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# INTERNAL AUDIT AND QUALITY OF FINANCIAL REPORTING IN THE PUBLIC SECTOR: THE CASE OF UNIVERSITY FOR DEVELOPMENT STUDIES

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# **ABSTRACT**

Many corporate failures have occurred over the years as a result of poor financial reporting practices that have eluded investors and other consumers of financial data. The research used the University for Development Studies (UDS) as a case study. The study focused on three main goals: identifying emerging determinants of quality financial reporting, examining the efficacy and adequacy of UDS's internal control structure, and determining how much Internal Audit contributes to quality financial reporting. The research used a descriptive survey template and a sample size of 70 people who were chosen using purposive and stratified sampling techniques. To achieve objectives one and two, the analysis used binary regression, while to achieve objective three, the Best (2005) index was updated and used. Financial reporting accuracy, a computerized accounting system, and personnel competence were found to be determinants of quality financial reporting in the study. It was discovered that UDS' internal control system is ineffective since two of the five main components that make up an efficient internal control system, namely control environment and information and communication, are not properly implemented. The study found that UDS' internal audit reflects an average level of fraud prevention in terms of the robustness of auditing processes and fraud prevention indicators, with the remaining indicators indicating a high level of fraud prevention. Overall, UDS' internal auditing reveals a high degree of prevention. The University for Development

Studies (UDS) should analyze, define, and enforce control setting, information, and communication components of the internal control system that are appropriate for their work processes, as well as enhance the existing components, according to the report.

**Keywords:** Internal Audit, Financial Reporting, Public Sector, Ghana.

#### INTRODUCTION

Internal controls are the safeguards put in place by an organization to ensure that its priorities, goals, and missions are met. They are a collection of policies and procedures used by an agency to ensure that an organization's transactions are handled properly in order to prevent waste, theft, and abuse of resources. Internal controls are mechanisms developed and implemented by those in charge of governance, management, and other staff to provide fair assurance that an entity's goals in terms of financial reporting reliability, operational effectiveness and performance, and compliance with relevant laws and regulations are being met (Mwindi, 2008). Internal audit is a control set up by management to review and report on the adequacy, efficacy, and adherence of the internal control structure established by management. Examining financial and operational records, evaluating compliance with relevant laws, management practices, and reporting requirements, and conducting value for money checks and fraud investigations are some of the other roles performed by internal auditors to ensure quality financial reporting. The Government of Ghana founded the University for Development Studies (UDS) in May 1992 to "blend the academic world with that of the community in order to provide positive interaction between the two for the complete development of Northern Ghana, in particular, and the country as a whole" (PNDC Law 279, Section 279). It is divided into three regions: Tamale in the north, Navrongo in the east, and Wa in the west, with Tamale in the middle. Many businesses have failed, and large corporations have failed, as a result of their failure to adopt and implement sound financial management practices, which occurred in the absence of investors and other financial data users. Most corporate failures over the years, such as Enron and Worldcom, went unnoticed by their shareholders and other financial information users until they collapsed due to attractive and healthy financial statements being published. The research question here is: What are the roles of internal auditors in achieving quality financial reporting?

The main objective is to identify the roles of internal auditors in achieving quality financial reporting

As a result, a study on the role of internal audit in achieving quality financial reporting should be conducted, using the University for Development Studies as a case study.

### LITERATURE REVIEW

# **Internal Auditing**

Auditing can be classified into two categories. Internal auditing is described by Mahushi (1985) as the continuous and systematic process of examining and reporting on the administrative systems and accounting methods of a company or group of companies. It is generally carried out by company employees with the goal of confirming that management policies are being properly executed and drawing attention to areas where policies are not being properly executed.

Internal auditing has many meanings, several of which are as follows: Internal auditing is an autonomous, impartial assurance and advisory process that adds value to and improves the operations of a company. It assists a company in achieving its goals by implementing a structured, disciplined approach to evaluating and improving the efficacy of risk management, control, and governance processes (IIA, 2004). Internal auditors should be able to recognize fraud indicators, but they are not supposed to have the skills of someone whose primary duty is to detect and investigate fraud (Millichamp and Taylor, 2008).

Internal auditing, according to Maheshwari (2004), is an examination of a company's various activities and documents by workers who have been specifically assigned to this task. Internal audit's primary goal is to provide impartial and objective assurance to the accounting officer or equivalent officer, as well as the council, on the efficacy of the local authority's risk management programs.

# **Agency Theory**

The agency theory describes how the agent (management) and the principal (shareholders) establish a conflict of interest and how to handle it. Businesses were traditionally owned and run by the same people. However, for economies to develop and expand, it was important to find a greater number of investors willing to provide financial support. This eventually led to the concept of limited liability companies (LLCs) and, as a result, the introduction of stock exchanges where people could buy and sell shares.

For Jensen and Meckling (1976), the agent (managers) agrees to carry out specific tasks for the principal (investors), and the principal agrees to compensate the agent. Principals incur agency expenses to track agency conduct (both in terms of management remunerations and auditor remunerations), all because of a lack of confidence in the good faith of agents. The auditor's job is to keep an eye on the relationship between management and shareholders. A gap assumption, according to Andresson and Emander (2005), arises when the distribution of responsibility is not well established

#### **Internal Audit Effectiveness**

The word "effectiveness" was described differently by different authors; for example, Arena and Azzone (2009) defined effectiveness as "the ability to achieve results that are compatible with goals." "Effectiveness is the achievement of internal auditing goals and objectives using factor measures given for evaluating those factors," according to Dittenhofer (2001). Internal audit effectiveness is described by Mihret and Yismaw (2007) as "the degree to which an internal audit office meets its supposed objective or meets the expected outcome." Internal audit and management are thus interdependent units that can work together to achieve organizational objectives. Internal audit unit seeks some value from management (such as management support, engagement, anticipation, etc.) and management needs some value from internal audit (such as adding value in decision making by providing adequate knowledge and reducing information asymmetry, controlling and improving risk management and internal control system).

# **Effect of Auditing on the Performance of Organization**

Internal auditing has been shown to reduce risks, improve control problems, lower external monitoring costs, improve earnings management, reduce fraud risks, and reduce other opportunistic activities within an enterprise (Prawitt, Smith, & Wood, 2009). Davidson,

Goodwin-Stewart, and Kent (2005), on the other hand, found no evidence that the existence of internal audit was linked to poor earnings management.

Internal audit quality is measured by competence, objectivity, freedom and honesty, and job efficiency, according to the Institute of Internal Auditors (2012). It has also been suggested that a high-quality internal audit in an enterprise gives the audit committee more support and is more sensitive in risk management. Internal auditing considers these factors, which play an important role in governance, regulation, and risk management.

When the above components of internal audit efficiency are compared to the internal audit effectiveness metrics, the assessment of the variables is strikingly similar. Internal audit quality, for example, is measured by the percentage of audit plans completed within a financial year the existence of an internal audit quality assurance and improvement program (Elliott, Dawson, & Edwards, 2007), internal audit compliance with standards for professional practice of internal auditing (Abdolmohammadi, 2009), and external assessment of internal audit (Institute of Internal Auditing, 2009).

The effectiveness of the internal audit feature in terms of governance, control, and risk management is dependent on its accuracy. Through the responses of chief audit executives in 216 public corporations in the United States from 2000 to 2005, Prawitt et al. (2009) investigated the relationship between internal audit efficiency and earnings management. Internal audit efficiency was found to have a strong negative association with irregular accruals in their report. They went on to say that internal audit quality is critical in reducing management opportunistic behavior, which has an impact on financial reporting quality and performance data.

Internal audit efficiency also promotes transparency through the reporting process. Davidson, Goodwin-Stewart, and Kent (2005), on the other hand, found no evidence that the existence of internal audit was linked to poor earnings management. Their research included a survey of 434 publicly traded firms on the Australian Stock Exchange, with data primarily derived from the sampled companies' single-year annual reports. Their results indicate that an internal audit does not stop management from engaging in actions that jeopardize an organization's financial reporting.

# **Adequate and Competent Internal Audit Staff**

Adequate staffing is needed for a system to operate at its full potential. Staffing deficiencies can lead to mismanagement, mistake, and violence, negating the impact of other controls (MoFED, 2004). Internal audit personnel size and competency are two important characteristics of IA efficiency that cannot be differentiated. This means that if one factor is missing, the other would not be able to contribute to the consistency of internal auditors.

The proper staffing of an internal audit department, as well as good management of the workforce, are critical to an internal audit's success. An audit requires a team of professionals with the requisite education, training, experience, and professional credentials to perform the full range of audits mandated by the mandate (Al-Twaijry et al, 2004). Auditors must adhere to their respective professional organizations' minimum continuing education criteria and professional guidelines (IIA, 2001).

Internal auditors must have the expertise, ability, and other competencies required to fulfill their duties, according to IIA norm 1210 on auditor proficiency (IIA, 2001). Furthermore, one of the most important aspects of IAF is the efficiency of its internal auditing workers, which is

calculated in terms of internal auditor skill (Leung & Cooper, 2009; Seol & Sarkis, 2006). As part of this, the Competency Framework for Internal Auditing (CFIA) focuses on the skills required of individual internal auditors.

Internal auditor competence can be assessed in terms of academic level, experience, and staff efforts for continuous professional development and compliance with audit standards, in addition to the aforementioned dimension of IA quality. The overall quality of internal audit work is determined by the quantity of audit effort as well as the quality and professional consideration practiced (Cohen & Sayag, 2010; Leung & Cooper, 2009; Belay, 2007). Arena and Azzone (2009) have reported that the efficiency of internal auditing improves as the ratio of qualified internal auditors to employees increases. This demonstrates that the IA can d with a sufficient number of qualified professionals to do its duties.

# **Determinants of Quality Financial Reporting**

A variety of factors affect the consistency of financial reporting. The standard of financial reporting is affected by collecting quality data and hiring knowledgeable staff, according to Ojha (2012). Financial reporting efficiency, according to Abdul-Jabil (2015), is heavily affected by financial reporting accuracy, computerized accounting, and staff competence. Financial reporting accuracy is achieved when reporting requirements are followed and reliable data is captured for processing. The expertise of the staff has an impact on data processing and adherence to reporting standards, as staff with a strong accounting background are better able to comprehend the reporting standards and deliver quality reporting.

# **Effectiveness and Adequacy of Internal Control System**

Internal control is made up of five interconnected elements, according to the Committee of Sponsoring Organizations (1992). Control Environment, Risk Assessment, Control Activities, Information and Communication Controls, and Control Monitoring are the various components. These are derived from how management runs a company and are aligned with the administrative procedure. Despite the fact that the segments apply to all substances, small and medium-sized businesses can implement them differently than large corporations. In addition, Nassè (2019) indicates that the management context of small and medium-sized companies is less complex than the management context of large companies. Although its controls are less structured and centralized, a small business may currently maintain effective internal control. According to Wittington and Pany (2004), an organization's internal control system is efficient and sufficient if all five identified components are present and operating properly. These elements are listed in more detail below:

Control operations, according to Rittenberg et al. (2007), are the arrangements and processes that help ensure that administration orders are carried out. They assist in ensuring that significant steps are taken to eliminate threats to the entity's objectives. Control operations take place at all levels and in all capacities in the company. They cover a broad range of activities, including endorsements, approvals, checks, concessions, audits of working execution, benefit protection, and responsibility isolation.

Control operations, according to Rittenberg et al (2007), also include the techniques and methods that ensure members complete administration mandates. Audits of the control system, physical controls, separation of responsibilities, and data framework controls are all examples of control activities. General and device controls are included in data system controls. Access, programming, and framework enhancement are all examples of general controls. Application

controls are those that prevent errors from entering the system or detect and correct errors that have already occurred. Wittington and Pany (2004) also go into how the entity obtains relevant data and distributes it within the enterprise. The data system separates, collects, and publishes budgetary and operational data that aids in the monitoring of the organization's operations. Internally, employees must be taught that they must understand their roles in the internal control system, value their internal control responsibilities, and, if necessary, report problems to higher levels of management. Outside the element, individuals and organizations that provide or accept goods or services must understand that the agency will not tolerate unethical behavior.

#### **Information and Communication**

The COSO Report (1992) stated that relevant data must be identified, captured, and disseminated in a manner and time frame that allows individuals to fulfill their responsibilities. Data frameworks generate reports that include organizational, budgetary, and consistency-related data, allowing the company to be run and regulated. They deal with both internal and externally generated data, as well as information about external events, exercises, and conditions that are relevant to business decision-making and external disclosure. In addition, effective communication can flow down, through, and up the organization in a broader context. Top management must send a reasonable message to all employees that control responsibilities. They should be aware of their own role within the internal control system, as well as how individual exercises relate to the function of others. They should be able to send vital data upstream using a variety of methods. There should also be effective communication with external parties such as customers, suppliers, controllers, and shareholders.

# **Challenges Facing Internal Auditing**

Internal audit faces a variety of problems, according to MISTI (2017), which he categorizes into four categories. These difficulties include locating personnel with the necessary expertise to carry out the internal audit function. First, according to MISTI (2017), most internal auditors lack a diverse set of skills, including analytical abilities, business intelligence, efficient communication, honesty, bravery, and conflict resolution abilities. Second, most internal auditors are not open, honest, or candid, which has a negative impact on people's interest in them. The third point is that there is less added value. Internal auditors often struggle to recognize the risks that their companies face and provide sufficient assurance while maintaining regulatory enforcement and third-party relationships, according to MISTI. Fourth, the inability to incorporate technology into internal auditing makes the job more challenging. Internal auditors, for example, take a long time to go over voluminous records and other documentation. All of this has a negative impact on their production levels. According to SAICA (2017), auditing faces challenges such as fraudulent financial reporting and audit failures, the audit regulations that place a number of restrictions on auditors, the level of independence of auditors, the cost of engaging quality auditors is rising, putting financial constraints on businesses to hire the best auditors, and the ever-increasing auditing.

#### **METHODOLOGY**

A research design, according to Parahoo (1997, p.142), it is "a strategy that specifies how, where, and where data will be collected and analyzed." This is a survey that is descriptive of

nature. Since the research aims to analyze and interpret respondents' perspectives on internal auditing and financial reporting quality, a descriptive survey was used (Saundel et al 2002).

# **Research Approach**

Quantitative analysis was used in this study. The research questions relied on the use of econometric methods to evaluate the hypothesis. The use of qualitative testing approaches, such as questionnaires, provides respondents with a detailed understanding of the subject matter, as does the use of some data collection techniques, such as organized and unstructured questionnaires. When research questions are calculated in numerical terms, which is consistent with the study questions mentioned in chapter one, a quantitative approach is acceptable. According to Parahoo (1997, p. 142), a quantitative analysis is beneficial when the aim is to test a hypothesis by collecting numerical data from respondents.

# **Study Population**

The study was conducted on the administrative staff of the University for Development Studies (UDS). They are made up of administrators, account officers, auditors, faculty officers, and heads of departments in the four campuses. The total target population was 86.

### Sample Size

The sample size is selecting part of the study's total population to study. With a study population of 86, the sample size was calculated using a statistical formula:  $S = \frac{Z^2P(1-P)}{C^2}$ 

Where

S = Sample size,

Z = Z value (e.g., 1.96 for 95% confidence interval),

P = Percentage choice of sample size needed expressed in decimal (0.50 used for sample size needed)

C = Maximum error of estimation (0.05)

$$S = \frac{1.96^2 \cdot 0.5(1 - 0.5)}{0.05^2} = 384.$$

As indicated by Enshassi and Swaity (2015), the correction for the finite population is described as

$$S_{\text{new}} = \frac{S}{1 + \frac{S - 1}{\text{pop}}}$$

Where, pop is the population, which is made up of 86. Hence,

$$S_{\text{new}} = \frac{384}{1 + \frac{384 - 1}{86}} = 70$$

This implies that, at least 70 respondents are required for this study.

#### **Sampling Technique**

The study adopted a purposive sampling technique. Purposive sampling technique was employed to select heads of departments, faculty or school officers, heads of audits and accounting as these respondents are in key positions with in-depth knowledge about financial accounts and are directly involved in the financial reporting process. As such they are automatically qualified to be selected for this study. Again stratified random sampling method

was adopted to group the remaining respondents into administrators, account officers and auditors to form homogeneous group.

#### **Sources of Data Collection**

Data for the study were collected from both primary and secondary data sources. Primary data were obtained using questionnaires that were personally delivered to respondents. This gave the researcher the opportunity to explain issues that did not appear clear or apparent to respondents. Secondary data such as adequacy of internal controls, internal auditing, challenges facing internal auditing, research design, approach and sampling method among others was sourced from books, journals, publications, public records, internet, etc.

#### **Data Collection Instruments**

Questionnaires were the main instruments for collecting data. A questionnaire is a scientific tool or instrument for data collection which consists of a written list of questions where respondents read and provide answers. Given that almost all the respondents could read and write English, the responses received were accurate and addresses all the key questions posed. The questionnaire was grouped into four sections, section A captured data on the respondents background to ensure that the right people responded to the study to give accurate data. Section B captured data to address the first objective of the study which is identifying the determinants of quality financial reporting by asking a number of questions to measure three variables identified in the literature to measure the quality of financial reporting using five points Likert scale. The third section also focused on soliciting data on the effectiveness and adequacy of UDS internal control system by collecting data on five variables that were identified in the literature as the measure of the effectiveness and adequacy of the internal control system. The last section captured data on the extent to which internal auditing prevents omission and misstatement in the financial statements using five points Likert scale.

# Reliability and Validity Reliability

The accuracy of the findings obtained from the instrument used in the analysis is referred to as the study's reliability (Nassè, 2020). When the same research procedure is replicated and the findings are reproduced within specified confidence limits, it is said to be reliable. This has to do with a research finding's potential to be replicated if a parallel study is performed. The researcher administered the questionnaire himself to a few selected respondents at WA Polytechnic to ensure its validity and reliability. This provided an opportunity to work with the supervisor to fine-tune the questionnaire. Moreover, during the data collection process, the researcher received the support and cooperation of respondents. This provided an opportunity to work with the supervisor to fine-tune the questionnaire. Moreover, during the data collection process, the researcher received the support and cooperation of respondents.

### **Validity**

The degree to which an instrument calculates what it was designed to measure is referred to as validity. The phrases "internal" and "external" validity are used interchangeably. Internal validity refers to whether the suspected cause causes the observed impact in the study, while external validity refers to the generalizability of the study's findings. Past findings on internal audit issues were used to select the main variables for evaluating internal auditing and quality financial reporting in this review. The definition of internal auditing's validity is developed through published steps (Sekeran, 2003).

# **Data Analysis**

# Objective One: Identifying the Determinants of Quality Financial Reporting

Three metrics were described as indicators of high-quality financial reporting in the analysis. Financial reporting quality, computerized accounting, and personnel competence are the factors in question. Certain factors affect the existence and proper functioning of each variable; these factors were established, and a five-point Likert scale was used to assess respondents' degree of agreement or disagreement. For each of the three variables, the weighted average score of each component on the five-point Likert scale from each respondent was determined. The dichotomous dependent variable quality financial reporting was coded 1 = Quality and 0 = Otherwise. Then, using logistic regression, it was determined if the three variables found are determinants of quality financial reporting or not.

When determining the effect of one or more interval, ratio, or categorical variables on dichotomous dependent variables, logistic regression is sufficient.

Ho: Financial reporting accuracy (FRA), computerized accounting (CA), and personnel competence (SC) are not determinants of quality financial reporting when viewed as a whole (QFR).

Financial reporting accuracy (FRA), computerized accounting (CA), and personnel integrity (SC) are all factors that influence the quality of financial reporting (QFR).

The logistic regression model is depicted below;

QFR= 
$$Log\left[\frac{p}{1-p}\right]$$
=  $B_0 + B_1FRA_i + B_2CA_i + B_3SC_i + \epsilon_i$ ......

Where Dependent Variable = Quality Financial Reporting (1= Quality, 0 = otherwise) P = probability of being quality whiles 1-p = probability of not being quality. Again, p/1 - p is the odds ratio and the log the odds ratio yields the Logit Model.

The a priori Independent Variables include:

FRA= financial reporting accuracy

CA= computerized accounting

SC= staff competence (SC)

 $B_{O=}$  is the constant term,  $B_1$ ,  $B_2$ ,  $B_3$  are the coefficient to be estimated and  $\epsilon_i$  error term.

i= Observation

# Objective Two: Exploring the Effectiveness and Adequacy of U.D.S Internal Control System

Five primary variables were defined through the literature review to make internal control systems successful if they are present and running properly. Regulated climate, risk evaluation, control practices, knowledge and communication, and monitoring are the factors. However, such variables affect the existence and proper functioning of each variable; these factors were established, and five points were assigned to them. The respondents' degree of agreement or disagreement was determined using a Likert scale. For each respondent, the weighted average score of each item on the Likert scale was determined for all five variables. The dichotomous dependent variable internal control system was coded 1 = efficient and 0 = otherwise. Then, using logistic regression, it was determined if the described five variables have an impact on the effectiveness of internal control systems.

When determining the effect of one or more interval, ratio, or categorical variables on dichotomous dependent variables, logistic regression is sufficient.

H<sub>o</sub>: taken as a whole control environment (ENV), risk assessment (RASS), control activities (CONT), information and communication (ICOM), monitoring (MON) have no effect on the effectiveness of internal control systems (INC).

H<sub>a</sub>: taken as a whole control environment (ENV), risk assessment (RASS), control activities (CONT), information and communication (ICOM), monitoring (MON) have no effect on the effectiveness of internal control systems (INC).

The logistic regression model is depicted below;

INC=
$$Log\left[\frac{p}{1-p}\right] = B_0 + B_1ENV_i + B_2RASS_i + B_3CONT_i + B_4ICOM + B_5MON_i + \epsilon_{i.....2}$$

Where Dependent Variable = Internal Control System (1= Effective, 0 = Otherwise)

P = probability of being effective whiles 1-p = probability of not being effective. Again, p/1 - p is the odds ratio and the log the odds ratio yields the Logit Model.

The a priori Independent Variables include:

ENV=Control Environment,

RASS= Risk Assessment

**CONT=Control Activities** 

ICOM= information and communication

MON= monitoring

 $B_{O=}$  is the constant term,  $B_1$ ,  $B_2$ ,  $B_3$  are the coefficient to be estimated and  $\varepsilon_i$  error term.

# Objective Three: Identifying the extent to which the review of final accounts by internal audit prevent omissions and misstatement in the financial statements.

Through the literature review a number of factors that measures internal auditor's ability to detect and prevent fraud were identified. The study then used five points Likert scale ranging from 5= Highest prevention level, 4= high prevention level, 3=Average prevention level, 2= Low prevention level, 1= Lowest prevention level, presented to the respondents to determine their level of agreement, neutrality and disagreement on the identified factors. The auditor's prevention level was determined using Best (2005) criteria. The Best (2005) criteria used Likert scale data to determine the mean of the standard ranking scale which was used to measure the prevention level based on the criteria below.

Table 1

Best Rating Criteria.

Desi Raing Cin	Crici
<b>Satisfaction Index</b>	Level of Satisfaction
4.50-5.00	Reflects highest level of prevention
3.50-4.49	Reflects high level of prevention
2.50-3.49	Reflect average level of prevention
1.50-2.49	Reflects low level of prevention
1.00-1.49	Reflects the lowest level of prevention

Source: Best (2005)

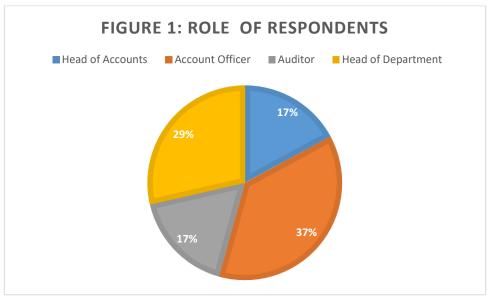
#### RESULTS AND DISCUSSIONS

Table 2
Respondent Gender

Gender	Frequency	Percent
Male	48	68.6
Female	22	31.4
Total	70	100
Total	70	100.0

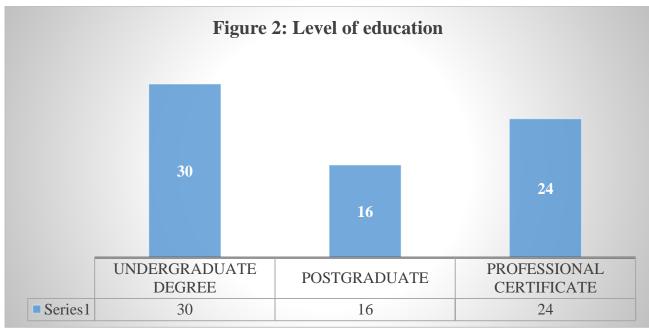
Source: Field survey (2017)

In Table 2, it shows that 68.1% of the respondents are males and 31.4% females. This indicates that both genders were adequately involved in the study and it balances the responses according to gender psychology though it confirms the dominance of males in the Ghana public sector.



Source: Field survey (2017)

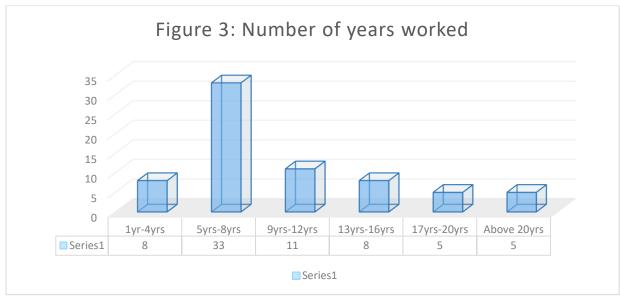
Figure 1, provides the result on the various role of the contacted respondents. The result showed that 12 respondents representing 17% are head of accounts, 29% are heads of department, and 17% are auditors while 37% are accounts officers. This implied that the study contacted respondents that deals with accounting related issues at the University which gives credence to the findings.



Source: Field survey (2017)

Figure 2 displays that 30 respondents representing 42.3% are undergraduate degree holders, 16 respondents representing 22.9% are postgraduate degree holders while 24 respondents representing 34.3% are holders of professional certificates. This indicates that all the contacted

respondents have higher education and they are capable of responding appropriately to the questionnaire.



Source: Field survey (2017)

Figure 3 illustrates that 8 (11.5%) of the respondents have worked between 1 to 4 years, 33 (46.2%) between 5 to 8 years, 11 (15.4%) between 9 to 12 years, 8 (11.5%) between 13 to 16 years, 5 (7.7%) between 17 to 20 years, and 5(7.7%) more than 20 years. This indicates that all groups of employees were involved in this study where the period between 5 to 8 years are in the majority.

Table 3
Awareness of Internal Auditor's Work and their Work Relevancy

	Frequency	Percent
YES	70	100.0
		Source: Field Survey, 2017.

Table 3 above depicts that all the respondents have heard of the term internal auditing and are aware of it and recognized the work of internal auditors to be very relevant as it checks accuracy of reporting and minimizes fraud. This implied that the contacted respondents have level of knowledge in the work of internal auditing.

Table 4
Rating of the Performance of UDS Internal Auditors

Very good     43     61.5       Good     27     38.5       Total     70     100.0		Frequency	Percent	
	ry good	43	61.5	
Total 70 100.0	ood	27	38.5	
70 100.0	tal	70	100.0	

Source: Field survey (2017)

For each respondent, a weighted average score was determined for each item on the Likert scale. Internal control method, a dichotomous dependent variable, was coded as 1 = effective and 0 = not effective. The five variables were then tested using logistic regression to see if they had any impact on the efficacy of internal control systems.

When the effect of one or more interval, ratio, or categorical variables on a dichotomous dependent variable is calculated, logistic regression is sufficient.

# **Identifying the Determinants of Quality Financial Reporting**

Financial reports are used as decision-making documents by all types of organizations, both public and private, and the quality of any decision made is largely determined by the quality of financial reports generated. This section aims to recognize the factors that, if present in a financial report, contribute to its consistency, allowing for better decision-making. Using binary regression, the researchers discovered the determinants.

According to Abdul-Jabil, the dependent variable is binary in nature, with code 0 denoting "otherwise" and code 1 denoting "quality financial reporting" (2015). Table 4.4 shows the binary logistic estimates of the variables. In a linear regression model, the Cox & Snell R Square and Nagelkerke R Square are the same as the Pseuduo R-square, which measures the proportion of variance in the dependent variable induced or explained by the independent variables used in the models.

As a result, the Cox & Snell R Square of 0.164 and the Nagelkerke R Square of 0.527 indicate that independent variables such as personnel competence, a stable computerized accounting system, and financial reporting accuracy account for 16.4% to 52.7 percent of the difference in quality financial reporting.

The Hosmer and Lemeshow Test, as shown in table 4, is a method for evaluating how well the expected model fits the study results. It is determined by taking the -2 Log probability coefficient into account and generating a P-value dependent on the Chi-Square distribution. Essentially, the Hosmer and Lemeshow Test is a goodness of fit test that tests the model's overall fit to the actual data set by assessing the null hypothesis that the model is a good fit for the data set. As a result, a P-value of .357 > .05 in the Hosmer and Lemeshow Test means that the analysis supports the null hypothesis and concludes that there is sufficient evidence to conclude that the model is a good match for the actual data. The Hosmer and Lemeshow Test, as shown in table 4, is a method for evaluating how well the expected model fits the study results. It is determined by taking the -2 Log probability coefficient into account and generating a P-value dependent on the Chi-Square distribution. Essentially, the Hosmer and Lemeshow Test is a goodness of fit test that tests the model's overall fit to the actual data set by assessing the null hypothesis that the model is a good fit for the data set. As a result, a P-value of .357 > .05 in the Hosmer and Lemeshow Test means that the analysis supports the null hypothesis and concludes that there is sufficient evidence to conclude that the model is a good match for the actual data set.

The findings revealed that at 1% levels, the variables financial reporting accuracy, computerized accounting, and staff competence are all important.

The findings indicate that financial reporting accuracy improves quality financial reporting, with a coefficient of 3.012 at the 5% mark. This meant that having strict protocols in place, using reliable non-financial data, and having a proper internal audit process also increased the likelihood of quality financial reporting. This backs up Prawitt et al. (2009)'s claim that accurate data contributes to quality financial reporting.

A robust computerized accounting system has a major effect on financial reporting efficiency. The findings show that a well-designed computerized accounting system has a substantial positive impact on financial reporting efficiency at a 10% level. This meant that a consistent computerized accounting system generated accurate data that helped in the preparation of high-quality financial reports. A well-designed computerized accounting system increases the

likelihood of generating high-quality financial reports. This supports Ege's results, which also showed that companies or organizations with a good computerized accounting system benefit from improved financial reporting, which increases decision-making and performance.

Table 4 shows that staff integrity has a positive impact on financial reporting efficiency. Competent personnel will efficiently complete the audit process and ensure that all financial reporting rules are followed, resulting in high-quality financial reporting. This is unsurprising since skilled employees can spot mistakes and omissions, improving the standard of financial reporting. This is in line with the findings of Ebimobowei and Kereotu (2011), who found that if a company hires qualified people, it can identify mistakes and omissions when adhering to accounting rules and regulations, resulting in correct financial statements.

Using the significant independent variables and the outcome variable quality financial reporting, a binary regression model was developed. The null hypothesis is dismissed, leading to the conclusion that a strong computerized accounting system, personnel expertise, and financial reporting accuracy are all determinants of good financial reporting.

The binary regression model is depicted in the diagram below.

QFR = 1.428 + 3.012 (FA) + 0.499 (CA) +0.247(SC) +  $\varepsilon$ 

Where FA= Financial reporting accuracy, CA=Computerised accounting system, SC= Staff Competence.

Table 5
Binary Logistic on Determinants of Quality Financial Reporting

Variables	Coefficient	Standard Errors
FA	3.012**	.0084
CA	.499*	.0266
SC	.247***	.0116
Constant	1.428**	.5280
Wald Chi-Square	294*	.0678
Cox & Snell R Square	.164	
Nagelkerke R Square	.527	
Log Likelihood	-994.027	
Hosmer and Lemeshow Test	2.769 (P-value: .35	(7)

Significant at (1%) \*\*\*, (5%) \*\*, (10%)\*;

Source: Field survey (2017)

# Exploring the effectiveness and adequacy of UDS internal control system

This objective seeks to assess the extent to which the internal control systems used by University for Development Studies (UDS) is effective. This was done using logistic regression since it is appropriate to test variables which has binary dependent variable and categorical or continuous independent variables in SPSSS version 20. The study tested the five components required to make an internal control system(s) of UDS effective. These components are environmental control, risk assessment, control environments, information and communication, and monitoring against dependent dichotomous variable internal control system.

#### **Tested Hypothesis**

Ho: The internal control systems of UDS are not effective Ha: The internal control systems of UDS are effective

# **Logistic Regression Report**

Table 5 gives a summary of the data used in running the logistic regression for this study. The results showed that the study used 676 data points in running the regression which is regarded as a good sample size since logistic regression is more effective with large data size. This was in line with the research of Austin, Manca, Zwarensstein, Juurlink and Stanbrook, (2010) who suggested that logistic regression is effective if it has a minimum data point of 200. Though the analysis was based on 70 respondents the 476 data points were achieved by asking a number of questions under each variable to ensure that the variables are well measured. The data collected was binary in nature for both the dependent and independent variables as suggested by Jones (2009) when carrying out logistic regression. Table 4.5 further showed that all the 676 data points were included in the analysis with no missing cases. By implication, the data points used in the analysis were adequate as required by Austin et al (2010).

Table 6
Case Processing Summary

	N	Percent
Included in Analysis	676	100.0
Missing Cases	0	.0
Total	676	100.0
	0	.0
	676	100.0
	Missing Cases	Included in Analysis 676 Missing Cases 0 Total 676 0

Results from table 6, show the coding of the dependent variable as required to fit the use of logistic regression for this data. The dependent variable is binary in nature and was coded as one (1) representing the effectiveness of the internal control systems of UDS being the desired outcome and Zero (0) representing the ineffectiveness of the internal control systems used by UDS as it was done and suggested in the work of Steyerberg, Eijkemans, and Habbema (1995).

Table 7
Dependent Variable Encoding

Original Value	Internal Value
Not effective	0
Effective	1

Source: Field survey (2017)

Classification data shown in Table 7 represent the classification accuracy of the model. It indicates the probability at which a case will fall correctly into a group the case chose. The observed column of table 6 represents individuals who believe the internal control systems of UDS is not effective, coded 0, and individuals who believe the internal control systems of UDS effective coded 1.

It is observed from Table 7 that 62 cases who believed internal control systems of UDS are not effective were classified under not effective representing 0% classification accuracy. This was confirmed by the study data set in which cases who fall under not effective category was classified under the effective category when crosschecked the actual outcome data with the predicted data with the help of the probabilities and group membership function in the SPSS. However, 614 cases that fall under the effective category were correctly placed under the effective category by the model representing 100% classification accuracy. Finding the percentage of the misclassified cases and subtracting it from the 100% of the classified cases in table 6 gives an overall classification accuracy rate of the model of 90.8%. Vittinghoff (2007)

suggested that a logistic model must have at least 60% classification accuracy to ensure it has more predictive powers, which is good for the study model with a whopping classification accuracy of 90.8%.

Table 8
Classification Table

Observed			Predicted		
			Internal control	Internal control	
			Not effective	Effective	Correct
	Internal control	Not effective	.0	62	.0
Step 1	Internal control	Effective	10	614	100.0
	Overall Percentage				90.8

Source: Field survey (2017)

Table 8 produces results of the Omnibus Test of model coefficient, which compares the model with explanatory or independent variables and the baseline model (model without explanatory variables) to determine if there is a significant difference between the new model and the baseline model. The omnibus test also measures the overall fit of the logistic model, as done by ANOVA in linear regression. The test uses the Chi-square coefficient assigned to a model row in table 8 to determine if there is a significant difference between the baseline model and the new model by taking into consideration -2Log likelihood coefficient of the new and baseline models.

If the new model has reduced -2Log likelihood coefficient compared to the baseline model, then the new model is better and explains more variance in the outcome variable (Internal control system) over the baseline model without explanatory variables. The Chi-square coefficient of 19.137 with P-value .002 < .05 assigned to the model column in table 8 which is significant depicts that the new model fits significantly better to the study data than the baseline model. It further shows the new model explains more variance in the outcome variable than the baseline model and is a sign of better improvement over the baseline model. This is consistent with the views of Austin et al (2010) that if a study has the required sample size and good independent variables the Omnibus test of the predicted model is better than baseline model. The Cox & Snell R Square and Nagelkerke R Square presented under table 8 is the same as the Pseuduo R-square in linear regression model which measure the proportion of variation in the dependent variable caused or explained by the independent variables included in the models. Therefore Cox & Snell R Square of .471 and Nagelkerke R Square of .692 imply that between 47.1% and 69.2% of the variations in the internal control systems of UDS are explained by independent variables such as risk assessment, control activities among others. However, the Chi-square coefficients are the same for step and block because the study added all the independent variables in one block and therefore have only one step.

Table 9
Omnibus Tests of Model Coefficients

		Chi-square	Df	Sig.	
	Step	19.137	5	.002	
Step 1	Block	19.137	5	.002	
	Model	19.137	5	.002	

-2 Log likelihood: 251.238a;

Cox & Snell R Square: .471; Nagelkerke R Square: .692

Source: Field survey (2017)

Hosmer and Lemeshow Test as indicated in table 4.9 below is a test for determining the extent to which the predicted model fits well the study data. It is calculated by taking into consideration the -2 Log-likelihood coefficient and produces a P-value based on the Chi-Square distribution. Hosmer and Lemeshow Test is a goodness of fit test which tests the overall fitness of the predicted to the actual data set by testing the null hypothesis that the model is a good fit for the actual data set. Hence Hosmer and Lemeshow Test P-value of .442 > .05 indicates that the study accepts the null hypothesis and concludes that there is enough to say that the model is a good fit for the actual data set.

Table 10 Hosmer and Lemeshow Test

Step	Chi-square	Df	Sig.
1	2.689	3	.442

Source: Field survey (2017)

Table 10 contains the variables that were used in the study to test the effectiveness of internal control systems of UDS The study identified and used five variables that according to various scholars through the literature review agreed that the internal control system is effective if the five identified independent variables, namely environmental control, risk assessment, control activities, information and communication, and monitoring are included in the design of internal control system.

Table 10 contains the five variables, their regression coefficients (B), odds ratio (Exp (B)), and Wald statistic to test the variables' statistical significance for each variable category. The result showed that the variables, environmental control, and information and communication are not significant with P-values of .673 and .478 respectively which is greater than the set significance level .05. Therefore, environmental control and information and communication variables were not included in the model.

Three independent variables, namely risk assessment, control activities, and monitoring had p-values .007 ( .007 < .05), .005 ( .005 < .05), and .020 ( .020 < .05) respectively, which is less than the bench value 0.05 hence can be concluded that these variables are statistically significant and present in the internal control systems used by the UDS The individual variables are elaborated below.

# **Control Environment**

The presence of a controlled environment is required to ensure that the internal control system functions properly and effectively. The control environment ensures that management employs the necessary management principles and operating styles to maximize organizational development and instill these values in the organization's employees. Employees are forced to operate within the internal regulation defined by the company, whether public or private, because of the control system, which causes them to be ethical in their work activities and respect dignity.

However, the UDS internal control system has a poor control environment variable, as shown in table 10, which was statistically not important with a P-value of .673 > .05. This has a negative impact on ethical decision-making, employee honesty, and the UDS control system's discipline and structure. Millichamp (2002) confirmed this, stating that the control climate occurs inside a control system if the management style, ideology, and authority assignment are

clearly portrayed by the control system. Millichamp (2002) went on to say that without a control climate, control systems are inefficient and unable to achieve their goals.

#### **Risk Assessment**

The risk evaluation had Wald=7.252, df=1, and a P value of .005, indicating that it is statistically important and should be included in the model. This is because UDS's internal control system (s) may expose factors or activities of employees that cause the control system to fail to meet its objectives, and management is swift to address such factors or behavior to ensure that work activities are carried out in compliance with the defined processes or protocols. The inclusion of risk management in the internal control system ensures that job variances are quickly detected and corrected, resulting in increased worker compliance. This finding is consistent with the findings of Douglas (2011), who indicated that risk assessment components are present in internal control systems if the control system can identify and correct any work deviations likely to impact the achievement of an organization's objectives and increase the control system's effectiveness by a factor of several.

#### **Control Activities**

The control activities aspect of an internal control system is critical for a control system's successful output because it ensures that work activities are adequately managed in order to meet the organization's goals. According to the findings, UDS operations are divided, supervisors and heads of departments personally oversee the activities of their employees to issue control orders, performance measurement and metrics are in place, and physical control over properties is in place. However, the majority of respondents believed that proper transaction reporting and performance reviews by top management were not performed regularly. This contradicts the findings of Ofori (2011), who discovered that adequate documentation of work activities and results were critical control measures that needed to be implemented to ensure successful work activity control.

Regardless, Douglas recommended that segregation of work activities and physical supervision of work activities be included in the control activities (2011). Control behaviors had Wald=7.951, df=1, P-value (.005) .05, indicating that the control operation variable is meaningful and present in the UDS internal control systems model.

The control activities coefficient of 1.340 indicates that improving UDS management's control activities improves the efficiency of the internal control system. Using the odd ratio as a reference, a Control activities variable odd ratio of 3.821 suggests that improving UDS management's control activities improves the internal control system's effectiveness chance by 3.821 times.

#### **Monitoring**

Monitoring practices were assessed by different aspects of ongoing monitoring activities such as separate reviews and reporting shortcomings, with the majority of respondents agreeing that UDS management focuses on the degree to which employees receive evidence as to whether the framework of internal control continues to operate when carrying out their daily activities. Periodic comparison of amounts reported by the accounting system with current assets and liabilities as indicated in the questionnaire administered and validated by the model, and collaboration of contact from external parties with internally produced information. The monitoring variable had a P-value of .020 < .05, suggesting that the variable was statistically significant and that monitoring activities were incorporated in the UDS control systems.

The monitoring component coefficient of -1.721 indicates that improving monitoring practices reduces UDS internal control effectiveness. This finding is surprising because internal control system experts agree that increasing monitoring activities improves the efficiency of the system. This contradicts COSO (1994) and Ofori (2011) results, which found that having ongoing monitoring practices, separate reviews, and reporting shortcomings in an organization improves internal control functioning and effectiveness.

#### **Information and Communication**

Table 10 revealed that the information and communication variable has a P-value of .478>.05, indicating that it is not important. This meant that UDS's internal control system was unable to perform communication functions such as capturing the information needed by UDS for operational activities, providing information in the form and timeframe required by UDS workers to carry out their duties, the lack of a clear channel of communication and free flow of information from up to down and down to up, and the control system's inability to perform communication functions. This casts doubt on UDS's internal control mechanism, as it makes control activities difficult. Internal control systems that do not perform information and communication functions properly, according to Whittington and Pany (2001), have a negative effect on decision making and information flow.

The three important independent variables risk evaluation, control activities and tracking, and the outcome variable internal control framework were used to create the logistic regression model. The model is depicted below.

INC= 1.487 + 1.163 (RISK) + 1.340 (CON) -1.721 (Monitoring)

Where RISK= Risk Assessment; CON=control activities; Monitoring=Monitoring Activities Internal control systems are successful, according to Owusu (2012), (Ofori 2011), and COSO (1994), if all five main components, such as control environment, risk assessment, control activities, information, and communication, and monitoring activities, are present and working properly. As it can be seen from the above model, the Logistic regression only includes three of the five main components, making the UDS internal control system useless as a control environment, and the information and communication components were not relevant and were not integrated into the UDS internal control system. As a result, the null hypothesis is accepted, and the conclusion is that UDS' internal control mechanism is ineffective.

Table 11 *Variables in the Equation* 

		В	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. fo	or EXP(B)
								Lower	Upper
	ENV	231	.548	.178	1	.673	.793	.271	2.324
	RISK	1.163	.432	7.252	1	.007	3.201	1.373	7.465
C4 18	CON	1.340	.475	7.951	1	.005	3.821	1.505	9.700
Step 1 <sup>a</sup>	INFO	.344	.484	.504	1	.478	1.410	.546	3.643
	MONITORING	-1.721	.742	5.377	1	.020	.179	.042	.766
	Constant	1.487	1.079	1.899	1	.168	4.426		

Source: Field survey (2017)

# Identifying the extent to which internal audit prevent omissions and misstatement in the financial statements.

This section examined the degree to which UDS internal auditing prevents and detects omissions and misstatements based on a variety of metrics defined by the report, using a five-

point Likert scale that was then translated into a mean score and the criteria set Best Practices (2005). Table 11 shows that internal auditing at UDS can avoid and detect omissions and misstatements to some extent. Except for the robustness of auditing processes and fraud prevention indicators, which had a mean score of 3.45, indicating an average level of fraud prevention, the remaining indicators had a mean score ranging from 3.5 to 4.22, indicating a high level of fraud prevention. The auditing process robustness means a score of 3.45 shows that UDS's auditing mechanisms are insufficient to deter such personnel misbehavior. This was reflected in the auditor's ability to prevent fraud, which was also average. This backs up Ojha's (2012) claim that internal auditors can't do their job of preventing and detecting fraud if the systems in place aren't reliable.

Overall, with a mean score of 3.97, the internal auditing framework of the University for Development Studies (UDS) demonstrates a high degree of fraud prevention, but its robustness needs to be improved to allow high-level fraud prevention and safeguard the school's resources.

Table 12

Extent to which Internal Audit Prevent Omissions and Misstatement

Indicators	Mean Score	Level of Prevention	
Auditing mechanisms are robust	3.45	Average Prevention Level	
Some items were omitted and detected	4.22	High Prevention Level	
Some documents were faked and was detected	4.36	High Prevention Level	
Some rules were overlooked and was detected	4.18	High Prevention Level	
Auditors prevent fraud	3.37	Average Prevention Level	
Misstatement of figures were detected	4.15	High Prevention Level	
Procedural risk was prevented	4.05	High Prevention Level	
Non-compliance was prevented	3.96	High Prevention Level	
Overall Prevention Level	3.97	High Prevention Level	

Source: Field Survey, 2017

#### CONCLUSION AND RECOMMENDATIONS

Financial reporting accuracy, a computerized accounting system, and personnel competence were found to be determinants of quality financial reporting concerning study objective one of defining the determinants of quality financial reporting.

The study found that UDS' internal control system is ineffective since two of the five main components that make up an efficient internal control system, namely control environment, and information and communication, are missing or improperly implemented.

About study goal three, determining the degree to which internal audit prevents financial statement omissions and misstatements. According to the findings, UDS' internal audit reflects an average level of fraud prevention in terms of the robustness of auditing mechanisms and fraud prevention indicators, with the remaining indicators indicating a high level of fraud prevention. Overall UDS' internal auditing reveals a high degree of prevention. For Nacoulma, Akouwerabou and Nassè (2020) companies should understand that they are not invulnerable to fraud, and they should assess the risk of fraud and significantly reduce this risk. The current research recommends the following based on its findings:

1. The University for Development Studies (UDS) must analyze, define, and incorporate control setting, information, and communication components of the internal control system that are appropriate for their work processes, as well as enhance the current components.

- 2. The University for Development Studies (UDS) must ensure that their accounting system is completely computerized and that their staff has the capacity to increase the accuracy of financial reports in order to make informed decisions.
- 3. The University for Development Studies (UDS) must also take measures to strengthen its internal auditing processes.
- 4. Future research should look at the auditing gap in tertiary institutions and its financial implications.

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