THE EFFECTIVENESS OF INTERNAL CONTROLS ON THE MANAGEMENT OF INTERNALLY GENERATED FUNDS AT THE UNIVERSITY TEACHING HOSPITAL

BY

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A Dissertation submitted to the University of Zambia in partial fulfilment of the requirements for the award of the Degree of Master of Science in Accounting and Finance

THE UNIVERSITY OF ZAMBIA

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DECLARATION

I, **Elizabeth Mbewe**, do hereby declare that this work is my original work achieved through personal reading and research. This work has never been submitted to the University of Zambia or any other universities. All sources of data used and literature on related works previously done by others, used in the production of this Dissertation had been duly acknowledged. If any omission had been made it is not by choice but by error.

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APPROVAL

The Dissertation by **Elizabeth Mbewe** is approved as a fulfilment of the requirements for the award of the degree of Master of Science in Accounting and Finance.

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ABSTRACT

While there exist internal controls in the public health institutions in Zambia, several inconsistencies; violation of established financial management guidelines and procedures, contracts and services are not being rendered in accordance to set-out procedures, cost overruns due to delays in project completion, inappropriate payments for equipment supplied, equipment and goods procured at a much higher cost than market value, have been observed and cited by stakeholders and the Auditor General's report. It is not clear therefore, why these irregularities would exist in public health institutions when the internal controls system exists. To assess the Effectiveness of internal Controls on internally generated funds in Public Health Institutions using the University Teaching Hospital as a case study. This study employed a cross sectional descriptive study design. It was conducted at the University Teaching Hospital. The sample for the study was 40 composing of the finance/revenue and procurement officers. Purposive sampling procedure was used selected the respondents and primary data was collected using a semi-structured questionnaire. Data was analyzed using SPSS version 26.0 at three levels: Univariate, Bivariate and multivariate. Findings show that the internal controls implemented at UTH are; control environment, risk assessment, control activities, information and communication, and monitoring activities. The factors which were found to influence the implementation of internal controls are; age of the employees, having employees with Certificate, Degree, Masters levels of education, having employees with an accounting profession and having employees with 1+ years of experience. Age of the employees, having employees in tertiary education; Degree, Masters levels of education, having employees with an accounting profession and having employees with 1+ years of experience influenced the effectiveness of internal controls positively while having employees with certificate influenced the effectiveness of internal controls negatively. Furthermore, findings indicate that internal controls at the University Teaching Hospital are quite effective. There is greater need of improving them especially in the areas of information technology, information and communication, and Monitoring activities, they need more improvement in audits and accountability as this would make the system very effective.

Keywords: Management, Effectiveness, Internal Controls, and Internally Generated Fund.

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DEDICATION

I dedicate this Dissertation work to the Lord God Almighty my Creator, my firm foundation, my source of inspiration, wisdom, knowledge and understanding. He has been the source of my strength throughout this program and on His wings only have I soared. I also dedicate this work to my husband; Chinyama Kucheka who has encouraged me all the way and whose encouragement has made sure that I give it all it takes to finish that which I have started. Much love to my children Psalm, Wana, Unika and Chinyama (Jr) who have been affected in every way possible by this quest always loved me unconditionally.

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LIST OF ACRONYMS

PFM	Public Fund Management
IA	Internal Auditing
UTH	University Teaching Hospital
UNZ	The University of Zambia
USAID	United States Agency for International Development
AGIS	Accountable Governance for Improved Service Delivery
MOH	Ministry of Health
NDP	National Development Plan
EFA	Exploratory Factor Analysis
COSO	Committee of Sponsoring Organizations
MRA	Multiple Regression Analysis
SPSS	Statistical Package for Social Sciences
DRGS	Directorate of Research and Graduate Studies

CHAPTER 1

INTRODUCTION

1.1 Background

Internal controls are defined as "the process designed and effected by those charged with governance, management and other personnel, to provide reasonable assurance about the achievement of the entity's objectives with regard to reliability of financial reporting, effectiveness and efficiency of operations and compliance with applicable laws and regulations" (Association of Chartered and Certified Accountants, 2020). Internally generated funds refer to monetary-yielding activities embarked on by governmental institutions to supplement government funds. Internal control therefore, can be described as any action taken by an organization/public institution to help enhance the probability that the set out objectives would be achieved (Zhang et al., 2014). Internal control system is very important in that it helps to; establish company practices, prevent misstatement of financial statements, prevent and detect fraud, address financial statement assertions as well as understanding and mitigating financial risks (Kasolo, 2017).

Many governments across the globe are aware that high quality financial management can lead to the success of their programs and activities (Porter and Kramer, 2019). Therefore, to further enhance the credibility of public funds management (PFM), governments have established the Internal Audit (IA) Units in their various departments and agencies (Baharud-din et al., 2014). However, in some countries the internal control system has worked well while in others, it has proved difficult to adhere to especially in highly corrupt countries. Outside Africa, most countries including United States (US), China, United Kingdom (UK), Korea, Australia and Sweden have demonstrated an effective implementation of the Internal Control Systems (ICS) (Cho and Cheon, 2005). In many African countries, weaknesses and irregularities have been observed in the establishment and implementation of the internal controls system (Njeri, 2014).

In Zambia particularly, some of the inconstancies have been observed and reported by the Auditor General's report for quiet many times (Auditor General's Report, 2021). This therefore, leaves many unanswered questions about the effectiveness of internal controls of the involved ministries and other departments especially on the internally generated funds. Consequently, a number of projects and programs are being put in place for the purpose of improving internal control systems and one of these is the USAID Accountable Governance

for Improved Service Delivery (AGIS) (McGregor et al., 2020). This project seeks to strengthen the accountability and transparency functions within Zambian as regards to financial resources in the Ministry of Health (MOH) among others, to improve health outcomes. The project was premised on the assumption that if targeted government institutions adopt more transparent and accountability practices, service delivery would be more efficient and effective and this would lead to improved development outcomes in the country. Project activities are being implemented in line with Zambia's 7th National Development Plan (NDP) 2016 – 2021, and the Zambia National Health Strategic Plan 2017 – 2020 (McGregor et al., 2020).

The ministry of health and its line institutions are key to the development of the Zambian economy (Asangansi, 2012). As such, it stands imperative that available financial resources within the ministry and its line health institutions are put to good use for efficient provision of health services to the public. Sources of financial resources for public health institutions in Zambia include internal generations (Chansa et al., 2019; Cheelo et al., 2010). If well managed, internally generated funds can help health institutions to provide quality health services to the public to a larger extent (KARANJA, 2011). While this has worked well in other countries, developed and some of the developing countries; it still proved difficult for Zambia to effectively manage public financial resources in the public health institutions (Burnell, 2001).

In view of the increased demand for funding, public health institutions need to become more accountable for their use of resources through prudent financial management (Cheelo et al., 2010). In order to promote a highly effective internal control system, the government has, through the office of the Auditor General, increased its Audit mandate for public institutions to become more compliant to internal controls in the organizational structures, management systems, accounting and budgetary control practices and accountability concepts to accomplish the internally generated funds (IGF) (Cheelo and Banda, 2012). However, the effectiveness of the internal controls on internally generated funds in the public health Institutions in Zambia remained unclear. Therefore, taking the University Teaching Hospital (UTH) as a case study, this study aimed at assessing the effectiveness of internal controls on internally generated funds in the public health institutions in Zambia.

1.1.1 The Case Under Study

The University Teaching Hospital (UTH) is the largest public hospital in Zambia. The hospital began as a random collection of rondavels situated near where the railway line crosses the Great east Road (as Lusaka Hospital). Lusaka Hospital was meant only for sick Africans who were cared for by male orderlies (www.uth.com.histor.functions; Accessed 25 November, 2021). In 1934, the new hospital was started at the present day UTH to accommodate large number of cases referred and needed accommodation. Today the hospital has grown with 23 departments, including the Accounts and Procurements Departments where the study was conducted from. The vision of the UTH is to be the Centre of Excellence for health care in the country and the region by providing innovative treatment interventions through on-going research. Its mission is to provide affordable quality health care; function as a referral centre; train health care providers; conduct research to find solution to existing health problems and for the development of science (Ministry of Health, 2018). In order to achieve the above stated, vision, mission and functions, the University Teaching Hospital has put in place internal controls in order to provide reasonable assurance about the achievement of the hospital's objectives with regard to reliability in financial reporting, effectiveness and efficiency of operations and compliance with applicable laws and regulations.

1.2 Statement of the problem

Even though internal controls exist in the public health institutions in Zambia, several inconsistencies; violation of established financial management guidelines and procedures, contracts and services not being rendered in accordance with the set-out procedures, cost overruns due to delays in projects' completion, inappropriate payments for equipment and other materials procured at a much higher prices than market values among others, have for long been observed and cited by the Auditors (Auditor General's Report, 2021). Given the current country's financial situation, effective financial control systems in public health institution cannot be overemphasized. Existing information does not provide a clear documentation of the reasons why these irregularities exist in public health institutions while internal control systems exist. This study therefore, was conducted to assess the Effectiveness of internal Controls on internally generated funds in Public Health Institutions using the University Teaching Hospital as a case study. Therefore, conducting this study was critical to the establishment of effective measures that would enhance the internal control systems in the

public health institution to relieve the government of huge budgetary allocation to the health sector.

1.3 Study Objectives

1.3.1 Primary Objective

The primary objective of this study was to investigate the effectiveness of internal controls on internally generated funds in public institutions using the University Teaching Hospital as a case study.

1.3.2 Specific Objectives

In order to achieve the primary objective of the study, the following secondary objectives were identified:

1. To identify the internal controls implemented on internally generated funds at UTH.
2. To examine the factors influencing the implementation of internal controls on internally generated funds at UTH.
3. To evaluate the effectiveness of internal controls implemented on internally generated funds at UTH.

1.3.3 Research Questions

1. What internal controls are implemented on the internally generated funds at UTH?
2. What factors influence the implementation of internal controls on internally generated funds at UTH?
3. How effective are the implemented internal controls on internally generated funds at UTH?

1.4 Justification of the Study

This research is required for public health institutions in the country because the health sector is the backbone of the health of the entire population in the country and assures a strong work force for sustainable economic development and therefore, they require a prudent financial control system (Regenstein and Huang, 2005). The study results may enable the government to be aware of the internal internal controls associated with key public institution like the health and education among others, so that it can find appropriate steps in addressing them. The financial personnel in the health sector would become aware of the related problems and with the recommendations would better solve them. Furthermore, the findings of this may

help managers in public health institutions to have an insight into internal controls in place and to appropriate it to achieve intended results and it is also hoped that findings of the study may contribute to the existing body of knowledge on internal controls in public health institutions.

1.5 Scope of the study

The focus of the study was on investigating the effectiveness of internal controls on revenue collected internally. This study employed a cross-sectional descriptive study design. The study was conducted in the University Teaching Hospital - limited to the Finance/Revenue and Procurement Departments. The sample population was 40 employees from the two departments. A semi-structured questionnaire with closed and open-ended questions was used to collect data. Validity was ensured by triangulate data collection. Descriptive, cross-tabulations and regression was employed in the analyses of the data using SPSS version 26.0.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter outlines the findings and views of other scholars about the effectiveness of internal controls system in the public health institutions alike. It brings out the empirical review and the analytical frameworks to provide a guide through which the study was carried out. The focus of the chapter is mainly on reviewing information on the factors which influence the implementation of internal controls on the internally generated funds in public health institutions alike, the internal controls implemented in public health institutions on internally generated funds and the effectiveness of the internal controls implemented in public health institution on internally generated funds. Furthermore, the chapter provides the theoretical and the conceptual frameworks which underpinned the study.

2.2 General Literature Review

Whittington & Pany (2001) postulate about the comprehensiveness of internal controls in addressing the achievement of Organizations' objectives in the areas of financial reporting, operations and compliance with laws and regulations (Asiligwa and Rennox, 2017). Additionally, they further note that internal control also includes the program for preparing, verifying, and distributing to the various levels of management those current reports and analyses that enable executives to maintain control over the variety of activities and functions that are performed in a large organization. They argue that internal control include; use of budgetary techniques, production standards, inspection laboratories, employee training and time & motion studies among others (Asiligwa and Rennox, 2017).

2.2.1 Forms of Internal Controls

Basically there are three main forms of internal controls, these are: Detective internal controls, preventive internal controls and corrective internal controls (D'Aquila, 2013).

Detective internal controls: - Designed to draw attention to any problems within a company's accounting process. It is used for things such as fraud prevention, quality control, and legal compliance among other scenarios. It protects company's assets by finding errors when they occur so that business owners can minimize their impact of the identified errors on the company (D'Aquila, 2013).

Preventive internal controls: - Designed to prevent errors and irregularities from taking place. Preventive internal controls are usually performed on a regular basis. Types of preventive controls are:

Separation of duties: - This splits tasks for bookkeeping, deposits, reporting, and auditing, so there's less chance of employee fraud.

Controlling access: - This prevents team members from logging into certain parts of the accounting system unless they have a password or authorized.

Double entry accounting: - This is a system that adds extra reliability so that books are always balanced. Preventive internal controls are put in place to help with clerical accuracy, backing up data, and preventing employee fraud (D'Aquila, 2013).

Corrective internal controls: - Corrective controls are put in place to correct any errors that would be found by the detective, internal controls. This type of internal control usually begins by detecting undesirable outcomes and keeping the spotlight on the problem until management can solve it. In an event that errors occur, employees follow procedures that have been put into place to correct the mistakes (D'Aquila, 2013).

In addition to the basic forms of internal controls, there are other forms of internal control:

Standardized documentation: - When accounting documents such as inventory receipts, invoices, internal materials requests, and travel expense reports are standardized; this can help to maintain consistency in the company's records. Standardized document formats also make it easier to review past records when a discrepancy has been found in the system. Trial balances; this internal control entails using a double-entry accounting system. Doing so increases reliability and keeps the book balanced. Errors may still throw a double-entry system off balance. If employees calculate daily or weekly trial balances, this would help in maintaining analysis of the state of the system so that discrepancies can be discovered early(D'Aquila, 2013). .

Periodic Reconciliations: - This mean that account balances in the company system can be matched up with balances in independent accounts such as credit customers, suppliers, and banks.

Approval Authority: - This internal control requires members of the management team to authorize specific transactions. It adds a further layer of responsibility to accounting

procedures because it proves that any transactions have been analyzed and approved by the appropriate managers (D'Aquila, 2013).

However, it is very important to know that internal controls, as effective as they may be, are not a guarantee that a company's objectives would be met. Human errors and computer errors are not accounted for by internal controls. Additionally, internal controls assume that employees are honest and that they would not by-pass laid down guidelines or alter data for their benefit.

Njeri, (2014) investigated the effect of internal controls on the financial performance of manufacturing firms in Kenya. The findings revealed that most manufacturing firms implemented control environment as one of the functionalities of internal controls of the organizations and that greatly impacted on the financial performance of the firms. The results also revealed that the staff of the firms was trained to implement the accounting and financial management systems, the security system identified and safeguarded organizational assets. The statistical result from the regression analysis shows that there is a positive relationship between internal control and financial performance of manufacturing firms in Kenya. The study recommended that both internal and external auditor should be constantly updated and well-grounded on international financial reporting standards and principles in order to enhance their knowledge and skills in application of accounting practices and to keep them updated on the contemporary issues.

2.2.2 Factors that influence the effectiveness of financial control system

Several factors are purported to influence internal controls (Njeri, 2014). Kimani, (2015); Dittu,(2015) and Shamsuddin et al., (2014) argue that among the factors which influence the effectiveness of internal controls include: segregation of duties, physical control, arithmetic and accounting, management, supervision, organization, authorization and approval and personnel. They, Kimani, (2015); Dittu, (2015) and Shamsuddin et al., (2014), further argue that like any other organization, public health institutions have their internal control systems evaluated in order to provide the management with some assurance regarding their effectiveness. This process involves control evaluation of everything that management does to control the organizations' performance. Therefore, in an attempt to achieve organizations' objectives, internal controls must be judged effectively if its components are present and function effectively for operations.

According to Shamsuddin et al., (2014) there are significant positive relationships between such factors as; auditor competency, auditors' independence and objectivity and management support, and the effectiveness of internal audit. Thus, the effectiveness of internal audit depends strongly on the attributes of the factors which influences all the activities aligned to it. According to the report of the COSO, and BASEL organizations control environment; risk assessment; information and communication; control activities and monitoring affect the effectiveness of internal control systems in financial departments of various organisations. Similarly, Mary et al., (2014) argues that internal control system was characterized by control environment, risk assessment process, information system and control activities while financial performance was characterized by cost per unit, goal attainment and profitability or surplus. In their study, Ejoh and Ejom, (2014) they demonstrated that institution's financial statements in public institutions are usually not frequently audited by external auditors. They, Ejoh and Ejom, (2014) further argued that there was no significant relationship between internal control activities and financial performance in a given institution. Their investigation recommends proper checks and balances in all financial transactions in all institutions and they suggest that effective and efficient security network to reduce frequent theft, threat to life and property. The study recommends that management of the institution should organize regular training for staff on internal control mechanisms.

2.2.3 Effectiveness of Internal Controls

Bakibinga (2001) states that corporate law requires a divorce between ownership and management of an entity. In this regard, owners of the firms/organizations entrust their financial resources in the hands of managers. In turn, managers are required to use the resources entrusted to them in a way that would foster the achievement of the entity's objectives (Ejoh and Ejom, 2014a). Managers therefore, report to the owners on the results of their stewardship for the resources entrusted to them through a medium called financial statements. In addition, a study which was done by Dittu, (2015) did a study to assess internal control system on financial performance in tertiary training institutions in Kenya indicated that most respondents were of the view that indeed there was a strong relationship between internal control and financial management. Furthermore, a study which was done to identify the extent to which good accounting system in the public sector can ensure financial control and accountability in the public sector reported that unless financial regulations are strictly

followed and defaulters punished accordingly, financial control and accountably may still elude the public sector. In this study a number of factors had been deduced as being responsible for poor financial control and accountability; poor implementation of financial regulations, lack of effective internal control system, inadequate reward system and sharp practices by public servants (Alegbeleye and Chilaka, 2019).

2.3 Literature Summary

The reviewed literature showed mixed results on the relationship between the internal control systems and financial performance of organizations (Njeri, 2014; Kimani, 2015; Shamsuddin et al., 2014; Ejoh and Ejom, 2014). Furthermore, from the reviewed literature no study has been found to have been done to investigate the effectiveness of internal controls on the management of internally generated funds in the public health institutions. Since it remains unclear as to how effective internal controls are on the internally generated fund in the public heath institutions, this study intends to; examine the factors influencing the implementation of internal controls on internally generated funds at UTH, identify the internal controls implemented on internally generated funds at UTH, and evaluate the effectiveness of internal controls implemented on internally generated funds at UTH.

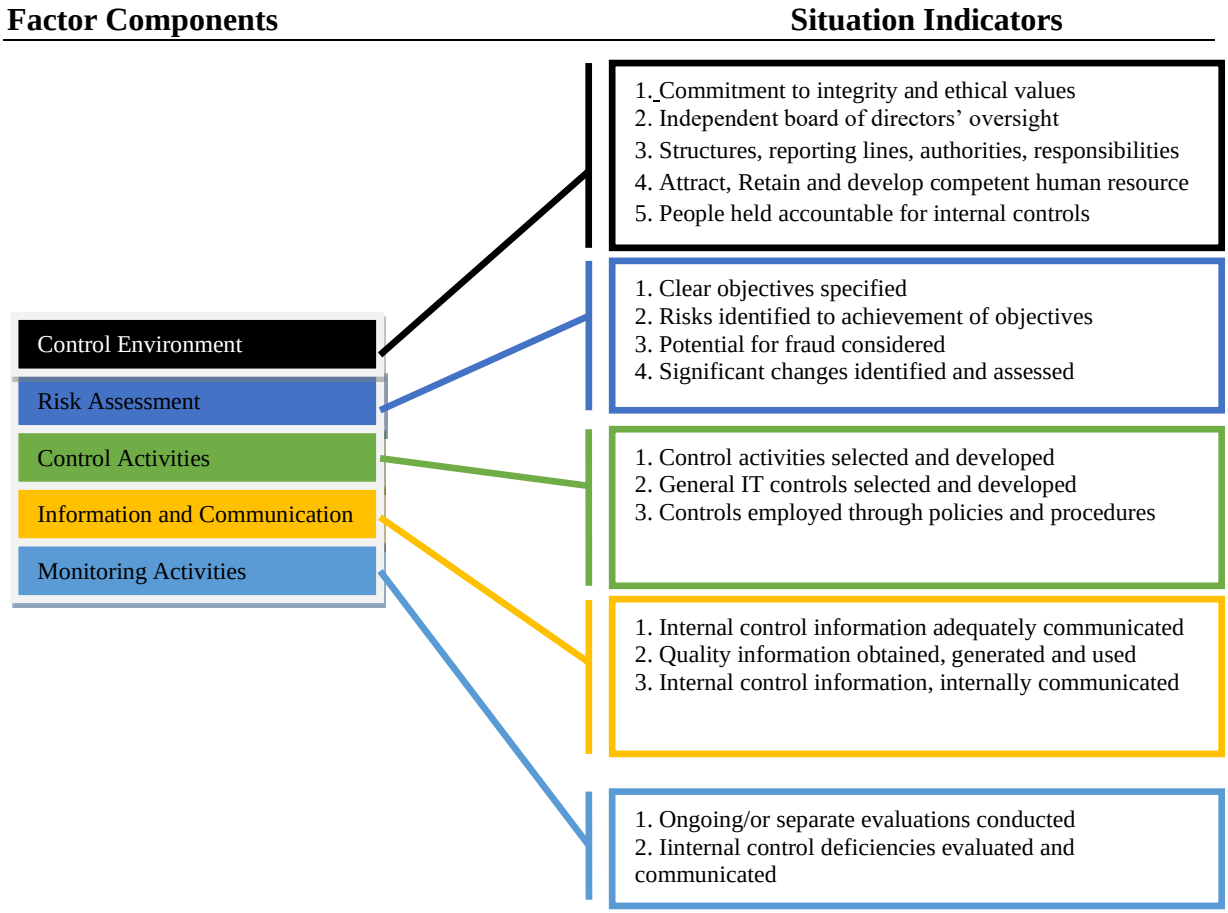
CHAPTER 3

THEORETICAL AND CONCEPTUAL FRAME WORKS

3.1 Theoretical Framework

3.1.1 COSO Model Effectiveness Indicators

The figure bellow illustrates key indicators in establishing the effectiveness of the five components of the internal control (COSO) model. The outlined indicators provide the key guide as to what information should be collected and used in the analyses.



Source: (D'Aquila, 2013)

Figure 1: COSO Model Effectiveness Indicators

3.1.2 The COSO Model (Theory)

This study adapts the COSO Model which was published in 1992 by the Committee of Sponsoring Organizations of the Treadway Commission. Globally, many organizations and scholars have adopted the internal control concepts presented in this publication (Janvrin et

al., 2012). The COSO report defines internal control as; the process, which is affected by an entity's board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of organizational objectives in the following respects; effectiveness and efficiency of operations, reliability of financial reporting, and compliance with applicable laws and regulations. Expectedly, COSO describes internal control as consisting of five essential components; control environment, risk assessment, control activities, information and communication, and monitoring; which are further subdivided into seventeen factors (Janvrin et al., 2012).

The COSO model is depicted as a pyramid, with the control environment forming a base for control activities, risk assessment, and monitoring. Information and communication link the different levels of the pyramid. As the base of the pyramid, the control environment is arguably the most important component because it sets the tone for the organization. Factors of the control environment include employees' integrity, the organization's commitment to competence, management's philosophy and operating style, and the attention and direction of the board of directors and its audit committee. The control environment provides discipline and structure for the other components (D'Aquila, 2013).

Source: (D'Aquila, 2013)

Figure 2: COSO Pyramid

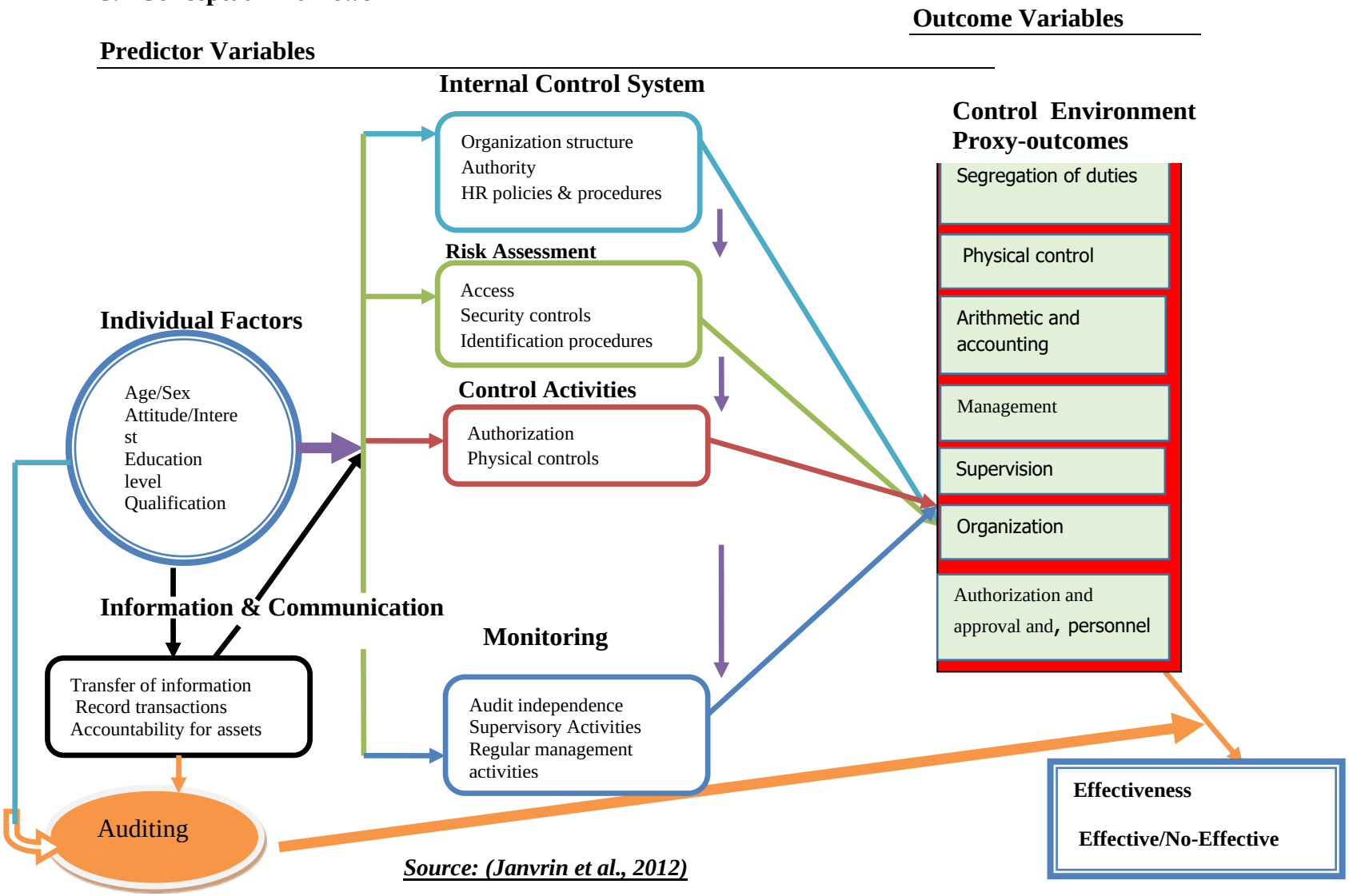
Risk assessment: Risk assessment focuses on the uncertainties in meeting the organization's financial, compliance, and operational objectives.

Control activities: These are policies and procedures maintained by an organization to address risk-prone areas.

Information and communication: Encompass the identification, capture, and exchange of financial, operational, and compliance information in a timely manner. This is premised on the assumptions that people within an organization who have timely, reliable information are better able to conduct, manage, and control the organization's financial operations.

Monitoring: This provides information about potential and actual breakdowns in a control system that could make it difficult for an organization to accomplish its goals (D'Aquila, 2013).

3.2 Conceptual Framework



Source: (Janvrin et al., 2012)

Figure 3: Summary of the Adapted Conceptual Framework

Every establishment is managed by individuals regardless of its purpose, mission, goals and objectives (Oke, 2016). While there are projects which can be done to address problems which do not directly involve humans, humans are the ultimate beneficiaries of the end product of such projects (Oke, 2016). Therefore, humans are involved in every program as either implementers or as beneficiaries or both. To this attest, the involvement of human hands on the internal control systems cannot be over emphasized. The adapted model summary above presents, closer to reality, inter relationships among the factors that may be at play in trying to effectively implement the internal controls on the internally generated funds in the public health institutions alike. As presented in the model summary, the basic unit in the internal control system is a human being. Attitudes, interests, age, sex, education level, job qualification and experience may directly influence all the five components of the entire internal control system and the audit activities (Oke, 2016). Therefore, individual factors may confound the operation of the five components of the internal control system. The five components of the internal control system has direct impact on the proxy-outcomes (Oke, 2016). It is the setout of the proxy-outcomes determines how effective the system would be in operation. In addition, the audit activity also re-enforces the effectiveness of the system by providing end-result checks and balances which act as a control measure.

3.2.1 Problem Analysis

Segregation of duties: The duties in the implementation of the system should be divided between employees, in such a way that no one individual or groups of individuals have unrestricted control over an activity or transaction. Each employee should be assigned specific responsibilities in line with job description and qualifications. If this aspect is overlooked, the system may be impaired and this would ultimately affect its effectiveness (Janvrin et al., 2012).

Physical control: This means preventing unauthorized persons from entering the premises or offices because they can steal or temper with the assets of the organization. This involves locking premises and offices with grill door and employee security officers. Without this measure in place anything can happen to the assets from external forces and this would result in the failure of the system (Janvrin et al., 2012).

Arithmetic and accounting: This mean that the financial information of the organization should be accurate and complete without any errors. Not having well skilled workers in this critical area of this financial control spars negative efforts exerted on the system. Most

internal controls are rendered in effective because of so many errors which get committed by those charged with this responsibility (Janvrin et al., 2012).

Management: Management of the institution should exercise control in order to ensure that all internal control systems are working in a proper manner and that employees follow all the outlined guide lines and regulations. This includes establishing information systems to collect relevant information for performance management and internal audit functions to enable them to evaluate the effectiveness of internal control systems (Janvrin et al., 2012).

Supervision: This implies monitoring and reviewing the work of individual employees, functions, and the organization. It communicates with employees in order to ensure that their performances are being observed, measured, and they can be rewarded or personalized for their good or bad performance. Lack of supervision implies failure to implement the system (Janvrin et al., 2012).

Organization: This involves coordinating and activities across the organization in order to accomplish this, the roles, reporting lines and organizational structure should be formally established and clearly communicated. This present the basic unit of the organization's life without which there would be disorderly in the operations (Janvrin et al., 2012).

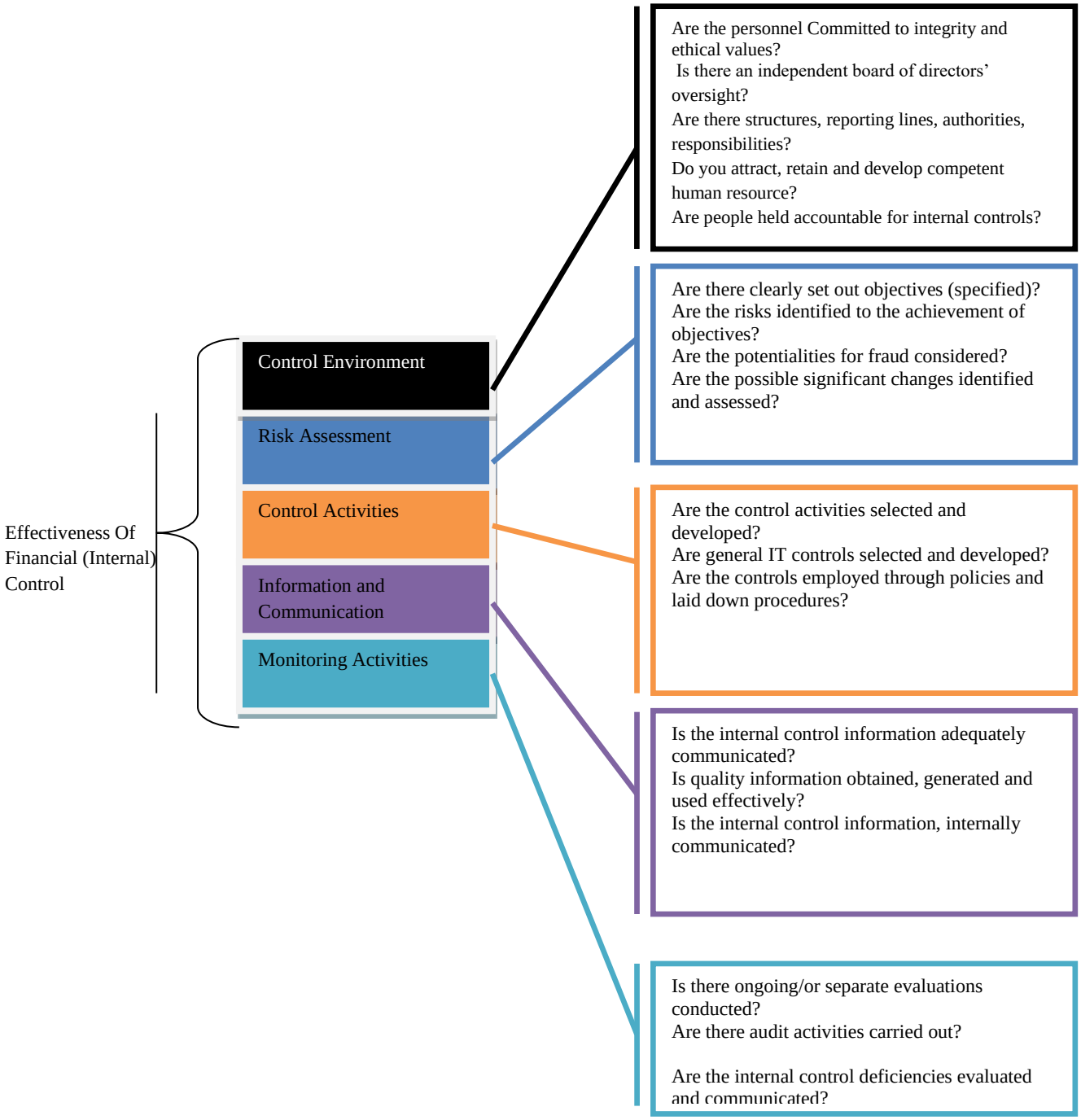
Authorization and approval: This require permission or signature of a person(s) at an appropriate level in the organization. This ensures that only activities and expenditure that are necessary for the achievement of organization are done (Janvrin et al., 2012).

Personnel: This involves recruiting qualified individuals, doing inductions, retaining key employees, and motivating underperforming employees. This is critical as it is the main determinant of the result of any project undertaken. Housing the appropriate workforce would spar the effectiveness of the system. This may also involve setting-out clear and formal policies and procedures for rewarding or penalizing employees (Janvrin et al., 2012).

3.3 Operationalization of the Effectiveness of Financial (Internal) Control Model

The figure bellow illustrates the operationalization of the effectiveness of the financial (internal) control COSO model.

Concept Definitions **Key Variables** **Operational**



Source: Adapted: (D'Aquila, 2013)

Figure 1: Operationalization of the Effectiveness of Financial (Internal) Control Model

CHAPTER 4

RESEARCH METHODOLOGY

4.1 Introduction

This chapter presents the methodology which was employed in this study. The study used a mixed method approach in order to gather primary data which is required to respond to the research questions as stipulated in the background of the study. In specific terms, the chapter presents the research design, study area and population, sampling method, data collection, analysis, and ethical issues.

4.2 Research Design

This study employed a descriptive study design, a quantitative study in nature. This study design was adapted because, this study provides a clear outcome and the characteristics associated with the effectiveness of the internal controls at a specific point in time (Ghosh, 2013). This design is relevant for this study since it focuses at one point in time and does not require several sequences of monitoring. This study attempted to document current conditions as regards to the effectiveness of internal controls. The study employed qualitative methods of data analysis (Ghosh, 2013).

4.3 Study Area

The study was conducted in the University Teaching Hospital. The University Teaching Hospital is the largest public hospital and main referral health institution in Zambia and is in Ridgeway area at about 4 kilometres east of Lusaka City Centre along Nationalist Road (Langridge, 2004).

4.4 Study Population

The target population for the study was the employees in the finance/revenue and procurement departments at the University Teaching Hospital in Lusaka Zambia.

4.5 Study sample

In this study, a sample size of 40 respondents was drawn from the study population of employees in the Finance Finance/Revenue Departments in UTH. The sample size was estimated using the following formula by (Langridge, 2004).

$n=N/ (1+Ne^2)$

Where; n= Sample size,

N=Known population of employees in Finance/Revenue and procurement departments (Ministry of Health, 2018).

e = error level or margin of error at ±5%, Standard value= 0.05(Ghosh, 2013).

$n = 44/ [1+44(0.5^2)]$

n = 44/1.1

n = 40

Therefore, the study participants were 40.

4.6 Sampling Techniques

The study used purposive sampling procedure. The justification for using purposive sampling is that it makes it possible to contact key people who are directly involved in internal controls at UTH. This is because these people are expected to have required information that mirrors the whole, with reference to internal controls.

4.7 Data Collection Procedure

The researcher collected primary data using a semi-structured questionnaire with both close-ended and open-ended questions. The closed ended questions were easy to fill out by the respondents and easy to tabulate and analyze. The open-ended questions enabled the respondents to frame and provide a variety of responses without any restriction imposed. To simplify the process of data collection given the current COVID19 situation and considering that some senior officials who maybe of cardinal contribution to the study may be too busy, the system of drop and pick later was employed which allowed respondents sufficient time to respond to the questions at their own convenience. To triangulate the findings, secondary data was collected from the analysis of UTH audited annual reports. This was used to support the findings on the primary data and provide more information that may have not been captured by the respondents (Hair et al., 1998).

4.8 Validity and Reliability of Research Instruments

4.8.1 Reliability

Cronbach's Alpha was applied to measure the co-efficient of internal consistency and therefore reliability of the instrument. This method measures the average of measurable items and their correlations. Statistical package for social sciences SPSS software was used to verify the reliability of collected data (Hair et al., 1998). Overall scales of the reliability of

the present situation and the desirable situation was tested by Cronbach's alpha, which should be above the acceptable level of 0.70 (Hair et al., 1998). A measure greater than the acceptable level indicate higher reliability of the instrument.

4.8.2 Validity

To ensure validity of the findings of this study the researcher triangulated the data by using two methods of data collection which are individual interviews and desk review. Validity was ensured by accounting for biases in methods to be employed, ensuring sufficient depth and relevance of data collection and analysis, record keeping, demonstrating a clear decision trail, and ensuring that interpretations of data are consistent and transparent (Mugenda & Mugenda, 2003). The researcher established a comparison case which sought out similarities and differences across accounts to ensure different perspectives are fully represented, including rich and thick verbatim descriptions of participants to support the findings of the study. This measured the degree to which data obtained from the instrument accurately and meaningfully represents the theoretical concept and how the data represents the variables (Mugenda & Mugenda, 2003).

4.9: Methods of Analysis

Data analysis in this study was based on the created data set and desk review data. Data processing involved entering, coding, cleaning, and tabulations. Microsoft Access, Microsoft Excel, and SPSS version 26.0 was used in the process of data analysis.

4.9.1 Univariate Analysis

3.9.1.1: Descriptive Statistics

At this level of analysis, descriptive statistics was produced and used to investigate frequency and percent distributions of the independent variables and the outcome variable (effectiveness) (Jindal, 2017).

4.9.2 Bivariate analysis

4.9.2.1: Cross Tabulations

At this level of analysis, Chi-square test of independence was used to produce cross tabulations for categorical, nominal/ordinal scaled explanatory variables to determine the significance of the relationships between them and the outcome variable using contingency

tables(Jindal, Malhotra, & Jain, 2017). All the associations were determined at 10% level of significance. Where P< 0.1 was considered statistically significant (Jindal, 2017).

4.9.2.2 Pearson Correlations

This analysis method was done to check for multicollinearity among the independent variables. This was checked with the correlation coefficient of >= 0.8. One of any two independent variables which was correlated at >= 0.8 were dropped from the analysis (Jindal, Malhotra, & Jain, 2017).

4.9.3 Multivariate Analysis

4.9.3.1: Binary Logistic Regression

To determine the effect of the independent variables on the outcome variable was done using binary logistic regression (Jindal, Malhotra, & Jain, 2017). The resulting effects of the predictor variables on the dependent variable was explained by their one-unit increase/status in terms of (**Log Odds).** Log odds of the outcome variable was modelled as a linear combination of the predictor variables. Binary Logistic Regression is chosen in this study, as opposed to Ordinary least squares and multiple regression, poison and other regressions methods which may be applicable because the hypothesis to be tested simply intends to ascertain whether internal control at UTH are effective or not(Jindal, Malhotra, & Jain, 2017). This implies that the outcome variable, which may have points Likert scale measure, were collapsed into responses **(effective/Not-effective)** was binary, to allow for the application of the binary logistic regression model (Jindal et al., 2017).

4.9.3.2: The Model

In this study the dependent variable is a binary, it is a dichotomous variable, for which the response outcome is **"effective/Not-effective''.** The binary logistic regression was used to estimate the (**Log Odds)** of the effectiveness of internal controls. The dependent variable was distinguished as 0 if the internal controls are not effective and 1 if the internal controls are effective (Jindal, Malhotra, & Jain, 2017). Among other regression methods, binary logistic regression was chosen because the dependent variable is a binary. The logistic regression modelled as below:

$$\textbf{Logit (P)} = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + ... + b_pX_p +$$

P: - denotes the probability of the risk of infant mortality.

Where P is a dichotomous dependent variable with values 0 (not-effective) or 1 (effective)

b_1... b_P: - Is the coefficients of the independent variables.

X_1...Xp: - Denotes the independent variables.

Dichotomous variables were converted into dummy variables and the model was built using the **Enter Method** in which all the predictors were entered at once.

4.9.3.3: The Goodness-of-fit of the Model

To determine how well the model fitted the data, the Hosmer–Lemeshow goodness-of-fit test was used as a measure of goodness-of-fit. This test is based on the observed against expected number of responses. The larger the Prob > F value indicates a better fit of the model to the data (Jindal, Malhotra, & Jain, 2017).

CHAPTER 5

PRESENTATION OF FINDINGS

5.1 Introduction

This chapter presents the findings of the study. The findings are presented on the background characteristics of the respondents, the internal controls which are implemented on internally generated funds at UTH, factors that influence the implementation of internal controls on internally generated funds at UTH and the effectiveness of the internal controls implemented on internally generated funds at UTH. The response rate was 100% and all analyses were done on 40 respondents; employees of UTH.

5.2 Background Information on Respondents

This part of findings presents the characteristics of the respondents; age sex, education level, qualification and attitude. The presentation is done in terms of frequency and percent distributions.

Table 5.1: Frequency and Percent Distribution of Background Information on Respondents

Variable Name	Frequency	Percent
Age-Group		
23 – 30	7	17.5
31 – 40	14	35.0
41+	19	47.5
Total	40	100.0
Gender		
1. Male	24	60.0
2. Female	16	40.0
Total	40	100.0
Education Level		
1. Secondary	5	12.5
2. Tertiary	35	87.5
Total	40	100.0
Qualification		
Accounts	11	27.5
Business Administration	7	17.5
Computer Scientist	8	20.0
O' level	5	12.5
Purchasing and Supply	8	20.0
Total	40	100.0
Attitude		
Positive	25	62.5
Partially Positive	15	37.5
Total	40	100.0

Data on **table 5.1** indicates that the majority of the respondents (47.5%) fell in age group 41+ years and the minority (17.5%) fell in age group 23 – 30 years. The sex distribution in the

table shows that both male and female were represented in the study and out of fifty (40) respondents interviewed 60% were male and 40% were female implying that the majority of the study participants were males. Further, illustration on **table 5.1** indicates that 87.5% of the respondents had tertiary education and 5 individual (12.5%) had secondary education. In terms of qualifications of the respondents, 27.5% had accounts qualifications, 17.5% had Business administration qualifications, 20% had computer science qualifications, 12.5% had O' level qualification, and 20% had purchasing and supply qualifications. In terms of attitude, 62.5% of the participants were positive about the internal control system while 37.5% were partially positive about the internal control system.

5.3 Internal controls implemented on internally generated funds at UTH.

It was established that the five key components of the internal control system exist and are implemented at the University Teaching Hospital; Control Environment, Risk Assessment, Control Activities, Information and Communication, and Monitoring Activities:

Control Environment: under control environment, it was established that there is commitment to integrity and ethical values among the personnel in the system; an independent board of directors exists, structures, reporting lines, authorities and personnel responsibilities are established. It was further established that the system retains and develops competent human resource. Added to all, the system personnel are held accountable for roles in internal controls.

Risk Assessment: under risk assessment it was established that clear objectives are specified, risks are identified, potentials for fraud are considered and controlled, and that significant changes are identified and assessed.

Control Activities: within control activities it was established that **a**ctivities for control are selected and developed, IT controls are selected and developed, and that controls are employed through policies and laid down procedures.

Information and Communication: for the Information and Communication**,** it was established that internal control information is always adequately communicated, quality information obtained, generated, and used, Internal control information, internally communicated.

Monitoring Activities: under monitoring activities there exists ongoing/or separate evaluations and audits which are conducted at the health institution and the internal control deficiencies are evaluated and communicated to authorities.

5.4 Factors Influencing the Implementation of Internal controls on Internally Generated Funds at UTH

Two levels of analyses were done to determine the factors which influence the implementation of internal controls on internally generated funds at UTH. The first level was the bivariate analysis which was done to determine the relationship between the personnel's backgrounds and the outcome variable. The second level of analysis was the multivariate analysis which was done to determine the influence of each independent variable on the outcome variable.

5.4.1 Bivariate Analysis

At bivariate level of analysis respondents' background characteristics were cross-tabulated with the five components of the internal control system being implement at UTH; control environment, risk assessment, control activities, information communication, and monitoring activities. Each characteristic was tested for all the five parameters of the internal control system using Chi-square. This statistical test was done to create a base for the multivariate analysis. **Tables 5 to 9.**

Table 5.2: Age Group * Individual Input into Control Environment, Risk Assessment, Control Activities, information and communication and Monitoring and evaluation.

Variable Name		Individual Input High	Low	Total
Age Group	**23 - 30**	100.0%	0.0%	100.0%
	31 - 40	57.1%	42.9%	100.0%
	40+	52.6%	47.4%	100.0%
X^2 = 5.161a	**P = .076**			
Age Group	**23 - 30**	71.4%	28.6%	100.0%
	31 - 40	85.7%	14.3%	100.0%
	40+	57.9%	42.1%	100.0%
X^2 = 2.979a	**P = .225**			
Age Group	**23 - 30**	85.7%	14.3%	100.0%
	31 - 40	35.7%	64.3%	100.0%
	40+	63.2%	36.8%	100.0%
X^2 = 5.248a P = .073				
Age Group	**23 – 30**	100.0%	0.0%	100.0%
	31 – 40	64.3%	35.7%	100.0%
	40+	68.4%	31.6%	100.0%
X^2 = 3.288a P = .193				
Age Group	**23 - 30**	14.3%	85.7%	100.0%
	31 - 40	50.0%	50.0%	100.0%
	40+	42.1%	57.9%	100.0%
X^2 = 2.547a P = .280				

Table 5.2 indicates the cross-tabulated responses between age-group and control environment, risk assessment, control activities, information communication, and monitoring

activities. Statistics show that, relatively, age -group 40+ of the respondents had the highest percentages (47.4%) and (42.1%) of low contribution to control environment and risk assessment; age -group 30 - 40 of the respondents had the highest percentages (64.3%) and (35.7%) of low contribution to control activities and information communication; and age -group 40+ of the respondents had the highest percentages (57.9%) of low contribution to monitoring activities. However, what is observed on the table is just by chance as age-group of the respondents was not significantly associated with the implementation of all the five components of the control system [**X^2 = 5.161a P = .076; X^2 = 2.979a P = .225; X^2 = 5.248a P = .073; X^2 = 3.288a P = .193; X^2 = 2.547a P = .280, (CL: 95%)**].

Table 5.3: Gender * Individual Input into Control Environment, Risk Assessment, Control Activities, information and communication and Monitoring and evaluation. Individual Input into Control Environment respectively.

		Individual Input		Total
		High	Low	
Gender	**1. Male**	75.0%	25.0%	100.0%
	2. Female	43.8%	56.3%	100.0%
X^2 = 4.000a P = .046				
Gender	**1. Male**	83.3%	16.7%	100.0%
	2. Female	50.0%	50.0%	100.0%
X^2 = 5.079a P = .024				
Gender	**1. Male**	41.7%	58.3%	100.0%
	2. Female	81.3%	18.8%	100.0%
X^2 = 6.155a P = .013				
Gender	**1. Male**	75.0%	25.0%	100.0%
	2. Female	68.8%	31.3%	100.0%
X^2 = .188a P = .665				
Gender	**1. Male**	41.7%	58.3%	100.0%
	2. Female	37.5%	62.5%	100.0%
X^2 =.069a P = .792				

Table 3 indicates the cross-tabulated responses between gender and control environment, risk assessment, control activities, information communication, and monitoring activities. Statistics show that, relatively, female respondents had the highest percentages (56.3%) and (50%) of low contribution to control environment and risk assessment; male respondents had the highest percentage (58.3%) of low contribution to control activities and female respondents had the highest percentages (31.3%) and (62.5%) and of low contribution to information communication and monitoring activities. Gender of the respondents is significantly associated with the implementation of control environment, risk activities and control activities. [**X^2 = 4.000a P = .046; X^2 = 5.079a P = .024; X^2 = 6.155a P = .013 (CL: 95%)**].

Table 5.4: Level of Education * Individual Input into Control Environment, Risk Assessment, Control Activities, information and communication and Monitoring and evaluation.

			Individual Input		Total
			High	Low	
Level of Education	**Certificate**		42.9%	57.1%	100.0%
	Degree		63.2%	36.8%	100.0%
	Masters		50.0%	50.0%	100.0%
	O' Level		0.0%	100.0%	100.0%
			100.0%	0.0%	100.0%
X^2 = 5.289a P = .259					
Level of Education	**Certificate**		71.4%	28.6%	100.0%
	Degree		63.2%	36.8%	100.0%
	Masters		62.5%	37.5%	100.0%
	O' Level		0.0%	100.0%	100.0%
			100.0%	0.0%	100.0%
X^2 = 3.216a P = .522					
Level of Education	**Certificate**		71.4%	28.6%	100.0%
	Degree		63.2%	36.8%	100.0%
	Masters		37.5%	62.5%	100.0%
	O' Level		0.0%	100.0%	100.0%
			100.0%	0.0%	100.0%
X^2 = 3.480a P = .481					
Level of Education	**Certificate**	**Count**	57.1%	42.9%	100.0%
	Degree		73.7%	26.3%	100.0%
	Masters		62.5%	37.5%	100.0%
	O' Level		00.0%	100.0%	100.0%
	PhD		100.0%	0.0%	100.0%
X^2 = 3.519a P = .475					
Level of Education	**Certificate**		57.1%	42.9%	100.0%
	Degree		26.3%	73.7%	100.0%
	Masters		62.5%	37.5%	100.0%
	O' Level		0.0%	100.0%	100.0%
	PhD		100.0%	0.0%	100.0%
X^2 = 4.694a P = .320					

Table 5.4 indicates the cross-tabulated responses between Education level and control environment, risk assessment, control activities, information communication, and monitoring activities. Statistics show that, relatively, the respondents with certificates had the highest percentages (57.1%) of low contribution to control environment; the respondents with masters had the highest percentages (37.5%) and (62.5%) and (37.5%) of low contribution to and risk assessment; control activities and information communication; and the respondents with O' level had the highest percentages (100%) of low contribution to all the internal control activities. However, what is observed on the table is just by chance as education level of the respondents was not significantly associated with the implementation of all the five components of the control system [**X^2 = 5.289a P = .259; X^2 = 3.216a P = .522; X^2 = 3.480a P = .481; X^2 = 3.519a P = .475; X^2 = 4.694a P = .320 (CL: 95%)**].

Table 5.5: Profession * Individual Input into Control Environment, Risk Assessment, Control Activities, information and communication and Monitoring and evaluation.

Profession		Individual Input		
		High	Low	Total
	Accounts	50.0%	50.0%	100.0%
	Business Administration	100.0%	0.0%	100.0%
	Computer Scientist	75.0%	25.0%	100.0%
	O' level	0.0%	100.0%	100.0%
	Purchasing and Supply	37.5%	62.5%	100.0%
$X^2 = 8.533a$ P = .0074				
Profession	Accounts	62.5%	37.5%	100.0%
	Business Administration	100.0%	0.0%	100.0%
	Computer Scientist	75.0%	25.0%	100.0%
	O' level	100.0%	0.0%	100.0%
	Purchasing and Supply	50.0%	50.0%	100.0%
$X^2 = 5.476a$ P = .024				
Profession	Accounts	50.0%	50.0%	100.0%
	Business Administration	57.1%	42.9%	100.0%
	Computer Scientist	25.0%	75.0%	100.0%
	O' level	0.0%	100.0%	100.0%
	Purchasing and Supply	100.0%	0.0%	100.0%
$X^2 = 10.479a$ P = .033				
Profession	Accounts	50.0%	50.0%	100.0%
	Business Administration	100.0%	0.0%	100.0%
	Computer Scientist	100.0%	0.0%	100.0%
	O' level	0.0%	100.0%	100.0%
	Purchasing and Supply	62.5%	37.5%	100.0%
$X^2 = 10.533a$ P = .032				
Profession	Accounts	43.8%	56.3%	100.0%
	Business Administration	42.9%	57.1%	100.0%
	Computer Scientist	50.0%	50.0%	100.0%
	O' level	0.0%	100.0%	100.0%
	Purchasing and Supply	25.0%	75.0%	100.0%
$X^2 = 1.868a$ P =.760				

Table 5.5 indicates the cross-tabulated responses between Profession and control environment, risk assessment, control activities, information communication, and monitoring activities. Statistics show that, relatively, respondents in purchasing and supply had the highest percentages (62.2%) and (50%) of low contribution to control environment and risk assessment; respondents in accounts had the highest percentages (50%) and (50%) of low contribution to control activities and information communication; and respondents in the school leaver had the highest percentages (100%) of low contribution to all the internal control activities. Profession of the respondents is significantly associated with the implementation with control environment, Risk assessment, control activities and information communication [**$X^2 = 8.533a$ P = .0074; $X^2 = 5.476a$ P = .024; $X^2 = 10.479a$ P = .033; $X^2 = 10.533a$ P = .032 (CL: 95%)**].

Table 5.6: Years of Experience * Individual Input into Control Environment, Risk Assessment, Control Activities, information and communication and Monitoring and evaluation.

		Individual Input		Total
		High	Low	
Years of Experience	**<1 Year**	100.0%	0.0%	100.0%
	1-3 Years	61.5%	38.5%	100.0%
	4-6 Years	50.0%	50.0%	100.0%
	7+ Years	75.0%	25.0%	100.0%
X^2 = 9.405a P = .003				
Years of Experience	**<1 Year**	100.0%	0.0%	100.0%
	1-3 Years	69.2%	30.8%	100.0%
	4-6 Years	62.5%	37.5%	100.0%
	7+ Years	75.0%	25.0%	100.0%
X^2 = 10.989 P = .012				
Years of Experience	**<1 Year**	33.3%	66.7%	100.0%
	1-3 Years	92.3%	7.7%	100.0%
	4-6 Years	50.0%	50.0%	100.0%
	7+ Years	25.0%	75.0%	100.0%
X^2 = 10.988 P = .012				
Years of Experience	**<1 Year**	100.0%	0.0%	100.0%
	1-3 Years	76.9%	23.1%	100.0%
	4-6 Years	50.0%	50.0%	100.0%
	7+ Years	100.0%	0.0%	100.0%
X^2 = 8.363a P = .039				
Years of Experience	**<1 Year**	33.3%	66.7%	100.0%
	1-3 Years	30.8%	69.2%	100.0%
	4-6 Years	43.8%	56.3%	100.0%
	7+ Years	50.0%	50.0%	100.0%
X^2 = .944a P = .815				

Table 5.6 indicates the cross-tabulated responses between years of experience and control environment, risk assessment, control activities, information communication, and monitoring activities. Statistics show that, relatively, respondents with 4 – 6 years of experience had the highest percentages (50%) and (37.5%) of low contribution to control environment and risk assessment; respondents with 7+ years of experience had the highest percentage (75.0%) of low contribution to control activities; respondents with 4 – 6 years of experience had the highest percentage (50%) of low contribution to information communication; respondents with 1- 3 years of experience had the highest percentages (69.2%) of low contribution to monitoring activities. Years of experience of the respondents was significantly associated with control environment, risk assessment, control activities and information communication [**X^2 = 9.405a P = .003; X^2 = 10.989 P = .012; X^2 = 10.988 P = .012; X^2 = 8.363a P = .039 (CL: 95%)**].

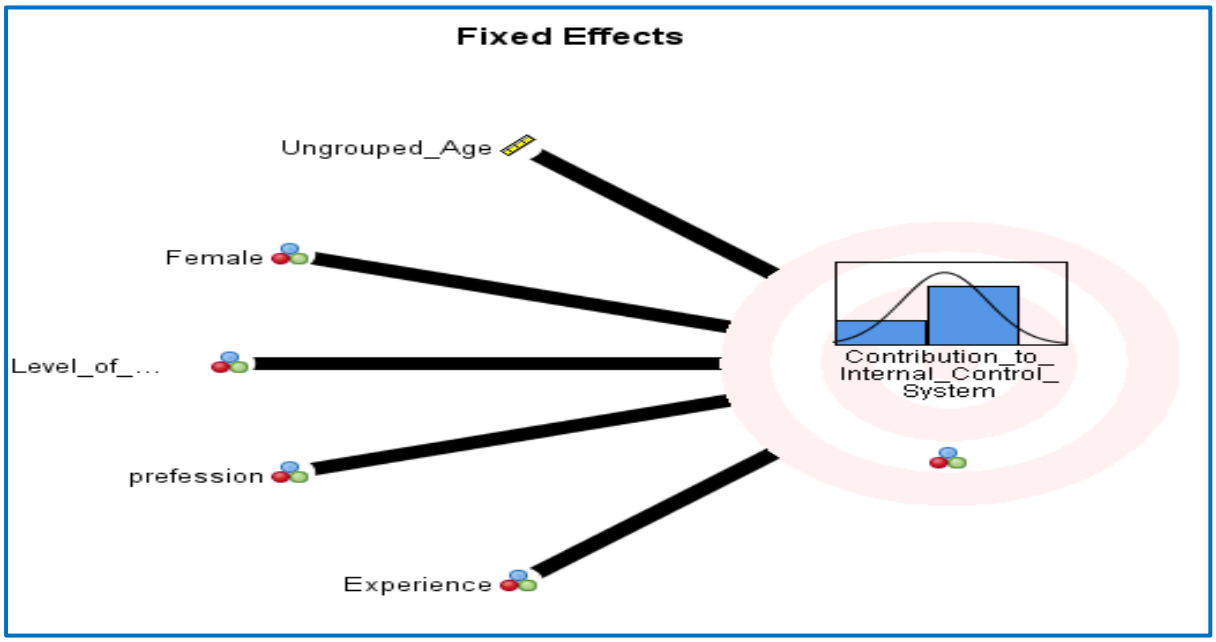
5.4.2 Multivariate Analysis

At multivariate level of analysis binary logistic regression was fitted on the data determine the influence of the individual characteristics of the respondents on the effectiveness of the overall Internal Control System at the University Teaching Hospital. The individual

contributions to the overall performance of the Internal Control System were taken as the proxy-measures of the effectiveness of the system. In this case therefore, binary logistic was fitted on the data to predict the contribution to the system's functioning in a binary response. It was intended to measure whether or not, based on the regressed characteristics, and individual contributes the system positively or negatively. The **Enter** method was used to fit the model on the data, and the outcome effects are explained in terms **Log Odds**.

5.4.2.1 Binary logistic Model One.

In the first model, the relationship between all the five predicters and the outcome variable was tested. in order to allow correct predictions, gender which is a dichotomous variable was converted into a dummy variable with female coded as '1' as higher category and male coded with '0' as reference category. **Figure 5** indicates that on overall all the variables age, sex, education level, profession and experience significantly influenced the individual contributions to the implementation of the internal control system. However, this stage does not indicate the single-category influence and the direction of the relationship. Therefore, this called for further building of the model.



Source: Analysis Output

Figure 2: Fixed Overall Predictor Effects

5.4.2.2 Binary Logistic Model Two

In the Second Model, single predictor categories were regressed on the individual contributions to the system. **Table 7.**

Table 5.7: Single Category Predictor Influence on the Individual Contribution to the System.

Model Term	Coefficient	Sig.	95% Confidence Interval	
			Lower	Upper
Intercept	-416.985	.000*	-428.541	-405.429
Ungrouped Age	8.693	.000*	8.452	8.934
Gender= Female	19.884	.000*	12.811	26.957
Level of Education = PhD	-34.158	.900	-43.711	-24.604
Level of Education= Masters	247.861	.000*	267.138	228.584
Level of Education= Degree	35.931	.000*	38.268	33.594
Level of Education= O' Level Certificate	-170.592	.010*	-173.853	-163.331
Profession = Purchasing and Supply	101.267	.090	4.131	5.403
Profession = Business Administration	-129.159	.100	-5.799	-1.519
Profession = Accounting	220.563	.000*	213.969	227.158
Experience= 7+ years	319.814	.000*	309.512	330.116
Experience= 4 -6 Years	185.556	.000*	180.063	191.049
Experience= 1-3Years	283.791	.000*	276.023	291.558

Table 5.7 indicates that when all the variable in the equation are held constant, the effectiveness of Internal Controls reduces by 416.99 **log odds.** Holding all the variables constant, one unit increase in the age of the employees by one year, increases the effectiveness of internal controls by 8.69 **log odds [P = .000; CI: 8.452 - 8.934].** When all other variables are held constant, having female employees in Internal Controls, increases the effectiveness of Internal Controls **by 19.88 log odds [P = .000; CI: 12.811 - 26.957].** Ceteris paribus, having employees with secondary of education reduces the effectiveness of internal controls by **170log odds [P = .010; CI: -43.711 - -24.604].** Ceteris paribus, having employees in Masters level of education in internal controls increases the effectiveness of internal controls by **247.86 log odds [P = .000; CI: 267.138-228.584].** Ceteris paribus, having employees in Degree level of education in internal controls increases the effectiveness of internal controls by **35.93 log odds [P = .000; CI: 38.268 - 33.594].** Holding all other variables constant, having employees with a purchasing and supply profession increases the effectiveness of internal controls by **101.27 log odds [P = .000; CI: 94.131 - 108.403].** Having employees with a Business Administration Profession, ceteris paribus, reduces the effectiveness of internal control by **129.16 log odds [P = .000; CI: -135.799 - -122.519].** Holding other variables constant, having employees with an Accounting Profession increases **220.56 log odds [P = .000; CI: 213.97 – 227.16].** Ceteris Paribus, having employees with 7+, 4 – 6 and 1-3 years of experience in creases the effectiveness of internal controls by **[319.81, 185.56 and 283.79 log odds; CI (309.512 -330.116, 180.063 - 191.049 and 276.023 - 291.558)].**

5.5 Effectiveness of Internal controls Implemented on Internally Generated Funds at UTH

This part of analysis evaluates the implementation of each component of the internal control system at the University Teaching Hospital. It covers all the five components: Control Environment, Risk Assessment, Control Activities, Information Communication, and Monitoring Activities. In analysing the implementation of these components, summary proxy-measures were used.

Table 5.8: Evaluation of the Effectiveness of Internal Controls on Internally Generated Funds at UTH

Duties are well Apportioned		
1. Strongly Agree	5	12.5
2. Agree	29	72.5
3. Not Sure	2	5.0
4. Disagree	4	10.0
Total	40	100.0
Physical Control of the System is Adequate		
1. Strongly Agree	5	12.5
2. Agree	15	37.5
3. Not Sure	7	17.5
4. Disagree	13	32.5
Total	40	100.0
Arithmetic Accounting is Effective		
1. Strongly Agree	3	7.5
2. Agree	26	65.0
3. Not Sure	11	27.5
Total	40	100.0
Management and Supervision are Effective		
1. Strongly Agree	6	15.0
2. Agree	16	40.0
3. Not Sure	11	27.5
4. Disagree	7	17.5
Total	40	100.0
The Control System is Fully Organised		
1. Strongly Agree	2	5.0
2. Agree	29	72.5
3. Not Sure	9	22.5
Total	40	100.0
There is Effectiveness in the Authorisation Procedures and Approvals of Financial Transactions		
1. Strongly Agree	11	27.5
2. Agree	29	72.5
Total	40	100.0
Overall Status of the Effectiveness of in the Internal Control System		
1. Very Effective	6	15.0
2. Effective	24	60.0
3. Less Effective	10	25.0
Total	40	100

Segregation of Duties: as indicated in table 5. 8, 12.5% of the respondents strongly agreed and 72.5% agreed that the duties in the implementation of the system are well divided among employees, in such a way that no one individual or groups of individuals have unrestricted

control over an activity or transaction. Only 5% of the respondents indicated that they were not sure not whether the duties are apportioned accordingly at UTH.

Physical Control: table 8 further indicates that of the total respondents 12.5% strongly agreed, 37.5% agreed, 17.5% were not sure and 32.5% disagreed, that physical controls are adequate on the internal control system at UTH

Arithmetic and Accounting: it further indicated on table 8 that of the total respondents, 7.5% strongly agreed, 65.0% agreed, and 27.5% were not sure that there is an effective financial arithmetic and accounting in the implementation of the internal controls at UTH.

Management and Supervision: on table 8, it is further indicated that, of all the respondents 15.0% strongly agreed, 40% agreed, 27.5% were not sure, and 17.5% disagreed, that Management and Supervision were effective in the implementation of internal controls at UTH.

Organization: as regards to organization of the system, it was established that of the total respondents, 5% strongly agreed, 72.5% agreed, and 22.5% were not sure that internal control system at UTH is fully organized.

Authorization and Approval: regarding Authorization and approval of financial transactions, table 8 show that of the total respondents, 27.5% strongly agreed, and 72.5% agreed that there is effectiveness in the authorization procedures and approvals of financial transactions on the internally generated funds at UTH.

Overall Effectiveness: Respondents were asked about the overall status rating of the effectiveness of the internal controls on internally generated funds at UTH. The evaluation was done at three status scales; very effective, effective, and less effective. Information on table 8 shows that of the total respondents, 15% indicated the internal control system was very effective, 60.0% indicted that the internal control, system was effective, and 25% indicated that the internal control system is less effective. Therefore, the research hypothesis (H1) that internal controls at UTH are effective was accepted.

5.6 Chapter Summary

Data analysis was done at three levels'; univariate, bivariate and multivariate. At the univariate level of analysis, descriptive statistics were produced and used to investigate

frequency and percent distributions of the independent variables and the outcome variable. At the bivariate level of analysis, Chi-square test of independence was used to produce cross tabulations for categorical, nominal/ordinal scaled explanatory variables to determine the significance of the relationships between them and the outcome variable using contingency tables. All the associations were determined at 10% level of significance. Where $P< 0.1$ was considered statistically significant. To determine the effect of the independent variables on the outcome variable binary logistic regression was fitted on the Data. The resulting effects of the predictor variables on the dependent variable was explained by their one-unit increase/status in terms of (Log Odds). Log odds of the outcome variable were modelled as a linear combination of the predictor variables. Binary Logistic Regression was chosen in this study, as opposed to Ordinary least squares and multiple regression, poison and other regressions methods which may be applicable because the study only intended to ascertain whether internal control at UTH were effective or not. This implies that the outcome variable, which may have points Likert scale measure, were collapsed into responses (effective/Not-effective) as a binary, to allow for the application of the binary logistic regression model.

CHAPTER 6

DISCUSSION OF FINDINGS

6.0 Introduction

Internal controls are one of the most essential elements within any established organization. Internal controls are put in place to enable organizations to achieve their set-out goals and objectives. Management of any organisation, firm or business entity is responsible for the design, implementation, and maintenance of all internal controls, with the Board responsible for the overall oversight of the internal control system. Key aspects of internal controls which are critical are accurate and reliable financial reporting, compliance with laws and regulations, and effectiveness and efficiency. This paper dwelled much on the effectiveness on the internal controls of the organizational operations. This chapter adds the story findings of the study and marries the findings of this study to the findings of other scholars with similar or disputing findings of similar studies. The general objective of this study was to investigate the effectiveness of internal controls on management of internally generated funds in public institutions using the University Teaching Hospital as a case study.

6.1 Internal controls implemented on internally generated funds at UTH.

The findings indicated that all the five key components of internal controls; Control Environment, Risk Assessment, Control Activities, Information and Communication, and Monitoring Activities are implemented at the University Teaching Hospital: -

Control Environment: this was found with the supreme importance of the five components because it impacts on the other four. It provides the fundamental base for establishing the complete control system in an institution. It has five principles pertaining to setting the tone at the top, demonstrating a commitment to competence, and establishing oversight, structure, responsibility, and enforcing accountability. Similarly, other scholars AlRawi et al., (2019); Arjoon, (2006); Ebrahim, (2003); Moeller,(2013) postulates that control environment is the foundation for implementing and promoting ethical standards, integrity, and accountability policies, setting missions, goals and objectives, stablishing the structure, organizational responsibilities, and reporting chains; Hiring competent and trustworthy staff members and provide necessary training for them. Another scholar Mahadeen et al., (2016) argues in line with findings of the current of the study that, control environment provides leadership and good governance through the process of staying on top of operations and performance, and

correcting problems when identified and focusing and emphasising that compliance with laws and regulations is the expectation for the organization.

Risk Assessment: in this study risk assessment was found to be implemented on the second line of the system and it had four principles that principally addresses defining of objectives, identify, analyse, and responds to all types of risk and change. At the University Teaching Hospital, managers have a responsibility for not only identifying risks but also to establish the level of risk they are willing to accept. This is achieved by calling for and implement stringent control activities. These findings are consistent with literature which indicates that risk assessment is the identification and analysis of risks that could prevent the organization from achieving its set out goals or objectives within the specified period of time. If risk assessments are properly implemented, identifying risks can allow management to determine how to mitigate and manage these risks. Furthermore, Koutoupis and Tsamis, (2009); AlRawi et al., (2019) postulates that, risk factors could consist of internal and external factors. What is critically paramount is that management should evaluate risks in the organization on a regular basis, as changes in an organization, such as staffing, new policies, new software applications, new regulations among others could all impact on the efficiencies of the.

Control Activities: just like other scholars have reported for other institutions Commission, (2013); Ejoh and Ejom, (2014); Rezaee, 2018), **t**he third component of the internal control framework is the control activities. The three associated principles connect to designing and implementing control activities. this is implemented for the purpose of designing mechanisms for policies, procedures, and security measures to be put in place in order to accomplish agency objectives. Consistence of the findings of this study is with the finding of the study which was conducted by Ejoh and Ejom, (2014) which found that control activities are the set out policies and procedures that help ensure that management directives are effectively carried out states that one of the most important control activities is segregation of duties. What is implied here is that different individuals should be responsible for authorizing transactions, recording transactions, having custody of assets, and performing comparisons as well as reconciliations. Findings of the current study shows that duties are well separated. However, it is argued that, having proper segregation of duties is sometimes difficult for some organizations but by all means, organizations' managers should try to segregate these functions to the best of their ability (Kure et al., 2018).

Information and Communication: it is the fourth component established and comprises of three principles; processing data into quality information; communicating to internal audiences and communicating to external audiences. At the University Teaching Hospital use this component to identify and transfer pertinent information in a timely and effective manner that permits personnel to perform its responsibilities. To effectively set a standard information and communication system, internal control management, establish relevant and reliable information to track operations, goal progress, and compliance. Information is disseminated throughout the organization to ensure that critical; information is delivered to the right staff in timely and effective ways. These results are consistent with the findings of the study which was done by Abu Naser et al., (2017). This author, Abu Naser et al., (2017), indicated that appropriate information must be acknowledged, captured and communicated in a timely and effective manner that would enable people to carry out their responsibilities. This therefore, implies that information systems produce reports containing operational, financial and compliance-related information that makes it easy to run and control any given organization. In this sense, effective communication must occur in a broader sense, flowing down, across and up the organization (AlRawi et al., 2019). This means that clearly, lines of communication shouldn't just flow from management to subordinates, but it should also flow from the subordinates to management to allow each member of the team to successfully carry out their responsibilities in the organisation (Abu Naser et al., 2017).

Monitoring: monitoring is the 5th internal control employed at UTH. This component has two principles which outlining responsibilities for monitoring and correcting deficiencies which identified. Internal control systems are monitored and during this process there is an assessment of the quality of the system's performance over time. This part is accomplished through ongoing monitoring activities, separate evaluations or a combination of the two and independent audits. It was found that ongoing monitoring occurs in the course of operations and internal control deficiencies are reported upstream, with serious matters reported to top management. As literature presents it; establishing controls alone is not enough (Koutoupis and Pappa, 2018). Therefore, managers need to verify the effectiveness of the controls. They have to establish a system of quality control over all processes such as supervisory reviews, approvals, and automated exception checks and conduct routine reviews of actual performance compared to set out goals and budgets (Ebrahim, 2003). In addition, they have to conduct independent audit reviews of a function to determine whether it is working as intended or not (Wang et al., 2010).

6.2 Factors Influencing the Implementation of Internal controls on Internally Generated Funds at UTH.

In this study it was determined that one-unit increase in the age of the employee by one year, increased the effectiveness of internal controls. The possible explanation to this could be that; employees mature and become more responsible as they grow older. Elderly people take things more seriously as compared young people. Therefore, having elderly people in internal control positions could indeed contribute to the effectiveness in the implementation of internal controls in public institutions. Older workers are highly skilled and experienced, they work longer hours and have a strong work ethic (Vasconcelos, 2018). According to the united states Bureau of statistics, in 2014, the median tenure of workers aged 55-64 in all industries was 10.4 years, more than three times the 3.0 years for workers ages 25-34 years (Stoesz et al., 2020). Businesses facing high worker turnover consistently said they prefer to hire older workers because they perform effectively, they are consistent (Liang et al., 2019) and highly committed to their call (Stoesz et al., 2020).

Having female employees in internal controls, increased the effectiveness of internal control system. The reasons to this could be that female employees are more reliable and honest as compared to male employees. They are even more responsible and take care of their roles on the job very well compared to male employees. Despite them having other household roles, they still seem to out-perform male employees in many areas. In a similar study, which was conducted by Liang et al., (2019) to examine the association between the gender of accounting employees and internal control quality, it was found that firms with a higher proportion of female accountants were less likely to have future internal control weaknesses. According to the authors of this study Liang et al., (2019), this association was robust to using entropy balance matching and an instrumental variable approach that exploits variation in the external supply of female accountants. In the same study, additional analyses indicated that firms with a higher proportion of female accounting employees had fewer future financial restatements and higher accruals quality. They Liang et al., (2019), further indicated that female accountants are less likely than their male counterparts to separate from their firms after internal control weaknesses. This could best explain the reason having female employees would increase the effectiveness in internal control in a public institution like UTH.

Having employees with secondary education reduced the effectiveness of internal controls. To some extent, school leavers maybe underqualified for their positions and as a result, this

could be detrimental to them as there would an existing miss-march between there level of knowledge and the roles required them to play in the place of. In addition, most secondary educated individuals spend less of their time in school and as such they end up acquiring less knowledge that would be required to carry out the job activities. As such, their contribution to the overall performance of an organisation in most cases becomes affected negatively. This result is in line with the findings of recent studies which highlight that, in European countries, school certificate holders experience under-education once they enter the labour market (Enders, 2004). They experience a vertical mismatch between the grade twelve qualification acquired and the level of qualification required for the jobs they find (Ermini et al., n.d.). This under-education condition might exert detrimental influence on both the societal outcomes of secondary education as they might find it hard to fully exploit their innovation potential in their placed job roles and this can as well undermine private returns (Ermini et al., n.d.).

Having employees in Masters level of education in internal controls increases the effectiveness of internal controls. This could be linked to literature which indicates that, individuals with a mastery knowledge execute their duties at the levels that match their qualification. Individuals in this level of education are at the steering point of activities in their job site. They participate and contribute greatly to activities assigned to them. Therefore, the mastery individuals playing varies roles in internal controls at UTH could indeed be contributing to the effectiveness of the system implementation. Literature marries with the findings of this study as it specifies that; mastery is a pillar of motivation in a work place (Lantz Friedrich et al., 2016). It brings about better productivity, engagement, and other desirable work-related traits among the work force. According to Lantz Friedrich et al., (2016) the mastery provide four key factors needed in a workplace to facilitate productivity; instituting a learning environment; increase the flow of tasks; insure having small goals in place; and establishing constant practice.

Having employees in certificate level of education in internal controls reduces the effectiveness of internal controls. The possible reasons to this finding could be that certificate holders have low understanding of issues, and concepts as well as the ways to handle challenging roles. Exposure to critical roles among certificate holder as well seems to be low among certificate holder as they are rarely involved in complex roles in many work settings (Akparobore and Omosekejimi, 2020). Therefore, their contribution to the overall output of the certificate holders becomes very low. Literature from past studies indicates that employee advanced training plays a vital role in improving performance as well as increasing

productivity and in turn, this leads to placing organizations in the better positions to face competition and stay at the top on the market (Akparobore and Omosekejimi, 2020). Further existing literature presents evidence of an existence of obvious effects of advanced training and development on employee performance. Therefore, low contribution can be expected from employees with qualifications (Migdadi and Elzzqaibeh, 2018).

Having employees with an accounting profession increased the effectiveness of internal controls. By nature of their training, accountants are more exposed to financial issues ranging from generation to expenditure. This can explain why having employees with accounting professions in internal controls increased the effectiveness of internal control systems. Similarly, a study which was done in South-Western Nigeria using a standardized self-report questionnaire, containing job performance scale (α=.81), indicated that bursary staff with accounting professional qualification reported more job performance than the non-certified staff (Ogungbamila, 2016). The findings of this study are in line with the findings of the current study. However, other factors such as experience of the employees plays a bigger role in effectiveness of the contribution of individual workers in the implementation of the internal controls (Cogin, 2012).

One unit increase in the years of experience by one year, increase the effectiveness of internal controls. The possible explanation to this scenario could be that employees with more years of experience tend to be more productive than those with less experience in any industry firm or work set-up. In line with the findings of this study, a study conducted by Baron, (1983) found that, 37% of employers interviewed ranked, among other things, experience as the most important qualification in an applicant for respective advertised positions. Experience comes with expertise in the work place and enhances productivity among the workers in the work place. This could suffice for the reasons experienced employees in internal controls at UTH contributed to the effectiveness of the system implementation (Awada et al., 2021).

6.3 Effectiveness of Internal controls Implemented on Internally Generated Funds at UTH

Just as other studies found on the implementation of internal controls in public institutions Akinleye and Kolawole, (2020); Benedek et al., (2014); Campbell et al., (2006); Chalmers et al., (2018); Commission, (2013); Horvat, (2017); Ncgobo and Malefane, (2017), on overall, duties among the workers in internal controls are well separated and physical controls are well implemented, arithmetic and accounting are well functional, management and

supervision are effective, organization authorization and approval of financial transactions are effective. It was established that internal controls on internally generated funds at the UTH were fairly effective. A smaller proportion of the respondents stated that internal controls at UTH are very effective while a reasonably bigger proportion indicated that internal controls at UTH are effective. However, some employees stated that internal controls are not effective, they need improvements, there is need for computerisation of the internal controls, they need more improvement in audits and accountability.

6.4 Linking the COSO Model to the Findings

This study adapted the COSO model structured with the control environment forming a base for control activities, risk assessment, and monitoring. Information and communication link the different levels of the pyramid. As structured in the COSO model, the control environment is arguably the most important component because it sets the tone for the organization: Factors of the control environment include employees' integrity, the organization's commitment to competence, management's philosophy and operating style, and the attention and direction of the board of directors and its audit committee. The control environment provides discipline and structure for the other components; risk assessment include set out objectives, risk identification consideration for the potentialities for fraud, and significant change indemnification; Control activities include the selection and development of various activities including the development of the general IT as well as the general policies and procedures; information and communication is made up of information obtaining, generation and use, and adequate information communication internally; and monitoring is made up of ongoing internal/or separate evaluations/audits and evaluation of internal control deficiencies (D'Aquila, 2013). This model fitted very well in this study as it fully underpinned all the analyses and explanations to the study. However, the study has not analysed data in absolute terms because situations in every public institution differ and as such the application of the COSO model to this study may have left out other important consideration which have been of great addition to the study in general. In this study, the author modified the COSO model by adding a component of the characteristics of the employees who work on internal control system.

CHAPTER 7

CONCLUSION, RECOMMENDATIONS, AND LIMITATIONS

7.0 Introduction

This chapter provides the conclusions on the findings of each of the three objectives of the study; to identify the internal controls implemented on internally generated funds at UTH; to examine the factors influencing the implementation of internal controls on internally generated funds at UTH; and to evaluate the effectiveness of internal controls implemented on internally generated funds at UTH. Furthermore, the chapter presents the recommendations based on the findings of the study.

7.1 Conclusion

This study concludes that:

All the five components of the internal control system; control environment, risk assessment, control activities, information and communication, and monitoring activities are implemented at UTH. However, information technology, information and communication, and monitoring activities are fully implemented.

Increase in the age of the employees, having employees in Masters level of education, having employees in Degree level of education, having employees with an accounting profession and having employees with 7+, 4 – 6 and 1-3 years of experience increased the effectiveness of internal control. Having employees in certificate level of education in internal controls reduced the effectiveness of internal controls. In all planning for improvements in the effectiveness of internal controls stakeholders need to consider these factors.

Duties among the workers in internal controls were well separated; physical controls were well implemented, arithmetic and accounting were well functional, management and supervision were effective, and the organization authorization and approval of financial transactions are effective.

Overall, internal controls are well effective at the University Teaching Hospital. However, there is greater need of improving them especially in the areas of information technology, information and communication, and Monitoring activities, they need more improvement in audits and accountability as this would make the system very effective.

7.2 Recommendations

7.2.1 Administrative Recommendations

Based on the findings this study suggests the following recommendations if the implementation of the internal controls system can be very effective:

UTH needs to employee young adults at least in ages of 36 and above, increase on; female employees, Bachelor's and Master's Degree holders, accounting professionals and years of experience of at the point of recruitment of at least 1 year. In addition, UTH must should stop employing school leavers in internal generation of funds.

UTH needs to, to a greater extent, improve information technology and, the information and communication infrastructure, to increase on the efficiency in dealings with transactions and quicken communications within and outside the department. Furthermore, the Department needs to establish an independent monitoring and evaluation unity for monitoring activities which will routinely assess achievements and failures in the system and recommend positive changes to the system and the internal audit unit to provide effective routine checks and balances on all internally generated funds.

7.2.2 Future Research Recommendations

Future research should consider a nationally representative sample in order to make a robust assessment of the effectiveness of internal controls in all public health institutions. This will create basis for national policy amendments on internally generated funds.

Further, future research should consider a mixed method research approach which will fully give the true picture of the situation on the ground through the triangulation of quantitative and qualitative data.

1.6 Study Limitations

The study only covered one health Institution. Therefore, the results cannot generalized to other hospitals in the country.

The study employed a a quantitative research only. It never got information on lived experiences from lived experiences

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APPENDICES

Appendix 1: Ethical Clearance

Ethical Considerations

This study used primary data which was collected directly from the respondents. Therefore, permission to conduct data collection was obtained from Directorate of Research and Graduate Studies (DRGS, UNZA). Informed consent was obtained from all those participating in the study. Those not willing to participate in the study were no forced. Respondents' names were indicated anywhere in the data collection tools for confidentiality and information gathered was solely used for the purposes of this academic study. The researcher ensured that nothing was traced back to any of the respondents in case of the publication of the findings.

Ethical Clearance Form