reliability and validity tests were considered for the variables used, measurement of the research variables was made and model specifications were generated. Finally, ethical considerations and limitations of the study were presented.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS

4.1 Introduction

The chapter presents the background information of the transactions and respondents included in the study, this is followed by the descriptive analysis for the organisational determinants for IFMS effectiveness. Thereafter, the results of the multiple regression are presented after taking in considerations all the diagnostic tests required to run a regression and these quantitative results were presented and interpreted.

4.2 Background Information of transactions and respondents included in the study

Table 8 below gives the background of the respondents according gender, level of education, type of transaction they processed, and the transaction category. Findings regarding this information is shown in Table 8 below;

Table 8: Background Information of the respondents and the transactions.

Construct	Categories	Frequency	Percentage
Gender	Male	62	40
	Female	93	60
	Total	**155**	**100**
Education level	PhD	8	25
	Masters	108	70
	Degree	39	5
	Total	**155**	**100**
Transaction type	Single	114	74
	Batch	41	26
	Total	**155**	**100**
Transaction category	Salary	46	30
	Deduction	14	9
	Procurables	34	22
	Other Payables	61	39
	Total	**155**	**100**

Source: Primary data 2020

As it can be seen in Table 8 above, in terms of gender, majority of the respondents who provided information on the transactions in the IFMS were female constituting 60% of the total respondents included in the study, and their male counterparts constituted only 40%. This demonstrated an even distribution of the respondents included in the study.

In terms of the education level, majority of respondents had attained a Master's degree representing 70 percent, while those that attained their Degree and PhD were constituting percent and 5 percent respectively. This was so because these respondents were from a university and it is assumed that they have a high level of education, this also signified that the Reponses were sought from people who are elites and knew how the IFMS operates.

In relation to the transaction type, majority of the transactions processed by the respondents were single transactions representing 74 percent, this implied that most transactions captured were manually entered into the system while processing or capturing the transaction which could lead to a number of mismatches, inconsistencies and ineffectiveness in the transactions captured in the system as opposed to batch transactions where a click of computer would process so many invoices hence allowing for efficiency in the system.

Lastly, in terms of transaction category, majority of the transactions processed by the respondents were in the category of other payables constituting 39 percent, this was followed by the transactions in the category of salary representing 30 percent. The implication of these high percentages in relation to the other categories of Procurables that represented 22 percent and deliverables that constituted the least percentage of 9 percent is that other payables and salaries transactions did not go through system interface of IPPS set by public service and ministry during the processing time of those transactions which was against controls set by ministry of public service as a measure to detect irregularities in the system that could lead to system ineffectiveness.

4.3 Descriptive statistics of the variables included in the study

This section consists of the descriptive statistics of the variables under study. The variables of the study whose descriptive statistics were computed included the organisational determinants of IFMS effectiveness as the independent variable (Internal organisational

control system, System integration and interface, information interdependency) and IFMS perceived effectiveness as the dependent variable. The constructs under these variables were put on a likert scale of 1-5 where 1 is for strongly disagree and 5 is for strongly agree were respondents were requested to indicate their level of agreement or disagreement with each sentence by ticking the option which best represented their personal feelings and understanding towards the level of Internal organisational control system, System integration and interface, and information interdependency that influences IFMS perceived effectiveness.

4.3.1 Level of Internal organisational control system

The constructs for Internal organisational control system studied were based controls of policies and authentication procedures on the transactions processed in the IFMS and the extent to which those policies and authentication procedures were followed while processing the transactions to attain effectiveness. The descriptive statistics showing the mean and standard deviation of the statements on the level of internal organisational control system is given in Table 9 below

Table 9: Internal organisational control system

Internal organisational control system statement	Mean	Std. Deviation
This transaction was paid on the correct chart of account	4.27	.907
The transaction invoice was posted in the correct payment group	4.29	.912
This transaction was handled under the correct Vote Cost Centre	4.08	1.003
This transaction was handled under the correct program	4.27	1.000
This transaction was handled under the correct Output	3.99	1.182
Grand mean	**4.18**	

Source: Primary data 2020

As indicated in Table 9 above, the findings reveal that generally, respondents perceive all the items of internal organisational control system studied to be above average on the scale of 1 to 5. It can however be seen that there are notable differences on the various constructs evaluated. For instance, in terms of controls on posting transaction invoice in the correct payment group, the score by the respondents was 4.29 with standard deviation of 0.912, in relation to all the other aspects this constituted the highest score implying respondents accorded it a greater importance in examining the internal organisational control system over the transactions. This was followed with controls on payment of transaction on the correct chart of account (mean = 4.27, standard deviation= 0.907) and controls on handling the transaction under the correct program (mean = 4.27, standard deviation= 1.000).

The items of controls on handling the transaction under the correct Vote Cost Centre with a mean = 4.08, standard deviation= 1.003 and handling of the transaction under the correct Output with a mean = 3.99, standard deviation= 1.182 were all below the grand mean of 4.18 suggesting that respondents did not accord much importance to these internal organisational control in processing the transactions.

4.3.2 Level of System Integration and interface

The constructs for System Integration and interface studied were based on how the IFMS integrates and interfaces with payments, reporting and budgeting of the transactions to ensure effectiveness. The descriptive statistics showing the mean and standard deviation of the statements on the level of System Integration and interface is given in Table 10 below

Table 10: System Integration and interface

System Integration and interface statement	Mean	Std. Deviation
The System integration for this transaction was delivered as expected	3.33	1.233
The interface with different sub-systems (AIMS, IPPS, BPS, NSSF, URA etc.) were able to create necessary reports.	3.00	1.124
The system was able to update satisfactorily information required of this transaction on ledger reports in IFMS	3.79	1.242
With this transaction it was easy to coordinate information between IFMS and other sister systems like IPPS, PBS.	3.15	1.244
The interface was able to complete and capture all the necessary required information on the transaction.	3.07	1.234
In processing this transaction, the system integration and interface was handled timely.	2.94	1.270
Grand mean	**3.21**	

Source: Primary data 2020

As detailed in Table 10 above, the findings reveal that generally, respondents perceive all the items of system integration and interface studied to be above average on the scale of 1 to 5. It can however be seen that there are prominent variances on the various constructs evaluated. For example, in terms of the system being able to update satisfactorily information required of the transaction on ledger reports in IFMS the score by the respondents was 3.79 with standard deviation of 1.242, relative to all the other aspects this constituted the highest score. This was followed with the System integration for the transaction being delivered as expected (mean = 3.33, standard deviation= 1.233). All the two items were above the grand mean of

3.21 suggesting that respondents assessed the system integration and interface on the transactions processed as high.

The items of being easy to coordinate information between IFMS and other sister systems like IPPS, PBS (mean = 3.15, standard deviation= 1.244), the interface being able to complete and capture all the necessary required information on the transaction (mean = 3.07, standard deviation= 1.234), the interface with different sub-systems (AIMS, IPPS, BPS, NSSF, URA etc.) being able to create necessary reports (mean = 3.00, standard deviation= 1.241) and the system integration and interface being handled timely in processing the transaction (mean = 2.94, standard deviation= 1.270) constituted the least score in relation to other items with a mean = 4.02, standard deviation= 1.078) suggesting that respondents did not accord much importance to these System Integration and interface items in processing the transactions.

4.3.3 Level of Information interdependency

The constructs for information interdependency studied were based on information inter-dependency with the various departments of budgeting and accounting, accounting and procurement and procurement and budgeting that are involved while processing transactions in the IFMS. The descriptive statistics showing the mean and standard deviation of the statements on the level of Information interdependency is given in Table 11 below

Table 11: Information interdependency

Information interdependency statement	Mean	Std. Deviation
This transaction was in line with approved procurement budget plan and chart of accounts	3.63	1.122
This transaction shared information between accounting and procurement plan	3.39	1.039
This transaction shared information between procurement plan and budgeting	3.43	1.029
Grand mean	**3.483**	

Source: Primary data 2020

As detailed in Table 11 above, the findings reveal that generally, respondents perceive all the items of information interdependency studied to be above average on the scale of 1 to 5. It can however be seen that there are distinguished alterations on the various constructs evaluated. For example, in terms of the transaction being in line with approved procurement budget plan and chart of accounts the score by the respondents was 3.63 with standard deviation of 1.121, in comparative to all the other aspects this constituted the highest score.

The items of the transaction sharing information between procurement plan and budgeting (mean = 3.43, standard deviation= 1.029) and the transaction sharing information between accounting and procurement plan (mean = 3.39, standard deviation= 1.039, both items constituted the least score in relation to other items suggesting that respondents did not accord much importance to these information interdependency items in processing the transactions.

4.3.4 Level of IFMS effectiveness

The constructs for IFMS effectiveness studied were based on information quality in the system, stakeholder satisfaction with the system, user friendliness of the system and inclusiveness while processing the transactions. The descriptive statistics showing the mean and standard deviation of the statements on the level of information interdependency is given in Table 12 below.

Table 12: IFMS effectiveness

IFMS effectiveness statement	Mean	Std. Deviation
This transaction was handled in line with government policies and guidelines (PFM Act 2015 (Amended)	4.02	1.078
This transaction was paid from one charge Account.	4.46	.715
This transaction was paid from the correct chart of account.	4.37	.920
This transaction was not rejected	4.45	.637
This transaction can easily be reconciled for generating final Account/Trial Balance	4.38	.749
This transaction was from a clear output speculated in the Budget Chart of Account	4.45	.885
Grand mean		

S***ource: Primary data 2020***

As indicated in Table 12 above, the findings reveal that generally, respondents perceive all the items of IFMS effectiveness studied to be above average on the scale of 1 to 5. It can however be seen that there are notable differences on the various constructs evaluated. For instance, in terms of perceived effectiveness of transaction being paid from one charge

account the score by the respondents was 4.46 with standard deviation of 0.715, in relation to all the other aspects this constituted the highest score.

This was followed with perceived effectiveness in non rejection of the transaction (mean = 4.45, standard deviation= 0.637), effectiveness in processing the transaction from a clear output speculated in the budget chart of account (mean = 4.45, standard deviation= 0.885), ease of reconciling transactions for generating final Account/Trial Balance (mean = 4.38, standard deviation= 0.749) and payment of the transaction was from the correct chart of account (mean = 4.37, standard deviation= 0.920). All the four items were above the grand mean of 4.36 suggesting that respondents assessed the Internal organisational control system on the transactions processed as high.

The item of handling transactions in line with government policies and guidelines (PFM Act 2015 (Amended) constituted the least score in relation to other items with a mean = 4.02, standard deviation= 1.078) suggesting that respondents did not accord much importance to these internal organisational control in processing the transactions.

4.5 Multiple regression analysis

In order address the three study objectives, a multiple regression was conducted. The multiple regression analysis is conditioned to normal distribution of error terms and it also requires the linearity between the dependent variable and the independent variables. These tests were first conducted before running the regression as already indicated in Table 6 and Table 7 above to ensure that all the assumptions for regression analysis to be conducted were satisfied and the results of the regression are revealed in the preceding Tables below,

Table 13: Model summary of the multiple regression analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.691[a]	.477	.466	.470	.477	45.886	3	151	.000

a. Predictors: (Constant), Information Interdependency, Systems Integration and interface, and Internal Organisational Control System

b. Dependent variable: IFMS effectiveness

Source: Primary data 2020

The results of the model summary in Table 13 above indicate that the regression model was statistically significant with F value of 3,151=45.886 and P value of 0.000 which implies that the model was fit for the data. The three variables explain 46.6 percent variance in IFMS effectiveness (adjusted R-square =0.466)

Table 14: ANOVA model summary

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30.467	3	10.156	45.886	.000[b]
	Residual	33.420	151	.221		
	Total	63.888	154			

a. Dependent Variable: IFMS Effectiveness

b. Predictors: (Constant), Information Interdependency, Systems Integration and interface, Internal Organisational Control System

Source: Primary data 2020

In testing the significance of the model, the value obtained was 0.000 at 5% level in a two tailed test this indicates that the model was statistically significant in predicting the influence of the predictor variables on IFMS effectiveness. Findings also indicate the calculated Fvalue as 45.886 which is greater than the F critical at 5% level of significance.

Table 15: Results of the multiple regression coefficients

Coefficients[a]					
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.909	.223		8.567	.000
	Internal Organisational Control System	.493	.053	.606	9.265	.000
	Systems Integration and interface	-.060	.043	-.090	-1.394	.165
	Information Interdependency	.165	.041	.252	4.059	.000
a. Dependent Variable: IFMS Effectiveness						

Source: Primary data 2020

As indicated in Table 15, the findings of the study revealed that internal organisational control system, and information interdependency where significant predictors of IFMS effectiveness ($p<.05$). While systems integration and interface was not a significant predictor of IFMS effectiveness ($p>.05$).

Internal organisational control system emerged to be the strongest predictor of IFMS effectiveness (Beta =0.606, p value =0.000). This means that any efforts made by the university management to improve internal organisational control systems over the transactions entered in IFMS would increase effectiveness of the IFMS system in achieving

its intended objectives of increasing efficiency in budget allocation, eliminating wasteful spending, intensifying accountability and also strengthening public sector institutional reporting by 0.606.

Information Interdependency also emerged to be a significant predictor of IFMS effectiveness (Beta =0.252, p value =0.000). This means that any efforts made by the university management to improve the level of information interdependency among the departments that interface with the system in processing the same transactions would increase effectiveness of the IFMS system in achieving its intended objectives by 0.252.

Systems Integration and interface was a non-significant predictor of IFMS effectiveness (Beta =-0.090, p value =0.165). This means that any efforts made by the university management to enhance systems integration and interface with other sister systems such as IPPS and IBS in processing the transactions in IFMS would reduce effectiveness of the IFMS system in achieving its intended objectives by 0.090.

4.6 Chapter Summary

Background information about the transactions and respondents included in the study was presented. Descriptive statistics of the variables included on the study of Information Interdependency, Systems Integration and interface, Internal Organisational Control System and IFMS effectiveness were also presented and interpreted. A Multiple regression analysis was performed in order to address the research objectives and questions and based on the results, Internal Organisational Control System, and Information Interdependency where significant strong predictors of IFMS effectiveness While Systems Integration and interface was not a significant predictor of IFMS effectiveness.

CHAPTER FIVE

SUMMARY, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of key findings, discussion of findings of the study in relation to the objectives with a view of reaching a comprehensive conclusion. The summary of key findings, regarding the influence of internal organizational control system on effectiveness of IFMS in Muni University, the influence of systems integration and interface on effectiveness of IFMS in Muni University and the influence of information interdependency on effectiveness of IFMS in Muni University are presented in the first two sections. This is followed by the conclusions and recommendations presented in the last two sections.

5.2 Summary of key findings

The main purpose of the study was to examine the differential influence of organization control system, the influence of system integration and interface and information interdependency on the effectiveness of IFMS to achieve the perceived desired goal of promoting IFMS efficiency in Public Universities in Uganda. The data for the study was collected based on 155 transactions that were processed in the system in the last quarter of financial year 2019/2020 from respondents that are in office of the University bursar, vote controllers, human resource, planning unit and accounting officer.

Study findings revealed that majority of the respondents agreed that organization control system, the system integration and interface and information interdependency were key drivers of IFMS effectiveness, the descriptive statistics of the means for these predictor variables were all above the average of 3 on a scale of 1 to 5 implying that respondents agreed that these items were highly important in explaining these variables.

In order to address the study objectives, the research questions answered using a multiple regression analysis. Internal Organisational Control System, and Information Interdependency where found to be significant predictors of IFMS effectiveness ($p<.05$). While Systems Integration and interface was not a significant predictor of IFMS effectiveness ($p>.05$).

5.3 Discussion of findings

5.3.1 The discussion of the findings with regard to the influence of internal organizational control system on effectiveness of IFMS

The first specific objective of the study was to examine the influence of internal organizational control system on effectiveness of IFMS in Muni University. A multiple regression analysis was applied to determine this influence and it was found that there was positive significant influence of internal Organisational control system on IFMS effectiveness. This was in line with Ndifon (2014) who asserted that separation of duties among the employees results into reliable management of activities by the managers. In addition, Mwakimasinde, Odhiambo and Byaruhanga (2014) studied how financial performance of farmers of sugarcane firms in Kenya was affected by internal control arrangements where the results of the study presented a statistically significant relationship between financial performance and internal control systems.

Similarly, Kinyua (2015) analyzed how financial performance of Nairobi Securities Exchange companies were influenced by internal control environment and resolved that there is availability of positive association between financial performance and internal control environment.

These findings were seconded by the findings of Mawanda (2008) that stated that effective application of proper control systems may advance the financial performance of an organization. Finally, Abu- Musa (2010) found out that many banks in Saudi had incorporated information technology and communication and they also had right and effective safety controls.

5.3.2 The discussion of the findings with regard to the influence of systems integration and interface on perceived effectiveness of IFMS

The second specific objective of the study was to assess the influence of systems integration and interface on effectiveness of IFMS in Muni University. A multiple regression analysis was applied to determine this influence and it was found that there was non-significant influence of internal Organisational control system on IFMS effectiveness. The findings of the study were however, not in agreement with related literature where different authors assert that system integration and interface enable the organization to deal with financial frauds like Burbidge, Falster, Riis and Svendsen (1987) and Voss (1989) who pointed out that combination relate internal business units such as sales and promotion, manufacturing, start from the desire to portion similar objectives and information and the desire to inform.

Furthermore, Hendricks (2012) submits that a well-designed IFMS can offer a variety of characteristics which enable organizations to detect any aspects of corruption and embezzlement. According to Diamond and Khrmani (2005), an IFMS helps in following financial activities and give a belief summary of accounting information.

5.3.3 The discussion of the findings with regard to the influence of information interdependency on effectiveness of IFMS

The third specific objective of the study was to assess the influence of information interdependency on effectiveness of IFMS in Muni University. A multiple regression analysis was applied to determine this influence and it was found that there was positive significant influence of internal Organisational control system on IFMS effectiveness. The study findings of the study are in line with Daft and Lengel (1986) concludes that information interdependency leads to organisational coordination and control. While Rogers and Whetten (1982) recommends that information interdependency enables an organization to deal with inadequacies, reduce disintegration in services and increases control.

5.4 Conclusions

This study sought to examine differential influence of organization control system, the influence of system integration and interface and information interdependency on the effectiveness of IFMS to achieve the perceived desired goal of promoting IFMS efficiency in Public Universities in Uganda. The study adopted a case study design to address those issues, primary data was utilized in obtaining evidence of the study from Muni University.

The study utilized a multiple regression analysis conducted in SPSS 23.0. Were the results revealed that Internal Organisational Control System, and Information Interdependency where significant predictors of IFMS effectiveness ($p<.05$). While Systems Integration and interface was not a significant predictor of IFMS effectiveness ($p>.05$).

Based on findings of the study, there are prospects that effectiveness of the IFMS system could enhanced in order to achieve its intended objectives of increasing efficiency in budget allocation, eliminating wasteful spending, intensifying accountability and also strengthening public sector institutional reporting?

5.5 Recommendations

Internal Organisational Control System was found to significantly influence IFMS effectiveness, thus efforts should be made by the university management to improve internal organisational control systems over the transactions entered in IFMS, this could be done through strengthening the control procedures such as authorisation and approval, arithmetic and accounting controls, segregation of duties and reconciliations, this would increase effectiveness of the IFMS system in achieving its intended objectives of increasing efficiency in budget allocation, eliminating wasteful spending, intensifying accountability and also strengthening public sector institutional reporting.

Information Interdependency was also found to be a significant predictor of IFMS effectiveness. Hence any efforts ought to be made by the university management to improve the level of information interdependency among the departments that interface with the system in processing the same transactions, this would increase effectiveness of the IFMS system in achieving its intended objectives.

5.6 Areas for further research

This study was restricted to Muni University thus, the extent to which these findings can be generalized to all the public universities in Uganda is not clear. Therefore, there is a need to conduct further research using more public universities, in other areas of Uganda.

Further research should be undertaken to involve comparative studies with other countries. Then, a thorough research could be undertaken by integrating institutional variables, in and it could be also interesting to use other measurements for the studied factors

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APPENDIX II: QUESTIONNAIRE

Dear respondent;

I am **Abiriga Isaac** pursuing a Degree of Master of Business Administration at Kyambogo University. I am undertaking a study on **Integrated Financial Management Information System and Perceived Effectiveness in Public Universities in Uganda**, **case study of Muni University**. You have been selected as a resourceful person to provide data on this study. The information you provide will be treated in the strictest confidence and the findings from your response will be used for academic purposes only.

Thank you for accepting to provide the data needed to understand this topical issue. For any queries or further clarification, feel free to contact:

Mr. Isaac Abiriga

Tel +256(0)782163372, Email: iabiriga@gmail.com

SECTION 1: Demographic data of the respondent.

(a) Gender 1 Male ☐ 2 Female ☐

(d) Educational level 1: Diploma. ☐ 2: Degree ☐ 3: Masters ☐ 4 PHD ☐

If others, please specify.....

SECTION 2: Characteristics of the transaction

(e) Type of the transaction (Batch or single):

.....

(f) Transaction Category (Procurable, Salary, deductions and other payables)

.....

SECTION 3: IFMS Effectiveness in Public Universities

Note: In the subsequent sections, please show your level of agreement or disagreement in regards to the following statements.

Strongly disagree (SD)	**Disagree (D)**	**Not sure (NS)**	**Agree (A)**	**Strongly agree (SA)**
1	2	3	4	5

Please indicate to what extent you disagree or agree with each sentence by ticking in the cell, in reference to the transaction you have identified in section 2 that you processed in the last quarter of FY 2019/20 in IFMS master data of Muni University.

S/N	**MEASUREMENT ITEM**	**1**	**2**	**3**	**4**	**5**
E1	This transaction was timely processed					
E2	This transaction was handled in line with government policies and guidelines (PFM Act 2015 (Amended))					
E3	For this transaction I can easily extract and present data from IFMS in ways that facilitate reporting or analysis					
E4	This transaction information is easy to understand.					
E5	On this transaction information is provided on the direct beneficiary.					
E6	This transaction provides information on the activities for monitoring of decisions and actions in the institution					
E7	This transaction was paid from one charge Account.					
E8	This transaction was paid from the correct chart of account.					
E9	This transaction was not rejected					
E10	This transaction can easily be reconciled for generating final Account/Trial Balance					
E11	This transaction was from a clear output speculated in the Budget Chart of Account					

SECTION 3: Internal organizational control system.

Note: In the subsequent sections, please show your level of agreement or disagreement in regards to the following statements.

Strongly disagree (SD)	**Disagree (D)**	**Not sure (NS)**	**Agree (A)**	**Strongly agree (SA)**
1	2	3	4	5

Please indicate to what extent you disagree or agree with each sentence by ticking in the cell, in reference to the transaction you have identified in section 2 that you processed in the last quarter of FY 2019/20 in IFMS master data of Muni University.

S/N	**MEASUREMENT ITEM**	**1**	**2**	**3**	**4**	**5**
IOCP1	This transaction was initiated by the approved vote controller but not delegated officer					
IOCP2	This transaction was sanctioned by the authorized Head of PDU, but not delegated officer					
IOCP3	This transaction was invoiced by authorized officer responsible for payables.					
IOCP4	This transaction was sanctioned by the Authorized Head of Finance, but not delegated officer					
IOCP5	This transaction was approved by the Accounting Officer, but not delegated officer					
IOCP6	This transaction has clear generated reference (LOP number/ Invoice number)					
IOCP7	This transaction was completed within the specified time					
IOCP8	This transaction was approved for payment by Finance in time					
IOCP9	This transaction was paid on the correct chart of account					
IOCP10	The transaction invoice was posted in the correct payment group					
IOCP11	This transaction was in line with approved output in the plan					

IOCP12	This transaction was timely approved at all levels (Invoicing-Finance- Accounting Office – MoFPED and BoU)					
IOCP13	This transaction was handled under the correct Vote Cost Centre					
IOCP14	This transaction was handled under the correct program					
IOCP15	This transaction was handled under the correct Output					
IOCP16	IFMS system enables me to generate custom reports on transactions for internal use					

SECTION 4: Systems integration and interface

Note: In the subsequent sections, please show your level of agreement or disagreement in regards to the following statements.

Strongly disagree (SD)	**Disagree (D)**	**Not sure (NS)**	**Agree (A)**	**Strongly agree (SA)**
1	2	3	4	5

Please indicate to what extent you disagree or agree with each sentence by ticking in the cell, in reference to the transaction you have identified in section 2 that you processed in the last quarter of FY 2019/20 in IFMS master data of Muni University

S/N	**MEASUREMENT ITEM**	**1**	**2**	**3**	**4**	**5**
SII1	The System integration for this transaction was delivered as expected					
SII2	The interface with different sub-systems (AIMS, IPPS, BPS, NSSF, URA etc.) were able to create necessary reports.					
SII3	The system was able to update satisfactorily information required of this transaction on ledger reports in IFMS					
SII4	With this transaction it was easy to coordinate information between IFMS and other sister systems like IPPS, PBS.					
SII5	The interface was able to complete and capture all the necessary required information on the transaction.					
SII6	In processing this transaction, the system integration and interface was handled timely.					

SECTION 5: Information interdependency within departments.

In this section below, please show your level of agreement or disagreement in regards to the following statements.

Strongly disagree (SD)	**Disagree (D)**	**Not sure (NS)**	**Agree (A)**	**Strongly agree (SA)**
1	2	3	4	5

Please indicate to what extent you disagree or agree with each sentence by ticking in the cell, in reference to the transaction you have identified in section 2 that you processed in the last quarter of FY 2019/20 in IFMS master data of Muni University.

S/N	**MEASUREMENT ITEM**	**1**	**2**	**3**	**4**	**5**
IIP1	This transaction was in line with approved activity-based budget from the planning unit aligned with chart of accounts					
IIP2	This transaction was in line with approved procurement budget plan and chart of accounts					
IIP3	Execution of this transactions required information sharing between accounting and budgeting department					
IIP4	This transaction shared information between accounting and procurement plan.					
IIP5	This transaction shared information between procurement plan and budgeting					
IIP6	For this transaction invoices were paid from the budget line where funds warranted.					

Thank you for your contribution.

APPENDIX III: 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	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	10000	384

Note: "N" is population size and "S" is sample size

Krejcie, Robert V., Morgan, Daryle W., "Determining Sample Size for Research Activities", Educational and Psychological Measurement, 1970.