



Factors Affecting Internal Audit Effectiveness in Governmental Sectors: Case Study in Guraghe Zone

By

Abidlemewella Bedewi

(ID NO. GSE/056/09)

*A Thesis Submitted in Partial Fulfillment for Award of
Degree of Master of Science in
Accounting and Finance*

*Main Advisor:- Kenenissa Lemmi(PhD)
(Assistant Professor)*

Co-advisor :- Delelegn Eyob(Msc.)

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Submitted to:-

Wolkite University

College of Business and Economics

Department of Accounting and Finance

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STUDENT'S DECLARATION

I undersigned here, declare that this work entitled "*Factors Affecting Internal Audit Effectiveness in Governmental Sectors: Case study in Guraghe Zone*" is my own original work and has not been submitted to/presented for award of any other degree or diploma to any university or other institute of higher education. And all the materials used as reference in this case this study have been duly acknowledged.

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This is to certify that the Research Paper prepared by Abidlemewella Bedewi Yasin, entitled as “*Factors Affecting Internal Audit Effectiveness in Governmental Sectors: Case study in Guraghe Zone*” is submitted in partial fulfillment of the requirements for the degree of Master of Science in Accounting and Finance and it complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Acronyms

- ACIAS : Adequate And Competent Internal Audit Staff
- AIAC : Approved Internal Audit Charter
- CAE: Chief Audit Executive
- CBOK : Common Body Of Knowledge
- IA: Internal Audit
- IAE: Internal Audit Effectiveness
- IIA : Institute of Internal Auditors
- IIARF: Institute of Internal Auditors Research Foundation
- IAIN : Internal Audit Independence
- ISPPIA: International Standards for the Professional Practice of Internal Auditing
- MOFED : Ministry Of Finance And Economic Development
- MS : Management Support
- OAG : Office Of Auditor General
- OBIAS : Objectivity Of Internal Audit Staff
- OLS : Ordinary Least Square
- PCTL : Professionally Competent Team Leader
- SNNPRS : Southern Nations Nationalities and Peoples Regional State
- SPSS : Statistical Package For Social Science
- SUBJ : Sufficiency Of Budget

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Abstract

The main purpose of this study was investigating factors affecting internal audit effectiveness in governmental sectors in guraghe zone, SNNPRS. As a result, the study used 13 randomly selected sectors (four out of eleven regional sectors with IA work process, one & the only federal sector and eight out of fifteen zonal sectors with IA work process) out of purposively selected 27 governmental sectors that have IA work process. The sectors were stratified into three strata (federal government, regional government and zonal government related sectors). Simple random sampling was applied on each stratum to get sectors that were used to form the sample size. Distributing two types of prepared questionnaire to 128 top management & IA, primary data was collected from 116 respondents (response rate 90.625%). Descriptive statistics & OLS multiple linear regression to measure IAE and to identify factors affecting IAE were applied respectively. Internal audit independence, management support, adequate and competent internal audit staff, sufficiency of budget, level of objectivity, approved IA charter, unrestricted information access and professionally competent team leader were hypothesized factors to be investigated and all of these factors were expected to have positive and significant impact on IAE. Out of these eight factors, internal audit independence, sufficiency of budget and unrestricted information access, were factors identified to have positive and significant contribution to IAE & internal audit independence was identified to be the most important driver of IAE. But management support, level of objectivity, approved IA charter and professionally competent team leader were investigated to have insignificant positive contribution to IAE. Beta sign to adequate and competent internal audit staff showed that the variable has negative and insignificant contribution to IAE. Regression output of the analysis showed that 62.3% of the study is explained by the model and it showed that all of the variables collectively could play very important role to contribute for IAE.

Key Words: Internal audit effectiveness, Internal Audit functions; Governmental sectors; factors affecting IAE;

DEDICATION

This research paper is dedicated to my Father, Bedewi Yasin, who was known (among the surrounding society) with special personality of motivating his children so that they could spend their full naturally gifted potential and time to modern education.

CHAPTER ONE

1. Introduction

1.1. Back ground of the study

Ethiopia, as one of least developed countries in Africa, is struggling for sustainable economic development. The role of public/governmental sectors to achieve this great goal is undeniable. To provide different public services, these public/governmental sectors use huge amount of public resources every day. According to Zulkifli Baharud-din, Alagan Shokiyah, and Mohd Serjana Ibrahim (2014), governments have involved in collecting and spending hundreds of billions of public money through various governmental programs and activities. This revenue collection and expenditure is mainly to motivate economic growth of a country. Due to this huge money involved, governments need efficient and effective financial management system together with accountability and transparency. All financial management related transactions should be properly authorized, executed and recorded and funds should be expended for legitimate purposes in appropriate way (Baharud-din et. al., 2014).

Sound financial management control should be in place which includes allocation of the fund according to stated objectives, clear rules of responsibilities, ensuring the expenditure according to the set budget and procedures. Government is aware that high quality of financial management could lead to the success of government programs and activities (Kirima N. Njoroge, 2016). However irregularities and violation of laws are common in spending public money and these have been highlighted by annual report of the Auditor General (AG) in Malaysia (Amrin Buang, 2008). And Some of these highlighted weaknesses and irregularities involve serious violation of established financial management guidelines and procedures such as poor planning of procurement, equipments supplied, work done and services rendered not in accordance with the original specification, cost overrun due to delays in project completion, improper payment made for equipments not supplied, work not done and services not rendered, equipment and good procured at a much higher cost than market value, procurement not done according to established regulations (Baharud-din et. al., 2014).

To ensure the well functioning of public financial management system, governments in different countries have been establishing the Internal Audit (IA) Units/departments/work processes. It is

because circulation of this public money requires the establishment of IA Units/departments/work processes to govern the tasks and responsibilities of IA in the public sector as an internal control mechanism to look into the financial management integrity (Baharud-din et. al., 2014; Njoroge, 2016). Thus, the role of IA unit is to determine whether internal control is in place by reviewing policies and practices in the organization in order to avoid loss of financial resources, to check noncompliance and also to provide reasonable assurance that public money has been spent in an efficient and effective manner or not (Baharud-din et. al, 2014). The role of internal auditing can be identified as involving three elements, namely the evaluation and improvement of risk management, control and guidance processes. These are referred to as the three pillars of internal auditing (Greaves Mupeta, 2017).

Internal auditors in different organizations play the role of undertaking an independent examination and giving assurance on various operations of institutions aimed at enhancing organizational performance every day (IIA, 2009). According to Okafor & Ibadin (2009, cited in Baharud-din et. al., 2014), the internal audit activities are critical role players in improving governance of IA systems in organizations. Mupeta (2017) also explained in his research paper that internal audit department is responsible for the management and control of government resources and ensures that adequate, effective prudential measures and controls are in place to process and utilizing the resources. An Effective internal auditing is very important and participatory in improving control systems, analyzing risks and providing objective assurance and consulting services (Burnaby, Hass, & Abdolmohammadi, 2006; Baharud-din et. al.,).

Moreover, Hailemariam(2014, pp.3), tried to emphasize the importance of internal auditing citing other researchers work as “ *internal auditors have the right and ability to access all information in every part of the organization and their function lies at every activities of the corporate governance system. All the stakeholders will therefore benefit from having a strong Internal Audit Function (IAF) which will provide value to the other cornerstones of corporate governance (Smet and Mention, 2011). Because internal auditors can make line managers aware of their responsibility; can act as a consultant in monitoring risk, identifies weakness in internal control system, and facilitates the implementation of risk management as well as IA contribute to the appropriateness of procedures and operations of the audited body (Cohen and Sayag, 2010; Arena and Azzone, 2009; Dittenhofer, 2001).*.,,

When we say internal audit effectiveness, it is to reflect that internal audit functions are effective if internal auditors are able to achieve established objectives within an organization. The Institute of Internal Auditors IIA (2010) defined internal audit effectiveness “as the degree (including quality) to which established objectives are achieved” This means internal audit effectiveness is the ability of achieving established objectives within an organization. It is also possible to show definition of Internal audit effectiveness referring different researchers/writers work which was defined in different ways as Arena and Azzone (2009) defined IA effectiveness as “the capacity to obtain results that are consistent with targets objective.” IA Effectiveness, as defined by Dittenhorfer M (2001), is the ability toward the achievement of objectives and goals. Mizrahi and Ness-Weisman (2007), defined IA effectiveness as the number and scope of deficiencies corrected following the audit process.

Since a number of complaints on the management of public funds as a result of increased inefficient procedures of concerned government bodies in detecting and preventing the misappropriation of public funds are being raised in day to day activities; External and internal auditors are being used to significantly enhance controls, to promote transparency and accountability. However, even after declaring different powerful laws and approved charters governing internal audit processes, there is still a rise in cases of inefficiency and ineffectiveness in public resource management and many report cases of frauds and corrupted practices are being heard (Mihret and Yismaw 2007). The Auditor General of Kenya reported that out of 101 financial reports for the fiscal year ended 30 June 2014, 26 had an unqualified opinion, 50 had a qualified opinion, 16 had an adverse opinion while 9 had a disclaimer of opinion (Auditor General, 2015, cited in Njoroge, 2016). Njoroge says it is good indicator that management of financial resources in the public sector is still not efficient and effective.

This research paper, therefore, was an attempt to investigate why internal audit activities are ineffective in governmental sectors in Guraghe zone taking eight different proposed factors that are supposed to affect effectiveness of internal auditors’ day to day activities.

1.2. Statement of the problem

Governmental sectors are organizations that provide different services to the society using resources that are being budgeted by government and characterized by scarcity. Recent days, whether it is in developed, developing or underdeveloped countries, ensuring sustainable development through wise use of scarce resources or public money is a challenging practice. In other words, Governments, especially in underdeveloped countries, are suffering from unwise use of these scarce resources. As a means of minimizing tool for improper public resource management problems, governments had been practicing internal audit system for decades. According to Bethlehem Fekadu (2009), IA function has existed for a long period of time in Ethiopia and the most direct impact on the current status of internal auditing in Ethiopia came from an important document issued in 1987 as Proclamation No. 13/1987. And the document not only re-emphasized the importance of the internal audit function in governmental departments and public enterprises; it also empowered the office of Auditor General (OAG) to control whether accounting records are properly maintained and reliable, whether the assets of the ministries and enterprises are adequately safeguarded and properly maintained. But on July 1, 1997, as she says, the Financial Administration Regulations No. 17/1997 was issued in which the responsibility of internal audit function was transferred from the office of the Auditor General to the Minister of Finance to develop and maintain appropriate standards of IA work/activities.

In order to achieve its objective and minimize level of inappropriate use of these resources, internal auditing system should be effective and efficient. According to Mihret and Yismaw (2007), internal audit function is effective when it is able to achieve the objectives or goals that are sated by the organization. And even level of effectiveness should be progressive from time to time. But when we see performance experience of internal audit activities from different existing literatures and research works, it is not as it should have been. Mihret and Yismaw (2007) stated that internal auditing effectiveness should be viewed as a dynamic process that is continuously shaped by the interaction of different factors that affect effectiveness.

If auditors perform their activity with professional skepticism and generate findings based on opinions and recommendations, these findings are essential to the management of governmental/public sectors to follow and solve problems in an organization.

Governmental/public sectors are required to have an IA function to support in managing public budget/public funds Mihret and Yismaw(2007). A number of research findings corroborated that effectiveness of the IA system highly contributes to effective management and internal control of the organizations. According to Okafor & Ibadin (2009, cited in Baharud-din et. al., 2014), the internal audit activities are critical role players in improving governance of IA systems in organizations. According to Mupeta (2017), internal audit department/unit/work process is responsible for the management and control of government resources and ensures that adequate, effective prudential measures and controls are highly important to process and utilizing the resources. The main goal of the department, as he says, is promoting accountability in all governmental sectors, spending agencies and statutory bodies and parastatal organizations. An Effective internal auditing is vital and participatory in improving control systems, analyzing risks and providing objective assurance and consulting services (Burnaby, Hass, & Abdolmohammadi, 2006, Saren and I. De Beelde, 2006, cited in Baharud-din et.al., 2014).

Even though there are gaps in realities among different governmental or public organizations, IAs have the right and ability to access all the necessary information in an organization and the IA functions are vital to all activities of the organization. As a result, all stakeholders/concerned bodies of the organization, thus, benefit from availability of strong IA function which could provide value to the other cornerstones of corporate governance (Smet and Mention, 2011, Hailemariam, 2014). Since, internal auditors are able to increase awareness of top management members of an organization about their responsibility and care what they have to take as consultant in monitoring risk, the role of IA is undeniable. At this time they try to identify weaknesses and different performance problems that are committed in internal control system, and facilitate the implementation of risk management as well as IA contributes to the appropriateness of procedures and operations of the organization being audited (Cohen and Sayag, 2010; Arena and Azzone, 2009; Hailemariam, 2014).

In contrast to its great role, it is common to see ineffectiveness of internal audit activities in governmental sectors. But it is not possible to get sufficient related research works conducted by Ethiopians to see why this important department/work process is not functioning well though a few research works are available to be reviewed. Different existing literatures and research works showed that there are a number of factors that can affect internal audit effectiveness.

There is a research report which was conducted by institute of internal auditors research foundation (IARF) in 2014 as a global assessment based on the IIA'S 2010, as a global internal audit survey, as part of the IIA'S global internal audit common body of knowledge (CBOK) project and IIA'S supplemental guidance. According to this report, there are about nine factors that affect effectiveness of internal audit activities in public/governmental sectors and these are organizational independence, a formal mandate/availability of approved charter, unrestricted access for information, sufficient funding/budget, competent leadership/ professionally qualified team leader, objectivity/impartial attitude of IA staff, Competency of IA staff, Stakeholders/public sector officials support and Professional audit standards.

As long as different research works (Especially Ethiopian perspective) are considered, it is not possible to get any research work that had tried to cover analyzing most of these globally surveyed factors. Rather most of these existing researches show that only three or four of these factors on average were tested as determinants of IA effectiveness. For example, internal audit quality, management support, organizational setting and auditee attributes are factors tested by Mihret and Yismaw in 2007 in Ethiopia taking Addis Ababa university as sample size, and they found that only audit quality and management support significantly influence IA effectiveness. But their findings were not consistent with Hailemariam's findings; he conducted a research paper taking 15 corporations in Addis Ababa city as sample size. Hailemariam's (2014) research paper covered management support, organizational independence, competent IA staff, approved IA charter and management's perception of IA's value as determinants of IA effectiveness which is consistent with research work by Mupeta (2017) in Zambia and found that management support, competent IA staff, and approved IA charter contribute for IA effectiveness in the public sectors significantly and positively.

Taking in account of existing literature gap as Ethiopian perspective, lack of related investigation in this study area(in Guraghe zone) and aiming at testing more factors/variables that were supposed to affect IA effectiveness, the researcher have tried to test internal audit independence, management support, adequate and competent internal audit staff, sufficiency of budget, level of objectivity, approved IA charter, unrestricted information access and professionally competent team leader in governmental sectors in Guraghe zone.

Research questions

- i. Could IA effectiveness be affected by internal audit independence?
- ii. Could IA effectiveness be affected by support given by top management?
- iii. Could adequate and competent internal audit staff contribute for IA effectiveness?
- iv. Does sufficient budget/funding affect effectiveness of IA?
- v. Could objectivity level of IA staff contribute for effectiveness of IA?
- vi. Does approved IA charter matter with IA effectiveness
- vii. Does unrestricted information access affect IA effectiveness?
- viii. Could professionally competent team leader contribute for IA effectiveness?

1.3. Objective of the study

1.3.1. General objective

Investigation of factors that affect internal audit effectiveness in government sectors in Guraghe zone.

1.3.2. Specific objectives

Specific objectives of this research paper are:-

- i. To identify influence of internal audit independence on IA effectiveness.
- ii. To examine the impact of management support on effectiveness of IA.
- iii. To examine impact of adequate and competent internal audit staff on IA effectiveness.
- iv. To identify influence of sufficient budget/funding on effectiveness of IA.
- v. To examine impact of objectivity of IA staff on effectiveness of IA.
- vi. To examine impact of approved IA charter on IA effectiveness.
- vii. To examine influence of unrestricted information access on IA effectiveness.
- viii. To identify impact of professionally competent team leader on effectiveness of IA.

1.4. Significance of the study

Since internal audit activities are essential to a government as control mechanism that ensures minimizing unnecessary and unwise use of scarce resources, this study could be significant to concerned governmental bodies as it tried to investigate factors that affect IA effectiveness.

Furthermore, the study also could contribute to minimize literature gap around the topic. As a researcher, there was possibility of getting additional knowledge from the research paper that has already been conducted. This research paper, therefore, played great role to increase knowledge of the researcher and it also could be used as benchmark to those who need to make further assessment about the topic.

1.5. Scope of the study

Aiming at making the research paper be more fruit full, the study area was limited only to governmental sectors that have internal audit work process and found in Guraghe zone.

1.6. Limitations of the study

Objective of the study was investigating factors affecting internal audit effectiveness in governmental sectors in Guraghe zone and it would have been more attractive if all (public and privately owned) sectors were included in the study. But due to existence of time and financial constraints, the thesis was limited to cover only governmental sectors in Guraghe zone assuming that these selected sectors could representative other governmental sectors in other zones(especially for SNNPRS). It is because almost of all of IA work processes in different governmental sectors use audit standards, rules and regulations that are developed or revised by MOFED.

1.7. Organization of the paper

The thesis consisted five different chapters in addition to the preliminary pages. The first chapter dealt with introductory parts such as background of the study, statement of the problem, research objectives, research questions, significant of the study, scope of the study, limitations of the study and organization of the paper. The second chapter provides information about review of related literatures specifically definition of IA, definition of IAE, empirical reviews about independent variables which were supposed to affect IAE. The third chapter consisted information about methods and techniques used to conduct the study. Finding results and discussion of the paper are included in the fourth chapter. The last chapter describes something about conclusions and recommendations of the paper and finally references and appendixes added as parts of the thesis.

CHAPTER TWO

2. Review of Related Literatures

2.1. Introduction

As part of this research paper, the researcher tried to present review of different existing theories, previous research works and survey reports in order that it could be possible to show how this research paper is prepared depending on different related research papers, existing literatures, journal articles, so on.

In this case study, the literature review consisted definition of internal auditing, definition of the term internal audit effectiveness, types of internal audit activities performed by internal auditors, proposed factors that were expected to affect internal audit effectiveness such as internal audit independence, management support, adequate and competent internal audit staff, sufficiency of budget, level of objectivity, approved IA charter, unrestricted information access and professionally competent team leader that were selected by reviewing different existing literatures.

2.2. Theoretical frame work

2.2.1. Definition of internal Audit

Even though all the definitions given by different writers revolve around the same concept, still it might be possible to see slight differences among these definitions. IA, as it is defined by IIA (1999), is an independent appraisal function established within an organization to examine and evaluate its activities as a service to the organization. Later on, the new Institute of Internal Audit (IIA, 2001) defined internal audit as: “An independent, objective assurance and consulting activity designed to add and improve an organization’s operations. It helps an organization to accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes.,,

Mupeta (2017, pp.3) explained definition of IA as “*Internal auditing is a profession and activity involved in advising organizations regarding how better to achieve their objectives through managing risks and improving internal control. Internal auditing involves the utilization of*

systematic methodology for analyzing business processes or organization problems and recommending solutions.,,

These definitions of internal audit showed that the scope of internal audit is mainly limited to make assurance at the organization level and giving consultant services to the overall managements and other staff of an organization. In other words, independent opinion and conclusions regarding the operations function, internal financial control system, risk management system and general wellbeing of an organization are core activities to be performed by IA to provide assurance and consultancy services depending on the audit plan of the organization and planned day to day activities of IA work process.

2.2.2. Importance of Internal audit

If different research papers that are conducted in recent days are considered, recognition is being provided to the importance of IA functions. Internal auditing, as it is expressed by Reynolds (2000, cited in Seif Obeid ALshbiel, 2017) plays a significant role as a conduit between business and financial reporting in businesses and non-for-profit providers. Thus, internal audit is crucial for any firm as it serves as a monitoring role in overseeing the risk profile of the firm and in determining the weaknesses and their resolution for enhanced risk management (Rae, Subramaniam, & Sands, 2008, cited in ALshbiel, 2017; Burnaby and Hass, 2011). The rise of business risks which are attributed to Technological, political, regulatory, and economic changes during the last decades, have significantly affected basic functions and operations of companies. And which in turn resulted in economic instability and increased financial fraud. These scandals have necessitated the use of internal audit for companies (Bekiaris et al., 2013; Vinary and Skaerbaek, 2014; Tsipouridou and Spathis, 2014; Gbadago, 2015, cited in Drogalas George et. al., 2015).

Moreover, importance of internal auditing was emphasized citing others work as *“internal auditors have the right and ability to access all information in every part of the organization and their function lies at every activities of the corporate governance system. All the stakeholders will therefore benefit from having a strong Internal Audit Function (IAF) which will provide value to the other cornerstones of corporate governance (Smet and Mention, 2011). Because internal auditors can make line managers aware of their responsibility; can act as a consultant*

in monitoring risk, identifies weakness in internal control system, and facilitates the implementation of risk management as well as IA contributes to the appropriateness of procedures and operations of the audited body (Cohen and Sayag, 2010; Arena and Azzone, 2009; Dittenhofer, 2001., (Hailemariam, 2014, pp.3).

2.2.3. Types of Internal Audit Activities

According to Hailemariam (2014, pp.11), there are several core internal audit activities which are commonly performed in the internal audit work process/department and these are: -

2.2.3.1 Operations Audits: These audits examine the use of resources to determine if resources are being used in the most effective and efficient manner to fulfill the organization's mission and objectives (Hailemariam, 2014, pp.11).

2.2.3.2 Financial Audits: These audits review accounting and financial transactions to determine if commitments, authorizations, and receipt and disbursement of funds are properly and accurately recorded and reported. This type of audit also determines if there are sufficient controls over cash and other assets and that adequate process controls exist over the acquisition and use of existing resources (Hailemariam, 2014, pp.11).

2.2.3.3 Compliance Audits: These audits determine if entities are complying with applicable laws, regulations, policies and procedures. Examples include federal and state laws, and Trustee policies and regulations (Hailemariam, 2014, pp.11).

2.2.3.4 Information Systems Audits: These audits review the internal control environment of automated information processing systems and how people use these systems. The audits usually evaluate system input, output; processing controls; backup and recovery plans; system security; and computer facilities (Hailemariam, 2014, pp.11).

2.2.3.5 Internal Control Reviews: These audits focus on the components of the major business activities, such as payroll and benefits, cash handling, inventory and equipment, physical security, grants and contracts, and financial reporting (Hailemariam, 2014, pp.11).

2.2.4. Internal Audit Effectiveness

Musa Yosep(2016, pp.67) stated in his research that “effectiveness of IA function can be interpreted as a success of the internal audit function in carrying out its duties and responsibilities to the auditee as users of reviews their services, in accordance with the applicable

standards and rules., According to Endaya and Hanefah (2013, cited in George et.al., 2015), there is no a generally accepted consensus regarding the most appropriate framework for internal audit effectiveness. Thus, as they had said, effectiveness of internal audit is a dynamic process and a matter of considerable debate. Recent day's Economic crisis, corporate failures, malpractices and growth in the number of reported fraud cases has emphasized on the importance of an effective internal auditing. An effective internal auditing is crucial as it plays important role in improving control systems, analyzing risks and providing objective assurance and consulting services (Halimah A., Rohana O., Radiah O., 2010). When we say internal audit effectiveness, it is to mean that internal auditing is effective if an internal auditor is able to achieve established objectives within an organization. The Institute of Internal Auditors IIA (2010) defined internal audit effectiveness as *"the degree (including quality) to which established objectives are achieved"* This means internal audit effectiveness is the ability of achieving established objectives within an organization.

Citing different writers definition, Mupeta (2017, pp.6) depicted internal audit effectiveness as *".....Arena and Azzone (2009) defined effectiveness as "the capacity to obtain results that are consistent with target objectives." Effectiveness, as defined by Dittenhorfer M (2001), is the ability toward the achievement of objectives and goals. Mizrahi and Ness-Weisman (2007) defined internal audit effectiveness as the number and scope of deficiencies corrected following the audit process. ,"*

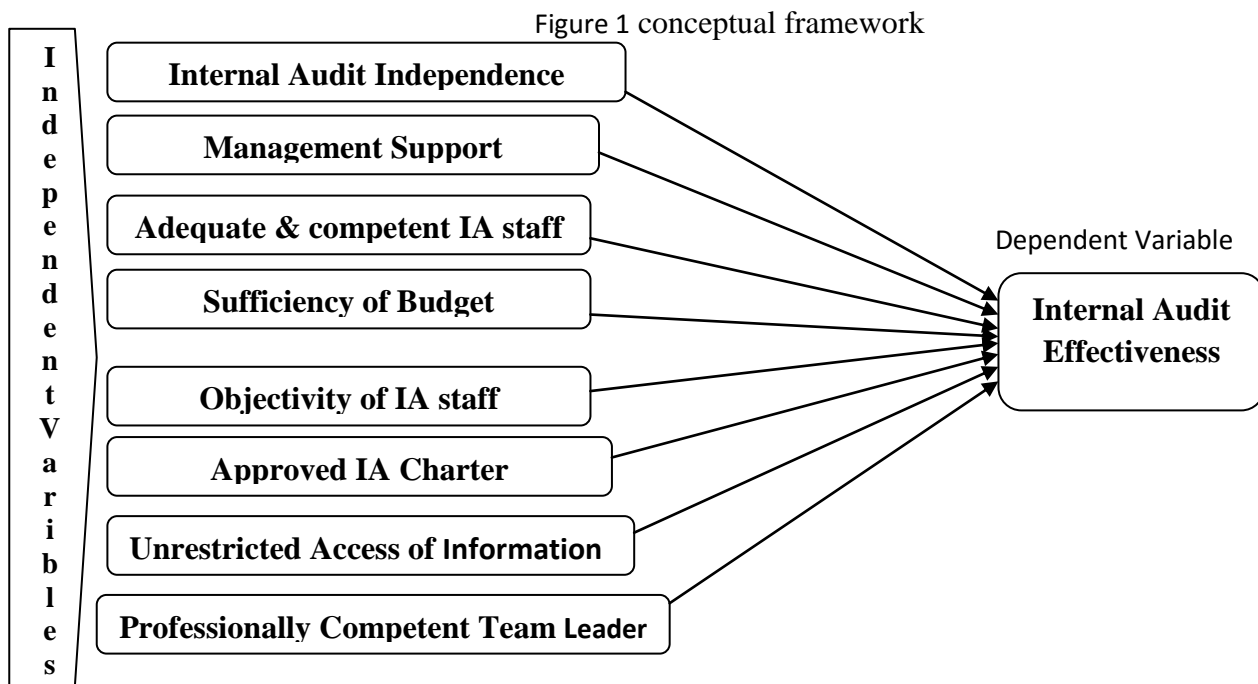
According to Mihret and Yismaw(2007), audit findings and recommendations highly need management commitment to implement them which finally result in internal audit effectiveness. Adams (1994, cited in Mihret and Yismaw, 2007) used agency theory to explain how management has great role to maintain a strong internal audit department. Moreover, implementation of audit findings and recommendations is highly relevant to audit effectiveness and the management of an organization is viewed as the customer receiving internal audit services. As a result, management's commitment to use audit recommendations and its support in strengthening internal audit is vital to audit effectiveness. The effectiveness of internal audit greatly contributes to the effectiveness of each auditee in particular and the organization at large (Dittenhofer, 2001; Sawyer, 1995; Van Gansberghe, 2005, cited in Mihret and Yismaw, 2007).

Mihret and Yismaw (2007) also tried to show that effective internal audit department/work process should:-

- Make management realize contribution of internal audit to the achievement of organizational goals
- Need committed management role to implement recommendations and to improve the operation of the auditee
- Need the management to retain the authority to improve the organizational setting and influence the auditee towards a positive effect on audit effectiveness
- Need capable internal audit department to provide useful findings and recommendations which is central to audit effectiveness
- Provide useful recommendations for improvements as necessary as possible;
- Management support is a natural quid pro quo for effective internal audit.

2.3. Conceptual frame work

The relationship between IAE (dependent variable) and independent variables (internal audit independence, management support, adequate and competent IA staff, sufficiency of budget, objectivity of staff, approved IA charter, unrestricted access of information and professionally competent team leader) is shown diagrammatically as conceptual framework in Figure-1 below.



2.4. Empirical Reviews

The main objective of this research paper was investigating factors that affect effectiveness of internal audit in the governmental sectors in guraghe zone.

The researcher was not able to find sufficient amount of related literatures from Ethiopian perspective though there are a number of foreign researchers that had conducted studies abroad regarding factors affecting IA effectiveness in the public sectors taking in account of some common factors like management support, independence of internal auditors, management perceptions, competent internal audit staff and the availability of internal audit charter. But in this research paper, I have tried to add additional factors like sufficiency of budget, level of objectivity, unrestricted information access and professionally competent team leader reviewing different research papers and IARF (2014) survey report.

2.4.1. Internal Audit Independence

When we say independence of IA, it is to mean that the extent of internal audit officers freedom to implement their day to day audit activities. Independence has no single meaning and interpretation across the people; hence the concept is subject to ambiguity and uncertainty (Wines, 2012, cited in Hailemariam, 2014). However, in this case study independent internal auditor from IA work process point of view is to mean that the one who perform his or her activity without any managerial or any kind of unnecessary interference that can affect the audit process. In other words, if an internal auditor/audit department is practically independent, then it will be possible to generate and conclude viable audit findings and recommendations.

Musa Yosep(2016, pp.62) stated about internal audit independence and tried to show the difference between independence and objectivity as "The internal audit function should be independent, and internal auditors must be objective in carrying out their work." As Yosep says, IA independence refers to organizational status of the internal audit function, while the objectivity of the auditor refers to the mental attitude individually.

The IIA (2001) acknowledged that the terms have been used interchangeably with a lack of clarity. As a result, the Glossary to the IIA Standards distinguished between the two concepts as follows:

“Independence:– *The freedom from conditions that threaten objectivity or the appearance of objectivity. Such threats to objectivity must be managed at the individual auditor, engagement, functional and organizational levels”.*

“Objectivity:– *is an unbiased mental attitude that allows internal auditors to perform engagements in such a manner that they have an honest belief in their work product and that no significant quality compromises are made. Objectivity requires internal auditors not to subordinate their judgment on audit matters to that of others.”* Hence, the IIA distinction between the two terms appears to be that objectivity is a **state of mind** while independence is the **state of affairs** that permits an internal auditor to operate with an objective attitude (Jenny Stewart and Nava Subramaniam, 2009).

According to International Standards for the Professional Practice of Internal Auditing (IIA, 2004), internal audit function should be independent, and internal auditors must be objective in accomplishing their day to day work. Moreover, independence is fundamental to the reliability of auditor’s reports and these reports would not be credible, and investors and creditors would have little confidence with the auditors if auditors were not independent both in fact and appearance. The assurance service what auditors provide derives their value and credibility from the fundamental assumptions of independence of mind and independence in appearance (Wines, 2012; Stewart and Subramanian, 2010, cited in Hailemariam, 2014).

As it is seen from different previous studies here, there is clear difference between IA independence and objectivity and this case study hypothesized both of the variables separately. The results found in a research paper conducted by George et.al.(2015), revealed that independence of internal audit is the foundation of internal audit effectiveness as it was the most crucial factor in their model specification.

According to Hailemariam (2014), independence in fact exists when auditors are able to act with objectivity, integrity, impartiality, transparency and free from any conflict of interest. As he said, many auditors have been arguing that organizational independence is very important to achieve audit objectives/goals. For example, the independence of internal audit department and the level of authority to which the internal audit staff report are the important criteria that influence the objectivity of IAs work. Organizational independence is more crucial to the effectiveness of the

internal auditors, as it protects the auditor from pressure or intimidation, and increases the objectivity of the auditing work (Cohen & Sayag, 2010; Van Peurseem, 2005; Boa- Read, 2000). Zhang et al. (2007, cited in ALshbiel, 2017) depicted that internal audit independence is a determinant of internal audit effectiveness. Alzeban and Gwilliam (2014) argued depending on their findings in Saudi Arabia that internal audit independence along with other determinants like internal audit department competences and internal audit department size has positive linkage with internal audit effectiveness.

Previous different study findings stated that lack of independence lowers performance level of internal audit in different developing countries. Brierley et al. (2001) stated based on their research work in Sudan that internal audit should report to the highest level within the organization to ensure that corrective action is taken to implement internal audit recommendations. Schyf (2000) from South Africa explained depending on his research paper conducted around public sectors that lack of independence of internal audit is an issue facing the internal audit function in that country. Moreover, Ahmad et al. (2009) in Malaysia emphasized lack of independence of the internal audit function and rising concerns how this lack of independence has affected IA department. Therefore, depending on reviewed findings above about internal audit independence, hypothesis one was developed as:

H1: *Internal audit independence could have positive and significant influence on Internal Audit Effectiveness (IAE)*

2.4.2. Management support

It is indicated by different researchers that management support for internal audit effectiveness could be expressed in different forms. For example, management team of an organization should be interested in supervising the activities, providing sufficient budget, empowering the work process or department with competent staff and other resources and implementing internal audit findings and recommendations (Hailemariam, 2014). Implementation of audit recommendations, which is the component of management support, is highly relevant to internal audit effectiveness (Sarens and Beelde 2006, Van Gasberghe, 2005, cited in Hailemariam, 2014). Mihret and Yismaw(2007) explained clearly in their research paper that management support is the most important factor, among others, that influence internal audit effectiveness and response to audit

findings and the commitment to strength internal audit (which has significance influence on IA effectiveness) are components of management support.

Findings of research paper conducted by Cohen & Sayag (2010), indicated that the effect of top management support on internal audit effectiveness is strong and consistent whether the organization be private or public sector. Management support, they also said, is crucial to the operation and internal audit as all other determinants of IA effectiveness are derived from the support of top management. It is because to hire proficient IA staff and provide organizational independence for IA work, top management decisions and support is very important. It is the interest of top management to maintain a strong internal audit department (Adams, 1994, cited in Hailemariam, 2014; Mihret and Yismaw, 2007).

Additionally, Ahmed et. al. (2010) corroborated in their study that top management support (along with independence of IA, competency, professionalism, size of local authority and coordination between internal and external auditors) is positive essential role player for IA effectiveness. Other studies conducted by different researchers showed that top management support for the success of internal audit functions effectiveness. As Ahmad et al. (2009) found, management support is the second most important determinant of IAE, next to sufficiency of the auditing staff, within the Malaysian public sectors. They indicated that with support from management, internal audit recommendations would likely be implemented and the internal audit would be well-resourced in terms of number of staff and budget. Reporting on the Ethiopian public sector case, Mihret and Yismaw (2007) found that absence of management support negatively affect the internal audit function by creating a poor attitude towards the function by auditees, who perceived it as unimportant because it appeared not to be high on the agenda of senior management.

Van Gansberghe (2005) focused on internal auditing in the public sector in four countries: Kenya, Uganda, Malawi and Ethiopia; and indicated that to be effective, internal auditors need management's acceptance and appreciation for the contribution and value that internal auditing can add to organizations. Management support might also be lacking if management fails to implement the recommendations of the internal audit activities and then it may greatly reduce the effectiveness of the function (Van Gansberghe, 2005). As a result, implementation of internal

audit recommendations is considered as a strong indicator of IA effectiveness. So, hypothesis two was developed depending on what was reviewed here about management support as:

H2: *The correlation between management support to IA work process and internal audit effectiveness in governmental sectors is positive and significant.*

2.4.3. Adequate and competent IA staff

When we talk about internal audit effectiveness, it couldn't be achieved without availability of professionally competent manpower and necessary resources. According to MoFED (2004), adequate staffing is essential for a system to its full capability. Cohen & Sayag(2010), indicated in their study that appropriate staffing and good management of the staff in IA department are keys to the effective operation of internal audit functions. They also found that professional efficiency of internal auditors is integral for the effectiveness of internal auditing. An audit activity requires a professional staff that collectively holds professional qualifications like the necessary education level, training, experience and conduct the full range of audits required by its mandate (Al-Twajry, Brierley and Gwillian 2003).

According to Baharud-din et. al.(2014), Competency can be related to the ability of an internal audit officer or other professional to perform his/her job or task based on required professional experience and the effort of the staff members to show continuous professional development. The researchers also concluded that IA effectiveness is highly dependent on auditors' competency and management support. Auditors' competency, as they have expressed, determines the effective auditing activities in an organization.

To emphasize the role of auditors' professional competency for IA effectiveness, ALshbiel (2017, pp.6) indicated citing others work as:-

“Internal audit team is also deemed as a significant factor for IA effectiveness (George, Theofanis, & Konstantinos, 2015). Aligned with ISPPA, Mousa (2005) deemed proficiency and due professional care in the form of competence as significant factors of IA. Similarly, Turley and Zaman (2007) investigated the factors influencing IA teams effectiveness and contended that members communication positively influence the audit results. This was also

supported by Arena and Azzone (2009) who considered members' communication as a factor that influences internal audit effectiveness. Finally, increased internal audit effectiveness appeared to have association with higher internal audit competence (Alzeban & Gwilliam, 2014),,

An auditor must have certain qualifications as fulfillment of competency to understand the criteria used and to be competent enough, in order to determine the type and amount of evidence that must be collected to reach the proper conclusion after the audit evidence is tested (Yosep, 2016). Different Studies that had been conducted by a number of researchers assured that the quality of internal audit work is higher when there is a sufficient number of staff. For example, Ali et al. (2007), narrated that the most difficult problem of internal auditing was shortage of qualified staff in Malaysian state and local government bodies. Another study conducted by Ahmad et al. (2009), reported that 'the small number of internal auditors' was ranked by questionnaire respondents as the chief issue hindering the success of the internal audit function in Malaysian public sector organizations. They suggested that in addition to strong support from management, IA department or work process should have adequate staff and sufficient resources so that the staffs be able to carry out their responsibilities successfully.

Therefore, Ali et al. (2007) and Ahmad et al. (2009) emphasized the role of professional officers for successful accomplishment of internal auditing in the Malaysian public sector and they found that lack of well qualified, trained and experienced staff about internal auditing negatively affected internal audit effectiveness. In the South African public sector, Schyf (2000) identified that there are a number of obstacles affecting internal audit performance, including lack of internal audit competencies. Various results obtained from investigations in different developing countries showed lack of qualified staff as one of the core factors limiting internal audit function. (Brierley et al., 2001; Gwilliam & El-Nafabi, 2002; Mihret & Yismaw, 2007; Mulugeta, 2008). These studies suggested that internal audit staffs lacked adequate educational qualifications and are getting insufficient professional training which is available to enable them to upgrade their skills. Al-Twajry et al. (2003) argued that staffs should have the required education capacity to conduct the full range of audits. Thus, hypothesis three was developed depending on what was presented here as part of empirical review about adequate and competent IA staff as:

H3: *Availability of adequate and competent IA staff in governmental sectors in guraghe zone has positive and significant impact on internal audit effectiveness.*

2.4.4. Sufficiency of budget/funding

No one could deny that sufficient amount of budget is the most important resource that should be provided by top management/an organization to internal audit work process for two core points:

- a. To enable the work process fulfill all the necessary materials/equipments to perform day to day audit activities,
- b. To safeguard the IA officers not to be dependent on auditees. In other words, it is not possible to minimize risks and get qualified audit report unless the organization provides all the necessary fees to internal audit officers. According to IARF (2014, pp.21), the audit activity must have sufficient budget or fund relative to the size of its audit responsibilities.

The research report also explained to emphasize the role of sufficient budget for IAE as “...*this important element should not be left under the control of the organization being audited, because the budget impacts the audit activity’s capacity to perform its responsibilities. Insufficient funding would create a significant barrier to fulfilling the roles and responsibilities of the internal audit activity in the public sector. Therefore, CAEs should request sufficient funding relative to the size of their audit responsibilities, and decisions relating to such funding should be independent of the organization being audited.,,*

Baltci and Yilmaz (2006) narrated that IAE would be enhanced by assigning sufficient budget or providing the right to the works process to allocate sufficient budget or fund the department the right to allocate its overall budget. Without such empowerment, senior management might reduce resource allocation which in turn reduces productivity and efficiency of the work process. Hypothesis four, therefore, was developed depending on what was reviewed above about sufficiency of budget as:

H4: *Assigning Sufficient Budget to internal audit work process has positive and significant influence on internal audit effectiveness in governmental sectors in Guraghe zone.*

2.4.5. Objectivity of IA staff

Even though there are some research papers like (Baharud-din et.al., 2014) that had taken objectivity and IA independence interchangeably, there is still a possibility to get studies that show existence of clear differences between IA independence and internal auditors objectivity. This case study proposed to test both of these factors separately. According to Febrina Kurniawati, et.al., (2018), independence and objectivity are two main aspects or determinants among others that represent audit effectiveness. Ideas following IIA (1999) definition of internal auditing showed that “**Objectivity**:- means an **unbiased mental attitude** that allows internal auditors to perform activities in such a manner that they have an honest belief in their work product and that no significant quality compromises are made. Objectivity requires internal auditors not to subordinate their judgment on audit matters to that of others.” Depending on this definition, Stewart and Subramaniam(2009) explained that objectivity is a **state of mind** while independence is the **state of affairs** that permits an internal auditor to operate with an objective attitude.

According to IIARF (2014), both objectivity and IA independence are two separated and known factors to affect IA effectiveness and audit staff must have impartial attitude and avoid any conflict of interest. This research report corroborated that about 96% of the CAE respondents, when the research was conducted, agreed or strongly agreed that objectivity is a key factor for internal audit activity to add value. According to Yosep(2016), an auditor should have an independent mental attitude.

According to International Standards for the Professional Practice of Internal Auditing (ISPPIA, 2004), importance of the attitude of objectivity in the practice of internal auditing is emphasized that *"The internal audit function should be independent, and internal auditors must be objective in carrying out their work."* The independence here is to express the organizational status of the internal audit function, while objectivity of the auditor refers to the mental attitude individually owned. So, hypothesis five was developed taking in account of what was reviewed here about objectivity of IA staff as:

H5: *Level of objectivity of internal auditors and IAE are positively and significantly correlated in governmental sectors in guraghe zone.*

2.4.6. Approved IA charter

Internal audit charter is a tool that play essential role when internal auditors perform audit activities to know their responsibility, to gate safeguarded and to exert pressure so that concerned bodies take corrective action depending on findings and recommendations. According to IIARF (2014) survey report, the audit activity's powers and duties should be established by the public sector's constitution, charter, or other basic legal document. Among other topics, as the report says, this document (charter) would address procedures and requirements of reporting and the obligation of the audited entity to collaborate with the auditor.

According to Yosep (2016, pp.64) stated that the purpose, authority, and responsibility of the internal audit function should be formally articulated in the Charter of Internal Audit and it should be consistent with set standards. Internal audit charter should: a) describe the position of the internal audit activity within the organization; b) state the authority of the internal audit function to gain access to all records, personnel and assets needed for the implementation of their duties; and c) describe the scope of the internal audit function (IIA, 2004, cited in Yosep, 2016, pp.64).

Therefore, there are empirical evidences that show the role of formal charter to ensure IA effectiveness. O. Regan (2002, cited in Hailemariam, 2014) concluded that a well organized charter is a crucial tool and ingredient for the IA effectiveness. It helps to direct the efforts of audit staff and defines what the board can expect on the assurance it required on internal control from an IA. Van Peurseem (2005) indicated in his research paper that availability of strong charter enables an official gets respected and have the power or authority to the position of IA in an organization. Moreover, Van Peurseem also added that the existence of audit charter in an organization influences senior management to follow findings and recommendations provided by internal auditors as it affects IA effectiveness. Thus, hypothesis six was developed depending on reviewed evidences about AIAC as:

H6: *The availability of approved IA charter in the governmental sectors has positive and significant impact on internal audit effectiveness in guraghe zone.*

2.4.7. Unrestricted access to information

Without accessing the necessary information, accomplishing audit activity could not be fruitful. It is corroborated by research report which was conducted by the Institute of Internal Auditors Research Foundation (IIARF) (2014, pp.21) that audits should be conducted with complete and unrestricted access of information (to employees, property, and records as appropriate) for the performance of audit activities. When questionnaires for this research report were distributed, as the report says, about three-quarters of the chief audit executive respondents (CAE) agreed or strongly agreed that unrestricted access of information is crucial for internal audit activities to be effective. As a result, hypothesis seven was developed following what was reviewed here as part of empirical review about unrestricted access to information as:

H₇: *Unrestricted access to information has positive and significant impact on the internal audit effectiveness. .*

2.4.8. Team leaders Professional competency

The essence of professionally competent team leader to ensure IA effectiveness is undeniable. A leader should be knowledgeable of applicable audit standards/principles, professionally qualified (preferably certified) and competent to oversee and manage an audit activities, to train IA officers through day to day activities, to take corrective action when ever technical errors are recognized (IIARF, 2014). As it is approved by IIARF research report, more than two-thirds of CAE respondents contacted through research questionnaire (71%) of them replied that they had professional certifications in the internal audit field or equivalent.

According to Nieschwietz *et al.*, (2000, cited in N. NJOROGE, 2016), detecting fraud (as core auditors' task) is a challenging task. Since Perpetrators actively engage in deception in an attempt to conceal their behavior, auditors may have limited experience in fraud detection, and fraudulent activities are inherently unpredictable and difficult to detect. Hence, the organization would be optimally served by identifying and utilizing those individuals (professionally competent team leaders), because they are able to share certain unique personality traits or characteristics, may be best suited to the fraud detection task. Understanding how auditors are perceived, and how these perceptions lead to beliefs regarding their detection abilities, one of the key activities of a team leader in IA work process, is an important first step in relating personality traits to the efficacy of auditors. Some research papers have tried to demonstrate that

professional capacity correlates with task performance just as strongly as cognitive ability (Alonso, 2010, cited in N. NJOROGE, 2016). Moreover, conscientiousness can affect job performance in a number of ways. Conscientious employees are generally more reliable, more motivated, and harder working and they are also likely to devote more energy to the task at hand and spend less time daydreaming (NJOROGE, 2016). Thus, taking in account of reviewed evidence here about professionally competent team leader, hypothesis eight was developed as:

H₈: *Professionally competent team leader in the governmental sectors has positive and significant impact on internal audit effectiveness.*

CHAPTER THREE

3. Research Methodology and Design

3.1. Introduction

To come up with sound conclusions and recommendations, care should be taken in selection of research design, sample size, target population, source of data, data collection methods, and analysis methods. The researcher had chosen case-study method because this method enables to conduct a detailed analysis using multiple sources of data (Soy, 1997, cited in Mihret and Yismaw, 2007). Since there are common behaviors in policies, procedures and organizational contexts of most public/governmental sectors in Ethiopia and the same internal audit manual is used by these sectors (MOFED, 2004), case study method was more preferable for this research paper.

3.2. Research Approach

According to Hawa (2016), there are two types of research approaches such as deduction and the induction approach. This case study was assumed to use deduction approach because the conceptual framework was built based on the previous studies. A deduction approach adopts current theories and concepts to justify research relationships. Deductive approach is also helpful to identify the causal relationships among factors by collecting data in most cases using a quantitative method. It also helps in generalizing from the chosen sample to the whole population.

3.3. Research Design

Kothari (2004, pp.31) stated that “*research design is the conceptual structure within which a research is conducted; it constitutes the blueprint for the collection, measurement and analysis of data. As such the design includes an outline of what the researcher will do from writing the hypothesis and its operational implications to the final analysis of data.*”, Kothari also said that research design facilitates the smooth sailing of the various research operations, making research preparation process as efficient as possible yielding maximum possible information with minimum expenditure of effort, time and money.

This study tried to analyze factors that affect effectiveness of internal audit in the selected Governmental sectors in Guraghe zone. Primary data was used to conduct the study.

3.4. Source of data

This research paper used 13 randomly selected sectors (four from eleven regional sectors, one & the only federal government related sector and eight from fifteen zonal sectors) out of purposively selected 27 governmental sectors. To collect adequate and reliable data, the researcher selected four up to five top management members (including internal audit work process team leader) and all the available internal audit officers from selected sectors. Thus, Amharic version of prepared questionnaires was distributed to 128 purposively selected respondents.

Distributing these two types of questionnaire to 128 (top management & IA), primary data was collected from 116 respondents (response rate 90.625%).

3.5. Target Population

According to Kothari (2004), a researcher has to have a specific population as his/her research population target upon which he/she uses to make all his inferences regarding validity of what he/she is investigating on. According to Uma sekaran(2003), Population refers to the entire group of people, events that a researcher needs to investigate. A population frame is a comprehensive itemized list of all subjects, which comprise the study population, from which a sample is to be taken (Uma sekaran, 2003). The target population for this study were all internal audit officers and top management members in governmental sectors in Guraghe zone that have internal audit main or supportive work process. The study used 13 randomly selected sectors out of purposively selected 27 governmental sectors that have IA work process. Sectors with internal audit work process out of total governmental were selected purposively in this case study area; the sectors were stratified into three strata.

3.6. Sample size

The size of sample, as Kothari (2004, pp.56) said, should neither be excessively large, nor too small. It should be optimum. An optimum sample is one which fulfills the requirements of efficiency, representativeness, reliability and flexibility (Kothari, 2004).

According to Kothari (2004, pp.62) *“If a population from which a sample is to be drawn does not constitute a homogeneous group, **stratified sampling technique is generally applied** in order to obtain a representative sample. Under stratified sampling the population is divided into several sub-populations that are individually more homogeneous than the total population (the different sub-populations are called ‘strata’) and then we select items from each stratum to constitute a sample. Since each stratum is more homogeneous than the total population, we are able to get more precise estimates for each stratum and by estimating more accurately each of the component parts; we get a better estimate of the whole. In brief, stratified sampling results in more reliable and detail information.”*

As a result, the researcher’s preliminary study showed that there are total of 27 governmental sectors in Guraghe zone and these sectors were classified into three strata(federal government related sectors, regional government related sectors and zonal government related sectors) based on their structural arrangement/behavior. Simple random sampling was applied to each stratum to select some sectors to be used as part of representative sample. And then purposive sampling was applied on each randomly selected sector to select only internal audit officers and top management members in order to get more reliable data. To collect adequate data through questionnaires, the researcher selected four up to five top management members (including internal audit work process team leader) and all the available internal audit officers from selected governmental sectors. Therefore, total of 128 respondents were selected purposively from 13 randomly selected sectors as sample size.

3.7. Data collection methods

Both purposive sampling method and simple random sampling methods were applied on selection of respondents (from sectors selected as elements of sample size) out of total staff in a sector, related sectors out of total governmental sectors in guraghe zone and some of management members out of total top management team. Amharic version of questionnaires was distributed to targeted top management team members and IA officers. The questionnaires were prepared using a five level likert-scale type where the highest level shows a strong agreement and the lowest level shows a strongly disagreed attitude. Likert- scale type was preferred Since it is relatively easier to be constructed and performed without a panel of judges, it is more reliable

when respondents answer each statement included in the questionnaire and it also provides more information and data than does other scale methods like Thurstone-type scale. Moreover, each statement included in the Likert-type scale was given an empirical test for discriminating ability unlike other scale, and it also permits the use of statements that are not manifestly related to the attitude being studied(A.L. Edwards and K.C. Kenney, 1946, cited in Kothari, 2004).

Questionnaire developed to top management members contained 17 questions; the sum of these 17 questions was combined to get a single measure of overall effectiveness (the dependent variable). A single averaged figure for each management team member as dependent variable was predicated over averaged responses (detailed questions under each independent variable were also summed and taken the average to get value of each independent variable) for each proposed factor (independent variables) of each participating IA officer using multiple linear regression analysis. The internal auditors questionnaire contained fifty two detailed questions to cover the factors (independent variables) investigated against perceived IAE. The decision to use managers' perceptions was a desire to obtain a quasi-external assessment of the quality of internal audit functions from those same organizations in which auditors were surveyed and to get indicators of IAE. The main sources for individual questions were a review of existing literatures and questions used by other researchers.

3.8. Variables used in the Research

3.8.1. Dependent Variable

Though measurement of IA effectiveness had been considered as a crucial part in investigating the factors/determinants of internal audit effectiveness, previous studies utilized different measurement techniques to evaluate or measure internal audit effectiveness. According to Arena and Azzone (2009), there are no generally acknowledged/accepted common tools to measure IA effectiveness though a number of researchers emphasized that it should be measured. Implementation of audit recommendation is the most important measure of internal audit effectiveness (Van Gansberghe 2005; Al-Twajry et al, 2003). Supporting this idea, Arena and Azzone (2009) emphasized that the percentage of recommendations implemented by the auditee organization is the most appropriate measure for internal audit effectiveness

Different previously conducted research works as (Cohen & Sayag, 2010; Frigo, 2002; Ziegenfuss, 2000), considered IAE as a reference to the internal auditors or internal audit functions ability to satisfy the needs of auditees.

In this research paper, Internal Audit Effectiveness was applied as dependent variable. The researcher, thus, tried to organize/condense five different dimensions like internal auditors' ability to identify non-compliance activities, improved performance of IA department and organizational productivity, implemented internal audit recommendations, evaluate and improve risk management and internal control system (about which detail of seventeen questions were prepared as questionnaire to top management) to measure IA effectiveness referring different related literatures and previous research papers (Alzeban and Gwilliam, 2014; Bota-Avram and Palfi, 2009; ALshbiel, 2017; Hailemariam, 2014).

Hence, averaged value from these five different dimensions (summed and averaged value of these seventeen questions) was used to measure IA effectiveness against the perception of top management team members in governmental sectors in this case study area. To get accurate evidence about the level of team members' perception of IA effectiveness, a questionnaire containing seventeen items of five levels Likert-scale type was developed by the researcher. And Amharic version of duplicated questionnaire was distributed to the respondents (top management members) in randomly selected sectors from each stratum.

3.8.2. Independent Variable

This case study focused on eight independent variables that were supposed to have positive and significant impact on internal audit effectiveness(dependent variable) in the governmental sectors. These supposed variables that were included in this paper were: internal audit independence, management support, adequate and competent internal audit staff, sufficiency of budget, level of objectivity, approved IA charter, unrestricted information access and professionally competent team leader. Primary data for analysis of independent variables was collected from the internal audit officers of the selected governmental sectors/offices. Therefore, the independent variables tried to represent the perception of the internal auditors regarding these variables. To measure the relationship of IA Effectiveness (dependent variable) with all of the

independent variables, the researcher developed a five point Likert-scale type questionnaire with 52 items (which were averaged to eight independent variables) that could include all the necessary questions.

3.9. Data Analysis Method

Descriptive statistics was used to conducted analysis of data about demographic questions and internal audit effectiveness independently. To examine the relationship among the variables or proposed factors, to test the research hypothesis or to indentify influence of factors on effectiveness of IA activities in the governmental sectors, to test some of OLS assumptions; the correlation analysis and multiple linear regression analysis method were applied successfully. And also, the Statistical Package for Social Sciences (SPSS) version 20 and stata12 had already been used for the data analysis purpose and to test the ordinary least square (OLS) assumptions. To test overall significance of the model and reliability and consistency of constructed questionnaires, F-statistics and Cronbach's Alpha (α) were applied respectively.

Ordinary least squares (OLS) multiple linear regression was executed and helpful to estimate the magnitude of the effect of the eight factors identified above (the independent variables) on IAE (the dependent variable).

3.10. Model Specification

The following model was proposed to this case study to test the research hypothesis set earlier. To specify suitable model (to select consistent model) and to select the independent variables included in the model, the researcher tried to refer different previous studies like (IIARF, 2014; Mihret and Yismaw, 2007; Hailemariam, 2014; Njoroge, 2016; Cohen & Sayag, 2010; ALshbiel, 2017; Alzeban and Gwilliam, 2014) and many others. So, the reliability and validity of the model was tested in parallel with analyzing data and interpreting the results in the study.

CHAPTER FOUR

4. Results and Discussion

4.1. Introduction

The main objective of this study was investigating factors affecting internal audit effectiveness in governmental sectors in Guraghe Zone, SNNPRS. Therefore, this chapter presented the analysis and discussions for research findings obtained from the analysis of data. The discussion begins with the questionnaires' response rate followed by the descriptive statistics of the respondents related questions; like the gender, age, field of study, work experience and level of education. The results of the reliability analysis and the regression assumption test also reported and finally the results of hypothesis testing are presented.

4.2. Descriptive Statistics

4.2.1. Response Rate

Amharic version of two types of questionnaire was distributed both to top management members and the internal auditors of different selected governmental sectors in guraghe zone. Out of these distributed 128 questionnaires, 116 questionnaires from both groups were collected back (58 responses from top management members and 58 from internal auditors) achieving response rate of 90.625%. This shows good response rate both for the managers and internal auditors

4.2.2. Respondents Background

As it is shown in the table-1 below, analysis of data about respondents' age, sex, field of study and level of education is presented in detail. Out of the total respondents from top management members, 43 (74.14%) were males and 15 (25.86%) were females. As the analysis showed majority of the respondents from top management were males. When we see analysis result about age, 9(15.52%) of management members were from age group between 20-29, 25(43.1%) of them were from age group between 30-39, 17(29.31%) of them were from age group between 40-49 and the remaining 6(10.34%) of them were from age category of 50-59. The result showed also that majority (43.1%) of management member respondents are youth and the smallest percentage (6 or 10.34%) is from elders group. There was an individual (1 or 1.7%) respondent who did not respond about his/her age.

Analysis of data about the field what top management members studied shown that 19(32.8%) of them were accounting graduates, 18(31%) of them were graduates of management department, 5(8.6%) of the respondents were graduates of economics department and the remaining 14(24.1%) of them were graduates of different departments though there were two respondents who did not provide information about their field of study.

Additionally, analysis of data regarding to qualification of respondents showed that 2(3.4%) were TEVT diploma holders, 51(87.9%) of these management members were first degree holders, 3(5.2%) of them were masters degree graduates and the remaining 2(3.4) of the respondents were individuals who did not say something about their academic qualification. As the result showed, almost all (51or 87.9%) of the respondents were first degree holders.

Table 4.1 General profile of Top management members

<i>Demographic information</i>		<i>Response from Top management members</i>	
		<i>Frequency</i>	<i>Percentage</i>
<i>Gender</i>	<i>Male</i>	43	74.1%
	<i>Female</i>	15	25.9%
	<i>Total</i>	58	100%
<i>Age</i>	<i>20-29</i>	9	15.5%
	<i>30-39</i>	25	43.1%
	<i>40-49</i>	17	29.3%
	<i>50-59</i>	6	10.3%
	<i>Missed data</i>	1	1.7%
	<i>Total</i>	58	100%
<i>Field of study</i>	<i>Accounting</i>	19	32.8%
	<i>Management</i>	18	31%
	<i>Economics</i>	5	8.6%
	<i>Others</i>	14	24.1%
	<i>Missed data</i>	2	3.4%
	<i>Total</i>	58	100%
<i>Qualification</i>	<i>TEVT Diploma</i>	2	3.4%
	<i>Degree holder</i>	51	87.9%
	<i>Master Holder</i>	3	5.2%
	<i>Missed data</i>	2	3.4%
	<i>Total</i>	58	100%

Source: personal Survey data & SPSS-20/2019

Table 4.2 General profile of Internal Auditors

Demographic information		Response from Internal Auditors	
		Frequency	Percentage
Gender	Male	33	56.9%
	Female	25	43.1%
	Total	58	100%
Age	20-29	22	37.9%
	30-39	16	27.6%
	40-49	18	31%
	50-59	2	3.4%
	Total	58	100%
Field of study	Accounting	28	48.3%
	Management	18	31%
	Economics	6	10.3%
	Cooperative Accounting	2	3.4%
	Others	4	6.9%
	Total	58	100%
Qualification	TEVT Diploma	7	12.1%
	Degree holder	51	87.9%
	Total	58	100%
Certified or not	Not Certified	39	67.2%
	Certified Internal Auditor	3	5.2%
	Certified Public Accountant (CPA)	5	8.6%
	Certified Management Accountant	11	19%
	Total	58	100%
	Less than 1 year work experience	5	8.6%
	1-2 years of work experience	20	34.5%
	3-5 years of work experience	18	31%
	6-10 years of work experience	10	17.2%
	More than 10 years of work experience	1	1.7%
	Missed data	4	6.9%
	Total	58	

Source: personal Survey data & SPSS-20/2019

Detailed analysis about age, sex, field of study, qualification, work experience and professional certificate of internal auditors' is presented in the above table-2. As a result, the analysis showed that 33(56.9%) of the respondents were male and 25(43.1%) of them were female internal audit officers. Out of these total respondents, 22(37.9%), 16(27.6%), 18(31%) and 2(3.4%) of them were from age group between 20-29, 30-39, 40-49 and 50-59 respectively. Here the analysis showed that age group from 20-39 covers 65.5% of the total respondents from IA officers.

Analysis of data showed also that 28(48.3%), 18(31%), 6(10.3%), 2(3.4%) and 4(6.9%) of the respondents from IA officers were from field of study of accounting, management, economics, cooperative accounting and other departments respectively. If analyzed about their academic qualification is considered, 7(12.1%) of them were diploma holders and the remaining 51(87.9%) of these contacted internal auditors were first degree holders. If analyzed data about professional certificate is also considered, 39(67.2%) of these respondents were not certified, 3(5.2%) of them were certified internal auditors, 5 (8.6%) of them were certified public accountants and 11 (19%) of them were certified management accountants. Here, it is possible to conclude from the analysis that majority of internal audit officers in governmental sectors in this study area were not certified professionals.

Out of total auditors contacted for data collection purpose, 5(8.6%) of them have work experience of less than one year, 20(34.5%) of the respondents have 1-2 years of work experience, 18(31%) of them have 3-5 years of work experience, 10(17.2%) of them have 6-10 years of work experience, 1(1.7%) has more than 10 years of work experience and the remaining 4(6.9%) of them did not provide information about their work experience. As the analysis showed, majority of the IA in this case study area have 1-5 years of work experience

4.3. Reliability Analysis

To measure the consistency of a five Likert-scale type questionnaire, reliability analysis is common and important in reflecting the overall reliability of the constructed questionnaire. Cronbach's Alpha (α) is the most commonly used tool to carry out reliability analysis; and a value greater than 0.700 is very acceptable (Hailemariam, 2014; Cohen and Sayag, 2010; Alzeban and Gwilliam, 2014). According to Lee Joseph Cronbach(1951), a reliability value (α) greater than 0.600 also is acceptable. As a result, Cronbach's Alpha (α) of **0.924** for

questionnaire one and Cronbach's Alpha (α) of **0.889** for IA officers questionnaire two were obtained

Table 4.3 Reliability Statistics

Cronbach's Alpha for Management Questionnaire		Cronbach's Alpha for Internal Auditors Questionnaire	
Cronbach's Alpha	No. of Items	Cronbach's Alpha	No. of items
.924	17	.889	52

Source: personal Survey data & SPSS-20/2019

4.4. Descriptive Analysis of Internal Audit Effectiveness (IAE)

Table 4.4 -Descriptive analysis of Internal Audit Effectiveness

Ro.No.	<i>Effectiveness of internal audit was supposed to be achieved by being able to identify non-compliance activities, improved performance of IA department and organizational productivity, implemented internal audit recommendations, evaluate and improve risk management and internal control system</i>	N	SDA	DA	NEU	AG	SAG	Median	Mean	St. Deviation
1.1	Internal audit Work process develops appropriate annual audit plans	58	0.02	0.05	0.03	0.64	0.26	4	4.07	0.814
1.2	Each and every activity of IA work process is in accordance with its annual plan	58	0.03	0.10	0.12	0.59	0.16	4	3.72	0.970
1.3	Internal auditors can effectively identify and report any noncompliance activities with respect to your office's/sector's established policies, procedures, laws and regulations.	58	0.02	0.19	0.19	0.52	0.09	4	3.47	0.959
1.4	Internal Auditors are able to provide constructive recommendations and criticisms on non-compliance activities or control systems of your office/sector.	58	0.02	0.24	0.17	0.45	0.12	4	3.4	1.091
1.5	The non-compliance activities identified by internal auditors are reliable and significant to your sector.	58	0.00	0.12	0.14	0.60	0.14	4	3.76	0.844
1.6	The internal auditors are capable of determining the nature and frequency of noncompliance activities and issuing audit reports with full confidence.	58	0.02	0.16	0.31	0.47	0.05	4	3.38	0.875
1.7	Timely action is being taken to implement the recommendations of the IA reports	58	0.07	0.28	0.16	0.41	0.09	0.35	3.17	1.142
1.8	Internal audit provides adequate follow-up to ensure that appropriate corrective action is being taken or not	58	0.00	0.22	0.24	0.47	0.07	4	3.38	0.914

1.9	Internal audit is able to ensure whether resources utilization is economic, effective and efficient or not in your office/sector.	58	0.09	0.21	0.17	0.41	0.12	4	3.26	1.222
1.1	Internal auditors have the experience and expertise to address risk management problems within your sector.	58	0.05	0.16	0.19	0.47	0.14	4	3.47	1.127
1.11	IA work process is playing sufficient role to address the very purpose for which it is established	58	0.09	0.22	0.22	0.38	0.09	3	3.12	1.215
1.12	Internal auditors in your sector are capable of carrying out internal control function under current governmental rules & regulations	58	0.02	0.22	0.21	0.48	0.07	4	3.36	0.968
1.13	The internal audit reports have high value for decision making and internal controls by the management.	58	0.05	0.05	0.14	0.59	0.17	4	3.78	0.974
1.14	The IA activities are able to evaluate risk exposures relating to the sector's governance and operation system.	58	0.07	0.10	0.16	0.57	0.10	4	3.52	1.096
1.15	The internal audit activities are able to evaluate risk exposures related to the sector's Accounting information system	58	0.03	0.21	0.31	0.38	0.07	3	3.24	0.979
1.16	The IA activities could evaluate risk exposures about the reliability and integrity of financial and operational system	58	0.03	0.24	0.21	0.45	0.07	4	3.28	1.022
1.17	The IA activities could evaluate effectiveness of the sectors risk management system	58	0.03	0.22	0.19	0.47	0.09	4	3.34	1.035

Source: computed Survey data & SPSS-20/2019

Even though there is no a generally accepted or set standard or technique to measure IAE, descriptive analysis was used by the researcher to measure central tendency of detailed items through examination of mean score of collected data. The way the researcher used to measure IAE is consistent with other researchers like (Alzeban & Gwilliam, 2014; Amanuddin et. al., 2015). The lower the mean score indicates that most of the respondents responded that they strongly disagreed or disagreed about effectiveness of IA functions and vice-versa. While, standard deviation is used to measure the variability or dispersion. The higher the standard deviation indicates that more scores spread out. Table 4 above and appendix-c showed what top management members perceived about internal audit effectiveness. Detailed 17 items containing questionnaire related to internal audit effectiveness was prepared and distributed to these management members. And descriptive analysis of data collected using these items is presented to measure IAE independently.

Except for the first item or question, mean score for all of the items was obtained to be between 3.12 and 3.72. This showed that almost all of top management members have responded that they were not comfortable with effectiveness of internal audit activities in the study area. In other words, mean score of all respondents' response showed that majority of top management members neither agreed nor disagreed about effectiveness of internal audit activities in the study area as the mean score revolves around neutrality (three).

If we try to compare the highest (4.07) mean score with standard deviation 0.814 and the lowest (3.12) mean score with standard deviation 1.215, there is undeniable gap between these scores though majority of mean scores are revolving around neutral (three). The higher mean score (4.07) is for item no.1 and this showed that 64% and 26% of management members agreed and strongly agreed respectively that *“Internal audit Work process develops appropriate annual audit plans,,*. But when we see the lowest mean score which is 3.12 for item no. 11, analysis result showed that 22% of management members disagreed and 22% of them neither disagree nor agreed that *“IA work process is playing sufficient role to address the very purpose for which it is established,,* though 38% of them agreed that IA work process is playing the role for which it is established. Generally, analysis of data conducted to measure IAE using top management members' perception showed that there is no clear evidence investigated to say IA function in this case study area is effective. It is because majority of top management members neither agreed nor disagreed that IA function is effective.

4.5. Assumptions of Classical Linear Regression Model

4.5.1. Test for Normality

In order that it could be possible to test whether error terms are approximately normally distributed (*since it is difficult to get perfectly normally distributed data*), we can use different methods or tools as skewness and kurtosis(z-values should be somewhere between -1.196 and 1.196), Shapiro-wilk test(p-value should be greater than 0.05); and Histograms, Normal Q-Q plots and Box plots(visually, these diagrams should reflect that the researchers data is approximately normally distributed). The researcher, therefore, used Shapiro-Wilk tests and Histograms to this case study. As the result showed in table-5, Shapiro-Wilk tests of normality that was obtained using SPSS-20, the test is non-significant ($p > 0.05$). In other words, as the Shapiro-Wilk's test ($p > 0.05$)(Shapiro-Wilk, 1965 & Razali & Wah, 2011) showed in table-5

below and (appendix-d) and also the visual estimation of the histograms below, all the variables are approximately normally distributed and all the values of p ($p > 0.05$) were laid in the region where normality is accepted.

Table 4.5 Tests of Normality

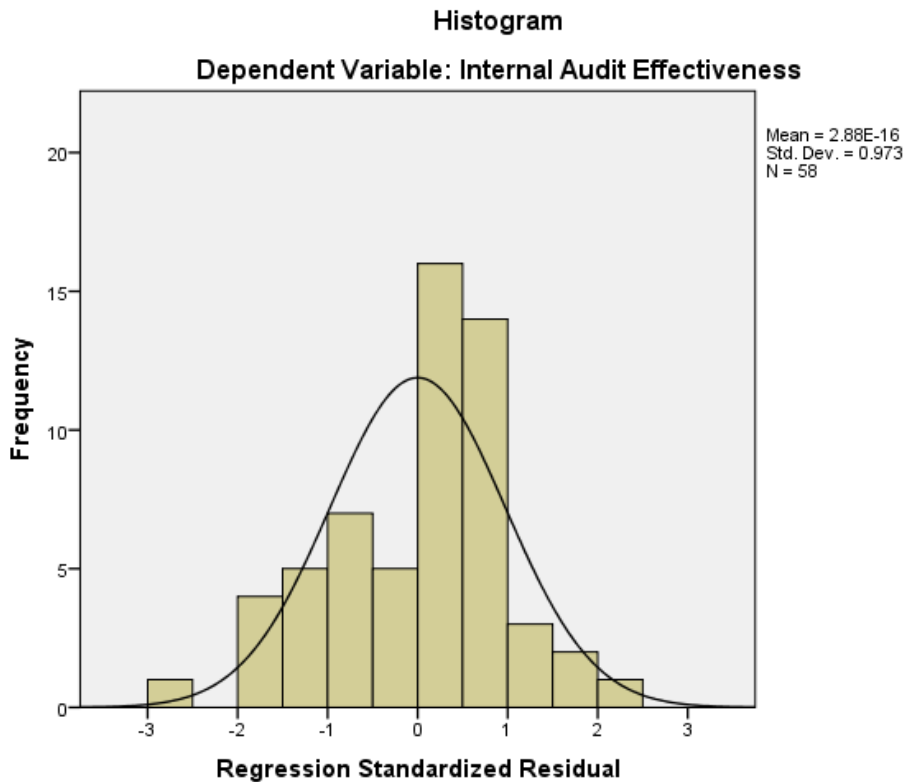
Variables	Kolmogorov-Smirnov ^b			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Internal Audit effectiveness	.271	58	.200	.896	58	.410
Internal Audit independence	.298	58	.200	.926	58	.572
Management Support	.281	58	.151	.872	58	.234
Availability of competent staff	.189	58	.200	.954	58	.754
Sufficiency of Budget	.163	58	.200	.947	58	.593
Level of objectivity	.308	58	.043	.820	58	.664
Availability of Approved charter	.225	58	.155	.946	58	.697
Unrestricted access to information	.236	58	.200	.895	58	.382
Professionally competent team leader	.163	58	.094	.947	58	.593

b. Lilliefors Significance Correction *. This is a lower bound of the true significance.

Source: Survey data & SPSS output/2019

In addition to the above table, normality test is conducted using the histogram as follow and the graph showed that sample data was approximately normally distributed throughout the target population.

Figure 2-graphical method to test normality



4.5.2. Testing for Heteroscedasticity

In order to get Breusch-Pagan/Cook-Weisberg test for heteroscedasticity, regression of the model was conducted using stata 12 software. As the output showed ($p > 0.05$), in table-6 below and Appendix D, ($p\text{-value} = 0.3773$) for the model which was greater than 0.05, the critical value, ensured homogeneity of variance across the model.

Table 4.6 Test of Heteroskedasticity

. hetttest
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of effectiveness
$\chi^2 = 8.6$
Prob. > $\chi^2 = 0.3773$

Source: personal Survey data & stata-12 /2019

4.5.3. Multi-co-linearity Test

According to Field (2009) and Pallant (2007), we could detect existence of Multi-co-linearity when variables correlate strongly each other; there is r value that is greater than 0.80, tolerance value below 0.10 and Variance Inflation Factor (VIF) that is greater than 10 in the correlation matrix. Tolerance is a statistics used to indicate the variability of the specified independent variable that is not explained by the other independent variables in the model.

Table 4.7- Co linearity Statistics

Variables	Co linearity Statistics	
	Tolerance	VIF
Internal Audit Independence	.597	1.675
Management Support	.557	1.794
Adequate and competent staff	.719	1.391
sufficiency of budget	.758	1.320
level of objectivity	.756	1.322
Availability of Approved IA charter	.718	1.393
Unrestricted access to information	.530	1.886
Professionally competent team leader	.574	1.743

Source: personal Survey data & SPSS-20 output /2019

As it is shown in the Co-linearity statistics (table-7) above, the tolerance values for all of the variables are greater than 0.10 and the VIF values are less than 10. The Pearson correlation matrix which is presented below in table-8 also showed that there is no multi-co-linearity problem. It is because the correlation coefficients between explanatory variables are less than 0.80. As a result, there is no need of computing or transforming data and the findings indicated acceptable r value, tolerance and variance inflation factor (VIF) values.

Table 4.8 - Pearson Correlation Matrix

Variables	IAE	IAIn	MS	ACIAS	SUBJ	OBIAS	AIAC	UAIF	PCIATL
Internal Audit effectiveness	1.00								
Internal Audit independence	.630**	1.00							
Management Support	.383**	.438**	1.00						
Availability of competent staff	.189	.034	.226*	1.00					
Sufficiency of Budget	.497**	.235*	.181	.296*	1.00				
Level of objectivity	.165	.090	.408**	.146	-.092	1.00			
Availability of Approved charter	.380**	.203	.282*	.313**	.318**	.121	1.00		
Unrestricted access to information	.558**	.429**	.181	.391**	.240*	.193	.420**	1.00	
Professionally competent team leader	.527**	.415**	.442**	.282*	.354**	.224*	.398**	.494**	1.00

** . Correlation is significant at the 0.01 level (1-tailed). * . Correlation is significant at the 0.05 level (1-tailed).

Source: personal Survey data & SPSS-20 output /2019

Table-8 above revealed also that the correlation among the independent variables and the correlation between the dependent variable and these independent variables. The correlation result showed output level which is acceptable level of correlation among the variables. It is because the correlation among these predictors is not high and this ensured that there is no Multi-co-linearity problem among the variables. When we see the relationship between the dependent variable (IAE) and independent variables (IAIn, MS, ACIAS, SUBJ, OBIAS, AIAC, UAIF, PCIATL), some of the findings are statistically significant. Furthermore, there were strong correlations between the dependent variable internal audit effectiveness (IAE) and independent variables as IAIN ($r = 0.630$), SUBJ ($r = 0.497$) and UAIF ($r = 0.558$) with ($P < 0.01$) level of significant which in turn showed a strong support for first, fourth and seventh hypothesis to be accepted respectively. However, there were no significant correlations among the MS, ACIAS, OBIAS AIAC and PCIATL with internal audit effectiveness (IAE) and this leads to rejection of the second, third, fifth, sixth and eighth hypotheses. The correlation analysis was utilized to reject or accept research hypothesis in previous audit researches in addition to the regression analysis (Cohen and Sayag, 2010; Hailemariam, 2014).

4.5.4. Testing for Autocorrelation

This test was to ensure whether there is problem of autocorrelation or not. This assumption can be tested with the Durbin-Watson test which test for serial correlation between errors and the value closer to 2 are acceptable (Field, 2009). As described on table-9 below, the Durbin-Watson statistic value ($d = 2.228$) which is closer to 2 ensured that there is no severe autocorrelation problem among error terms. In other words, since d_u value with $n=58$ from Durbin-Watson statistics table = 1.77, it is ensured that there is no autocorrelation problem because 2.228 is greater than d_u value.

4.6. The Regression Results and Hypothesis Testing

4.6.1. Regression Results

Taking IAE as dependent variable and different selected variables as independent variables, OLS regression analysis was conducted using SPSS version 20. As a result, output of the regression analysis is presented here in table-9 below and Appendix-E, hypothesis tests were implemented using obtained output and proposed hypothesis of the model.

Table 4.9- Regression result of the analysis

R = .789		F = 10.116		Durbin- Watson (d) = 2.228			
R² = .623		P = .000					
Adj. R² = .561		Std. Error of the Estimate = .4333594					
Variables	Un-standardized Coefficients		Standardized Coefficients	t-value	Sign.	Co-linearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
Constant	.169	.514		.330	.743		
InAln	.327	.102	.365	3.213	0.002**	.597	1.675
MS	.049	.121	.048	.409	.685	.557	1.794
ACIAS	-.102	.118	-.089	-.863	.392	.719	1.391
SUBJ	.248	.078	.319	3.166	0.003**	.758	1.320
OBIAS	.067	.090	.075	.748	.458	.756	1.322
AIAC	.062	.106	.061	.586	.561	.718	1.393
UAIF	.208	.095	.265	2.197	0.033**	.530	1.886
PCIATL	.094	.114	.095	.818	.417	.574	1.743

** P < 0.05, 95% level of Confidence, N = 58

The larger the value of R square, the better is the model to be accepted. Regression output of the analysis indicated also that 62.3% ($R^2 = .623$) of the deviation of dependent variable from its mean is explained by the model (the set of all of the predictors). And the remaining 37.7% is left to variables that were not included in this model.

The value of F-statistics ($F = 10.116$) and p-value ($P = .000$) in the model summary authenticated that the overall significance of the model and it also implied that there was strong relationship between the predictors and the outcomes of the regression variables. The output also corroborated that the model best fitted to predict the effectiveness of internal audit functions in governmental sectors in the study area. The beta (β) sign to all of the variables (except for the third independent variable) showed positive effect of the independent variables coefficient over the dependent variable. In other words, as percentage change in independent variable increases, percentage change in dependent variable also increases except for the third independent variable for which the change effect is vise-versa.

The findings were consistent with different previous studies like (IIARF, 2014; Cohen, & Sayag, 2010; Van Peurse, 2005). Therefore, based on the coefficients of the independent variables (β sign) all the hypotheses proposed by the researcher were acceptable (except for third variable). It is because all of the eight hypotheses were hypothesized that the variables were expected to have positive relationship with the dependent variable.

When we come to the statistical significance of the independent variables over the dependent variable at 5% level of significance, only three independent variables from positively related variables (IAIn, SUBJ and UAIF) were identified to have statistically significant contribution for the IAE at ($P < 0.05$) level of significance. Thus, this is possible to conclude that IAIN, SUBJ and UAIF are the most crucial factors affecting IAE in the governmental sectors in this case study area. Regardless of their positive relationship with predicted dependent variable (IAE), MS, ACIAS, OBIAS, AIAC and PCIATL were identified not to have statistically significant contribution because they have a sig. value of (sig. > 0.05). A variable with (sig. $< 5\%$) could make a significance contribution to the predicted value of the dependent variable and for (sig. $> 5\%$) could not make a significance contribution for the prediction of the dependent variable (Pallant, 2007; Hailemariam, 2014; Somekh and Lewinn, 2005).

4.6.2. Hypothesis Testing

Regression analysis results that were presented in table-9 above and Appendix-E provided appropriate examination of the research hypothesis. Therefore, the regression results obtained from the model were utilized to test these hypotheses. The hypotheses tried to test significant influence of internal audit independence (IAIn), management support (MS), availability of adequate and competent IA staff (ACIAS), sufficiency of budget(SUBJ), objectivity level of IA (OBIAS), the existence of approved internal audit charter (AIAC), unrestricted access to information(UAIF) and professionally competent team leader (PCIATL) on the direct effect on internal audit effectiveness which was measured in terms of internal auditors ability to identify non-compliance activities, improved performance of IA department and organizational productivity, implemented internal audit recommendations, evaluate and improve risk management and internal control system

It was seen on table-9 above that, the p value for the IAIN, SUBJ and UAIF were found to be statistically significant at ($p < 0.05$) which ensured strong support for hypothesis one, four and seven. The hypothesized hypothesizes (hypothesis two, three, five, six and eight) for MS, ACIAS, OBIAS and PCIATL were not supported because the p-values ($p > 0.05$) for these variables were not statistically significant. As a result, these hypotheses were tested based on the regression output of the analysis.

H1: Internal audit independence is directly related to Internal Audit Effectiveness (IAE) positively and significantly

Internal audit independence was the first hypothesis in this research paper and it was hypothesized that IA effectiveness is directly related with internal audit independence. The result showed strong correlation between IAE and internal audit independence. The positive beta sign and a statistically significant result of internal audit independence related with the internal audit effectiveness ($\beta = .327$, $t = 3.213$, $P < 0.05$) supported the previously proposed hypothesis should be acceptable. As the result showed, making the internal audit work process independent from unnecessary interference of any concerned body have positive impact to get effective IA activities/functions. Additionally, the investigated result is consistent with previous researchers work like (Ali, 2018; IIARF, 2014; Cohen, & Sayag, 2010; Amanuddin et. al., 2015; Alzeban and Gwilliam, 2014; Mustika, 2015). As the more is IA independence to internal audit work

process and internal auditors, the more will be the role to be played in assurance of internal audit effectiveness acting freely and generating consistent audit reports, audit findings and recommendations.

Therefore, depending on this investigation it is possible to conclude and recommend that independence of IA work process and IA officers have great role for effectiveness of IA activities and thus fertile ground should be created to ensure the independence and the effectiveness what the first proposed hypothesis(H1) Strongly supports.

H2: The relationship between management support to IA work process and internal audit effectiveness in governmental sectors in Guraghe zone is positive and significant.

Management support was proposed as the second hypothesis in this research paper that it has positive significant influence on IA effectiveness. As the result showed above in tabl-9, management support has coefficient of ($\beta = .049$, $t= .048$) and has positive relationship with IA effectiveness of IA. But, the statistical result ($P>0.05$) showed that this positive relationship is not statistically significant. In other words, in this study area management support has no significant role to affect internal audit effectiveness which is in contrast to what was proposed earlier. The result was inconsistent with the previous studies conducted by (Mihret and Yismaw, 2007; Cohen and Sayag, 2010) they found that management support is critical determinant of IAE. In audit finding and the commitment to strength internal audit through hiring proficient internal audit staff, developing career channels for internal audit staff, providing the opportunity for professional trainings and making the work process independent. This may be attributed to inefficient management support to the IA effectiveness in this case study area. Top management team may have attitudinal problem not to support internal audit work process. Because the more effective be IA work process, the stronger will be financial and other resources control system of the work process. And also the result may be resulted from lack of conceptual understanding that to what extent management support should be to increase IA effectiveness.

H3: Availability of adequate and competent IA staff in governmental sectors in guraghe zone has positive and significant impact on internal audit effectiveness.

The third hypothesis of this research which was proposed by the researcher is that availability of adequate and competent IA staff in governmental sectors has positive significant impact on internal audit effectiveness. But output of regression analysis showed in table- 9 above that ACIAS (coefficient of $\beta = -0.102$, $t = -0.863$) is negatively related with the effectiveness of IA. Moreover, the result was not consistent with other researchers work like (Cohen and Sayag, 2010; Arena and Azzone, 2009; Hailemariam, 2014) they argued presenting their investigation that the existence of adequate and competent IA staff in the public sector office results in positive relationship with IAE and with high contribution for the IAE by performing their activities on time, cover the planed scope of auditing activities by using the computerized data tools and specific IA software. But the negative beta sign may be attributed to lack of competent and well qualified IA officers in the study area. Because the result was consistent with Ali et al. (2007) and Ahmad et al. (2009) and they found in their studies that were conducted in Malaysian public sectors that lack of well qualified, trained and experienced staff about internal auditing affected internal audit effectiveness negatively. In the South African public sector, Schyf (2000) identified also that lack of qualified staff is one of the core factors and problems limiting effectiveness of internal audit function. Moreover, various results obtained from investigations of different studies like (Gwilliam & El-Nafabi, 2002; Mihret & Yismaw, 2007; Mulugeta, 2008; Wolderupheal, 1998) in different developing countries suggested that internal audit staffs lacked adequate educational qualifications and are getting insufficient professional training which was important to enable them upgrade their skills. Al-Twajry et al. (2003) argued that staffs should have the required education capacity to conduct the full range of audits.

H4: Assigning Sufficient Budget to internal audit work process influence positively and significantly to internal audit effectiveness in governmental sectors in Guraghe zone.

Sufficiency of budget was the fourth hypothesis in this research paper. It was hypothesized that IA effectiveness has direct and significant relationship with availability of sufficient budget to IA work process. Showing strong correlation between the IAE and Sufficiency of Budget, the positive beta sign and a statistically significant result of sufficiency of budget related with the

internal audit effectiveness ($\beta = .248$, $t = 3.166$, $P < 0.05$) supported that the proposed hypothesis is acceptable. As the result showed, assigning sufficient budget to IA work process highly and positively contribute to effectiveness of IA activities. Moreover, the result is consistent with research work of (IIARF, 2014, pp.21). In this global report (*A Global Assessment Based on The IIA's 2010 Global Internal Audit Survey, A Part of The IIA's Global Internal Audit Common Body of Knowledge (CBOK) Project and The IIA's Supplemental Guidance*), it was clearly presented emphasizing as one of the nine vital elements to affect effectiveness of IA that:-

“...this important element should not be left under the control of the organization being audited, because the budget impacts the audit activity's capacity to perform its responsibilities. Insufficient funding would create a significant barrier to fulfilling the roles and responsibilities of the internal audit activity in the public sector. Therefore, CAEs should request sufficient funding relative to the size of their audit responsibilities, and decisions relating to such funding should be independent of the organization being audited...”

As the result showed in this paper, assigning sufficient budget to work process so that internal auditors be free from unnecessary communication with auditee organization is really a crucial role playing factor to maximize effectiveness of IA activities and this in turn supported the fourth proposed hypothesis strongly.

H5: Level of objectivity of internal auditor and IAE are positively and significantly related in governmental sectors in guraghe zone.

Level of objectivity of internal auditor was the fifth hypothesis and it was proposed as one of determinants of IA effectiveness that OBIAS and IAE are directly related. As it is shown in table-9 above ($\beta = .067$, $t = .748$), objectivity level of IA is positively related with the effectiveness of IA. But, it is not statistically significant because the result showed ($P > 0.05$). The result is also inconsistent with the previous studies conducted by (IIARF, 2014; Supriyono, 2018). They found that, the more internal auditors act objectively, the more effective will be IA activities. Supriyono (2018) explained in his study that Objectivity requires auditor not to differ their audit judgments toward their clients. Punishment regarding auditors' objectivity must be carried out at the whole level; individual, assignment, functional position and organization.

Hence, objectivity is an important aspect in determining whether or not the audit task can succeed. But the insignificant result may be attributed to the organizations support to the IA effectiveness and accordingly, the level of auditors objectivity may not be taken in to account. Unless proper care is taken to create fertile ground to those internal auditors so that they could act objectively, unnecessary relationship may occur with audittee organizations and IAE may also be below what it should have been.

H6: The availability of approved IA charter in the governmental sectors has positive and significant impact on the internal audit effectiveness in guraghe zone.

The sixth hypothesis was proposed assuming that approved internal audit charter and internal audit effectiveness have direct relationship in governmental sectors in the study area. As the analysis result showed above in table-9, AIAC (coefficient of $\beta = .062$, $t = 586$) is positively related with the effectiveness of IA though the relation is not statistically significant because of the statistical result ($P > 0.05$) and the result does not support the sixth hypothesis. And also the result is inconsistent with previous studies like (Hailemariam, 2014; Peurseem, 2005; O'Regan, 2002) and it was found that a well organized IA charter facilitates fertile ground to internal auditing function to be performed well. The charter is used as the direction to access different information necessary to accomplish the auditing and generate conclusions and recommendations based on their finding. This may be occurred due to lack of awareness to understand the role of availability of approved IA charter to ensure effective IA activities. Top management of any organization should facilitate conditions in which IA officers could get training about each and every article of IA charter could interpret it practically.

H7: Unrestricted access to information in the governmental sectors has positive and significant impact on the internal audit effectiveness.

The seventh hypothesis was Unrestricted access to information in the governmental sectors has positive and significant impact on the internal audit effectiveness which was proposed assuming that there is a direct relationship between them. As it was proposed earlier, regression output of the analysis showed in table-9 above that there is a positive correlation between IAE and UAIF. And the relationship is statistically significant with coefficient of ($\beta = .208$, $t = 2.19$, $P < 0.05$). The result is consistent with some other findings like (IIARF, 2014) and supported the proposed

hypothesis to be acceptable. As finding of a survey conducted globally by IARF (2014), audits should be conducted with complete and unrestricted access to employees, property, and records as appropriate for the performance of audit activities. For this reason, a team leader should be able to request complete and unrestricted access; these necessary information to maximize quality of any activity related with IA functions. The investigation related with this variable supported us accept the seventh hypothesis.

H₈: Professionally competent team leader in the governmental sectors has positive and significant impact on internal audit effectiveness.

This is the last hypothesis which was proposed by the researcher assuming that professionally competent team leader has positive impact on IAE. Coefficient of PCIATL ($\beta = .094$, $t = .818$) from output result of regression analysis in table-9 above showed that professionally competent team leader is positively related with the effectiveness of IA. But, because of its statistical result ($P > 0.05$) the output result does not show statistically significant relationship between the professionally competent team leader and the IA effectiveness. And the result does not support the last hypothesis of this research paper. The result also is inconsistent with finding of IARF (2014, pp.22). As the foundation explained depending on its finding:

“A leader should be knowledgeable of applicable audit standards, professionally qualified—preferably certified and competent to oversee and manage an audit activity. Moreover, the CAE should be an articulate public spokesperson for the audit activity. Analysis by region showed that 60% of the CAE respondents from Latin America and Caribbean had senior experience compared to 25% of the CAE respondents of Europe-Central Asia. It would seem prudent for public sector organizations to ensure that their CAEs have sufficient experience to increase the leadership capacity and credibility of their internal audit activities.,,.

CHAPTER FIVE

5. Conclusions and Recommendations

5.1. Summary of Findings

As regression result of this case study indicated, almost all of the explanatory variables showed positive relationship with dependent variable (IAE) (except the third variable) authenticating that most of these variables could play vital role to increase effectiveness of internal audit functions in Governmental sectors in Guraghe Zone, SNNPRS. As a result, concerned bodies should give attention to these factors especially to those factors that have showed statistically significant positive relationship. Thus, investigated crucial factors that could influence the IA functions in this study area are internal audit independence, sufficiency of budget, and unrestricted access to information.

Among independent variables that were identified to have positive and statistically significant (at 5% significant level) relationship with IAE, the contribution of internal audit independence is more vital ($\beta = .365$ & $t = 3.213$, $p < 0.05$) than others. Management support, objectivity level of IA officers, availability of approved charter and professionally competent team leader were identified to have insignificant positive relationship with internal audit effectiveness (IAE). But availability of adequate and competent staff showed unexpected negative beta sign. This negative sign may be attributed to lack of competent, well trained and well qualified IA officers in governmental sectors in this study area. Regression output of the analysis indicated also that 62.3% ($R^2 = .623$) of the deviation of dependent variable from its mean is explained by the model (the set of all of the predictors). And the remaining 37.7% is left to variables that were not included in this model.

5.2. Conclusions

Having well organized IA department or work process in governmental/public sectors means creating fertile ground to stand against the unwise use of scarce resources. In other words, it was corroborated from findings of different previous studies that the role of strong IA department/work process to protect scarce resources of governmental/public sectors is inevitable.

The main objective of this case study was investigating factors affecting internal audit effectiveness in governmental sectors in the study area.

Taking in account of this role of IA functions, survey data was collected and analyzed to identify IAE affecting factors in the study area. As a result, it was ensured that internal audit independence, sufficiency of budget and unrestricted access to information were factors investigated to have statistically significant (at 5% significant level) contribution to internal audit effectiveness (IAE) in governmental sectors in guraghe zone. Analysis result also showed that internal audit independence is the main and the most important driver of IAE in this study area. Thus, this case study was able to add knowledge to existing literatures and previous studies. And also proposed hypotheses were tested and results of hypothesis testing were concluded as follows

- ✓ As internal audit work process and auditors be more independent (being free from unnecessary interference), the more effective will be internal audit functions/activities.
- ✓ Assigning sufficient budget to IA work process means increasing effectiveness of IA activities. It is because the finding of the analysis showed that sufficiency of budget is the second crucial factor to contribute for IAE significantly and positively.
- ✓ Unrestricted access to information was investigated to be the third important factor to contribute to IAE positively and significantly.
- ✓ Though the third proposed variable showed negative sign, the remaining seven variables showed that they have positive relationship with IAE. Out of these seven factors, four of them (Management support, objectivity level of IA officers, availability of approved charter and professionally competent team leader) were identified to have positive insignificant relationship with IAE. Since these factors/predictors collectively explained 62.3% of the analysis, the contribution of these variables is undeniable.

5.3. Recommendations

The main objective of the thesis was identifying factors that affect internal audit effectiveness in governmental sectors in Guraghe zone, SNNPRS. As the role of Internal Audit functions is unrecoverable to save the public resource from getting used in inappropriate way, all the concerned bodies (Zonal government, SNNPRS Regional government, higher educational centers like Universities and many others) should give special attention to recommended points

to ensure sustainability of effective internal audit activities in the study area. Thus, taking in account of the main objectives and depending on what has been investigated, the researcher needs to list down some recommended points as follow.

- ✚ Since findings of this research paper assured that internal audit independence, sufficiency of budget and unrestricted access to information were factors that have statistically significant (at 5% significant level) contribution to internal audit effectiveness (IAE), all concerned bodies should have collaborative attention **a/** to increase independence of internal audit work process and auditors in accomplishment of their day to day work; **b/** to assign sufficient budget to IA work process; **c/** to increase awareness so that every concerned body could provide all the necessary information whenever necessary. Thus, the public sector office should support more for the internal audit functions by facilitating the IA works, should recruited more adequate and competent IA staff and give sufficient training and professional certification for the existing IA staffs, and should maintain the approved IA charter and workable manuals for their office. Because it directs the overall activities of the internal auditors in line with IIA standards and the office policies and guidelines.
- ✚ The internal auditors in governmental sector in this case study should be recommended to maintain and improve their effective contribution for the IAE in their office, by improving their professional certification in line with the institute of internal audit standards and organizational guidelines and by introducing themselves with modern technologies that improve their IA function for their office.
- ✚ The internal audit staffs in governmental sectors also recommended to work in accordance with the available internal audit charters, it helps the internal auditors to provide the appropriate reports and to know the extent of their relationships with the managements, briefly describes their rights and duties IA and the employers.
- ✚ As far as descriptive analysis about IAE is considered, findings showed that (if IA functions are perceived from top management members' point of view) IA functions in this case study area were identified to be almost ineffective). Therefore, the young but fast growing university in the study area (as higher educational institution) should pay special attention and should work hard in collaboration with all concerned bodies and NGOS so that

consecutive researches be conducted why IA functions are being ineffective in this study area and measurements be taken to tackle the problems hereafter.

- ✚ Further research on IA effectiveness should also be encouraged to look into factors that showed insignificant positive relationship with IAE in this case study

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Appendices

Appendix A: Questionnaires

WOLKITE UNIVERSITY
College of Business and Economics
School of Graduate Studies
Department of Accounting and Finance

Dear Participant:

The aim of this questionnaire is gathering information about factors that enable to measure IA effectiveness in conducting Research Paper for the partial fulfillment of the requirements for Masters of Science Degree in Accounting and Finance at WOLKITE UNIVERSITY. Duplicated questionnaires will be distributed to the governmental sectors found in Guraghe zone and have internal audit work process. Results of this questionnaire analysis are expected to identify factors that measure internal audit effectiveness and Conclusions and recommendations of the study will be drawn without any reference to specific sector or individual respondent. As a respondent, be sure that the information you provide will be treated confidentially and will be used only for this academic research purpose. So, your honest response and committed participation has irrecoverable value for successful completion of the paper. I would like to express my heartfelt thanks in advance for your cooperation and participation.

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➤ Questionnaire to be filled by top management members:-

Internal audit effectiveness is highly important tool to top management of any organization to monitor day to day activities of the organization effectively and efficiently. Objective of this questionnaire is to gather data related with supposed factors that enable to measure whether IA is effective or not if it is viewed from management members' point of view. Therefore, internal auditors' ability to identify non-compliance activities, improved performance of IA department and organizational productivity, implemented internal audit recommendations, evaluate and improve risk management and internal control system are factors supposed to measure IA effectiveness in this research paper.

As a result, you are kindly requested to give your independent response to each statement related with these selected factors in the table below.

A. The personal profiles: Please indicate your choice by putting “√” mark in the bracket.

1. Sex/Gender/: Male (___) Female (___)
2. Age (in year): 20 - 29(____), 30-39(____), 40 -49(____), 50 - 59(____), above 60 (___)
3. Your field of study: Accounting (___), Management (___), Economics (___)
 cooperative Accounting (___) if Other specify_____
4. Level of education: TVET certificate (____), Diploma (____), Bachelor's Degree (____), Masters Degree (____) or others specify_____
5. Current position in your office/sector_____
6. Number of internal auditors in your office/sector_____

B. The questionnaire items (questions)

The questionnaire is prepared in five points Likert-scale type. I ask you to tick (√) or circle the appropriate scale (point) that indicates your opinion in table below. Scale values are 1= strongly disagree, 2 = Disagree, 3 = Neutral, 4=, Agree and 5= strongly agree

No.	1.Effectiveness of internal audit might be achieved by being able to identify non-compliance activities, improved performance of IA department and organizational productivity, implemented internal audit recommendations, evaluate and improve risk management and internal control system	The scales				
		1	2	3	4	5
1.1	Internal audit Work process develops appropriate annual audit plans					
1.2	Each and every activity of IA work process is in accordance with its annual plan					
1.3	Internal auditors can effectively identify and report any noncompliance activities with respect to your office’s/sector's established policies, procedures, laws and regulations.					
1.4	Internal Auditors are able to provide constructive recommendations and criticisms on non-compliance activities or control systems of your office/sector.					

1.5	The non-compliance activities identified by internal auditors are reliable and significant to your sector.					
1.6	The internal auditors are capable of determining the nature and frequency of noncompliance activities and issuing audit reports with full confidence.					
1.7	Timely action is being taken to implement the recommendations of the IA reports					
1.8	Internal audit provides adequate follow-up to ensure that appropriate corrective action is being taken or not					
1.9	Internal audit is able to ensure whether resources utilization is economic, effective and efficient or not in your office/sector.					
1.10	Internal auditors have the experience and expertise to address risk management problems within your sector.					
1.11	IA work process is playing sufficient role to address the very purpose for which it is established					
1.12	Internal auditors in your sector are capable of carrying out internal control function under current governmental rules & regulations					
1.13	The internal audit reports have high value for decision making and internal controls by the management.					
1.14	The IA activities are able to evaluate risk exposures relating to the sector's governance and operation system.					
1.15	The internal audit activities are able to evaluate risk exposures related to the sector's Accounting information system					
1.16	The IA activities could evaluate risk exposures about the reliability and integrity of financial and operational system					
1.17	The IA activities could evaluate effectiveness of the sectors risk management system					

WOLKITE UNIVERSITY
College of Business and Economics
School of Graduate Studies
Department of Accounting and Finance

Dear Participant:

The aim of this questionnaire is gathering information about factors that affect Internal Audit (IA) effectiveness in conducting Research Paper for the partial fulfillment of the requirements for Masters of Science Degree in Accounting and Finance at WOLKITE UNIVERSITY. Duplicated questionnaires will be distributed to the governmental sectors found in Guraghe zone and have internal audit work process. Results of the study are expected to identify factors that affect internal audit effectiveness and Conclusions and recommendations of the study will be drawn without any reference to specific sector or individual respondent. As a respondent, be sure that the information you provide will be treated confidentially and will be used only for this academic research purpose. So, your honest response and committed participation has irrecoverable value for successful completion of the paper. I would like to express my heartfelt thanks in advance for your cooperation and participation.

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➤ **Questionnaire to be filled by Internal Audit officers**

Effective internal audit function is an important management tool to monitor and direct the internal operations of an organization effectively and appropriately. Therefore, the purpose of this research is to assess and identify factors that affect the effectiveness of IA function in different governmental sectors. In line with this, organizational independence, management support, the adequate and competent internal audit staff, availability of approved internal audit charter, level of objectivity, unrestricted access to information and professionally competent team leader are factors that are supposed to affect internal audit effectiveness.

As a result, you are kindly requested to give your independent response to your personal profile and each statement related with these selected factors in the table below.

- **Personal profiles:** General Instruction: Please indicate your choice by putting “√” mark in the bracket.

1. Sex/Gender/: Male (____) Female (____)
2. Age (in year): 20 -29 (____), 30 - 39 (____), 40 -49 (____), 50 -59 (____), above 60 (____)
3. Your field of study: Accounting (____), Management (____), Economics (____), cooperative Accounting (____), if other specify_____
4. Level of education: 10/12/complete (____), TVET certificate (____), Diploma (____), Bachelor's Degree (____), Masters Degree (____) or others specify_____
5. Professional certification (if any): Certified Internal Auditor (CIA) (____), Certified Public Accountant (CPA) (____) Certified Management Accountant (CMA) (____), other (specify) _____
6. Number of years of experience you work as an internal auditor:

7. What are the activities carried out by IA in your office/sector? You can select more than one. **A.** Compliance audit **B.** Financial audit **C.** Operational/performance audit **E.** Internal control system evaluation **D.** Risk assessment (analysis) audit

- **The questionnaire items (questions):-** The Questionnaire is prepared in Likert-scale form with five (5) point scales. Please use this (√) symbol to tick or circle the appropriate scale (point) that indicates your opinion in table below. Scale values are 1= strongly disagree , 2= Disagree, 3= Neutral, 4= Agree, 5= strongly agree

No	1. Internal audit independence	The scales				
		1	2	3	4	5
1	I perform the auditing activities without any interference from anybody and without any influence from the top management of the sector.					
2	I freely decide the scope, time and extent of auditing procedures based on auditing standards and the sector's rules and regulations					
3	I freely present my audit report to concerned body including all the findings					
4	IA staff can freely contact to all departments and employees in the sector					
5	The internal audit work process has direct contact with senior management/sector head other than the finance director					
6	Top management of the sector independently approves the appointment and replacement of team leader of internal audit work process					
7	Internal audit work process's position in your sector is at a sufficiently high management level and sufficiently detached from functional areas to guarantee its independence					
8	The IA team leader report to a level within the organization that allows the internal audit fulfills its responsibilities.					
	2. Management support					
1	I can get the necessary resources (facilities) that help me perform day to day activities					
2	The sector supports me providing training in order to improve my skill and expertise capacity					
3	The office/sector supports me introduce myself with new technology, manuals, policy or procedures when it is necessary					
4	The sector supports IA staffs by budgeting funds for certification to have relevant education in auditing that allows them audit all of the sector's operation systems					
5	Top management provides to IA work process sufficient, reliable and relevant feedback about the work they perform and recommendations previously made					
6	The response to internal audit reports by the senior management is reasonable					
7	Internal audit work process is large enough to successfully carry out its duties and responsibilities					
8	Your sector management has commitment to add value to the IA work process					
9	We IA are encouraged to report conducting our activities in accordance with the Standards for the Professional Practice of internal auditing					
	3. The adequate and competent internal audit staff					
1	My sector has sufficient number of skilled internal auditors.					
2	We are able to audit and review each activity on time, and cover the planned					

	scope of auditing activities						
3	We IAs are able to complete audit procedures and evidence collections on time as you are skilled and enough in number						
4	Modern technology and computerized data tools and specific IA software are being used to work internal audit activities						
5	We IAs are able to Disclose Non-compliance activities (if any) with respect to the Standards When we identify these non-compliances						
6	We are able to perform internal audit services in accordance with the International Standards for the Professional Practice of Internal Auditing..						
7	We continually improve your proficiency and the effectiveness and quality of services						
	4. Availability of approved internal audit charter						
1	Internal audit charter is maintained (available) in my sector.						
2	The responsibility, purpose and authority of internal audit is clearly defined in the charter.						
3	The purpose and authority of internal audit charter is in line with “Standards for the Professional Practice” formulated by the Institute of Internal Auditors						
4	The charter clearly specifies the internal audit activity’s position within the office; authorized access to any information and physical properties relevant to the performance of engagements						
5	The charter clearly specifies the internal audit activity’s position within the office; define scope of IA activities.						
	5. Sufficiency of Budget						
1	My sector supports IA work process by budgeting sufficient budget so that it could operate day to day activities effectively and efficiently						
2	My sector is committed to allow additional budget if unexpected and un planned activities happen then after						
3	It is not common to see the condition when budget is bottleneck for day to day IA activities						
4	The sector fulfilled all the necessary office materials that enable the IA work process perform effectively						
5	My sector provides additional income to encourage performance of IA work process officers.						
	6. Level of objectivity						
1	I objectively examine auditing issues only meeting on reliable audit evidence and no management or any auditee’s interest is concerned for adjustment beyond auditing standards & values.						
2	Conflict of interest is rare in performing our internal audit activities						
3	Internal audit work process is sufficiently resourced to provide objective						

	assurance on risk and control system						
4	As Internal auditor, I always try to refrain from assessing specific operations for which I was previously responsible for.						
5	I have an impartial, unbiased attitude and always avoid conflicts of interest.						
6	I commonly disclose all material facts known to me that, if not disclosed, may distort my reporting of activities under review.						
7	We IA usually possess highest level of professional objectivity to gather, evaluate, and communicate information about the activity or process being examined.						
	7. Unrestricted Information Access						
1	I can freely access necessary documents, information and data about the sector for my audit work.						
2	IA has free and unrestricted access to all operations, personnel, assets and transaction records						
3	In my office, no one opposes if any employee provide any necessary information to internal audit officers						
4	There is a common understanding among all employees in my office that everybody is oblige to provide necessary information to IA work process						
5	There is a common understanding among all employees in my office that good audit information could be backbone to reliable and relevant audit report						
	8. Professionally competent team leader						
1	The team leader in your work process continuously develop and maintain a quality assurance and improvement program that covers all aspects of the internal audit activity and continuously monitors its effectiveness..						
2	The program/plan is designed to help the internal auditing activity add value and improve the organization's operations and provide assurance that the internal audit activity is in conformity with the Standards and the Code of Ethics						
3	The internal audit activity should adopt a process to monitor and assess the overall effectiveness of the quality program.						
4	Your team leader is able to establish policies and procedures to guide the IA activities						
5	The team leader is able to establish and maintain a system to monitor the disposition of results communicated to management.						
6	Your team leader always establishes a follow-up process to monitor and ensure that management actions have been effectively implemented or the senior management has accepted the risk of not taking action.						

Appendix B: Reliability Analysis

Cronbach's Alpha for Management Questionnaire		Cronbach's Alpha for Internal Auditors Questionnaire	
Cronbach's Alpha	No. of Items	Cronbach's Alpha	No. of items
.924	17	.889	52

Appendix C : Descriptive analysis of Internal Audit Effectiveness

Ro.No.	Effectiveness of internal audit was supposed to be achieved by being able to identify non-compliance activities, improved performance of IA department and organizational productivity, implemented internal audit recommendations, evaluate and improve risk management and internal control system	N	SDA	DA	NEU	AG	SAG	Median	Mean	St. Deviation
1.1	Internal audit Work process develops appropriate annual audit plans	58	0.02	0.05	0.03	0.64	0.26	4	4.07	0.814
1.2	Each and every activity of IA work process is in accordance with its annual plan	58	0.03	0.10	0.12	0.59	0.16	4	3.72	0.970
1.3	Internal auditors can effectively identify and report any noncompliance activities with respect to your office's/sector's established policies, procedures, laws and regulations.	58	0.02	0.19	0.19	0.52	0.09	4	3.47	0.959
1.4	Internal Auditors are able to provide constructive recommendations and criticisms on non-compliance activities or control systems of your office/sector.	58	0.02	0.24	0.17	0.45	0.12	4	3.4	1.091
1.5	The non-compliance activities identified by internal auditors are reliable and significant to your sector.	58	0.00	0.12	0.14	0.60	0.14	4	3.76	0.844
1.6	The internal auditors are capable of determining the nature and frequency of noncompliance activities and issuing audit reports with full confidence.	58	0.02	0.16	0.31	0.47	0.05	4	3.38	0.875
1.7	Timely action is being taken to implement the recommendations of the IA reports	58	0.07	0.28	0.16	0.41	0.09	0.35	3.17	1.142
1.8	Internal audit provides adequate follow-up to ensure that appropriate corrective action is being taken or not	58	0.00	0.22	0.24	0.47	0.07	4	3.38	0.914
1.9	Internal audit is able to ensure whether resources utilization is economic, effective and efficient or not in your office/sector.	58	0.09	0.21	0.17	0.41	0.12	4	3.26	1.222
1.1	Internal auditors have the experience and expertise to address risk management problems within your sector.	58	0.05	0.16	0.19	0.47	0.14	4	3.47	1.127
1.11	IA work process is playing sufficient role to address the very purpose for which it is established	58	0.09	0.22	0.22	0.38	0.09	3	3.12	1.215
1.12	Internal auditors in your sector are capable of carrying out internal control function under current governmental rules & regulations	58	0.02	0.22	0.21	0.48	0.07	4	3.36	0.968
1.13	The internal audit reports have high value for decision making and internal controls by the management.	58	0.05	0.05	0.14	0.59	0.17	4	3.78	0.974
1.14	The IA activities are able to evaluate risk	58	0.07	0.10	0.16	0.57	0.10	4	3.52	1.096

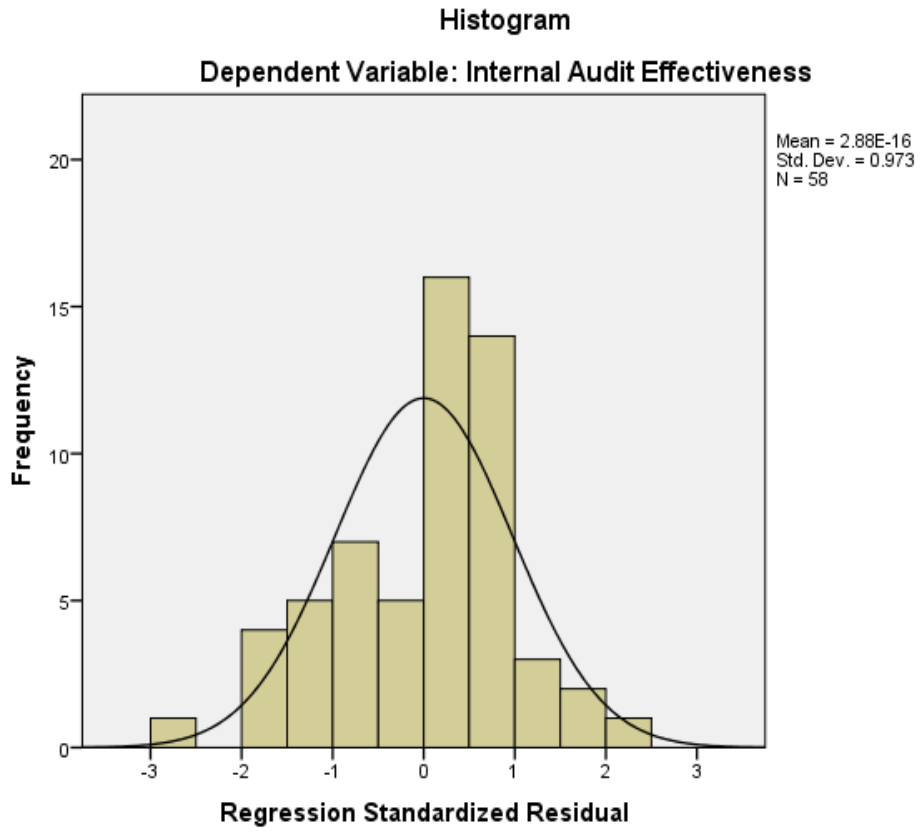
	exposures relating to the sector's governance and operation system.									
1.15	The internal audit activities are able to evaluate risk exposures related to the sector's Accounting information system	58	0.03	0.21	0.31	0.38	0.07	3	3.24	0.979
1.16	The IA activities could evaluate risk exposures about the reliability and integrity of financial and operational system	58	0.03	0.24	0.21	0.45	0.07	4	3.28	1.022
1.17	The IA activities could evaluate effectiveness of the sectors risk management system	58	0.03	0.22	0.19	0.47	0.09	4	3.34	1.035

Appendix D: Assumptions of Classical Linear Regression Model

i. Tests of Normality

Variables	Kolmogorov-Smirnov ^b			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Internal Audit effectiveness	.271	58	.200*	.896	58	.410
Internal Audit independence	.298	58	.200*	.926	58	.572
Management Support	.281	58	.151	.872	58	.234
Availability of competent staff	.189	58	.200*	.954	58	.754
Sufficiency of Budget	.163	58	.200*	.947	58	.593
Level of objectivity	.308	58	.043	.820	58	.664
Availability of Approved charter	.225	58	.155.	.946	58	.697
Unrestricted access to information	.236	58	.200*	.895	58	.382
Professionally competent team leader	.163	58	.094	.947	58	.593

b. Lilliefors Significance Correction *. This is a lower bound of the true significance.



ii. Test of Heteroskedasticity

. hettest
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of effectiveness
$\chi^2 = 8.6$
Prob. > $\chi^2 = 0.3773$

iii. Tests for Multicollinearity

Pearson Correlations

		IAE	InAIn	MS	ACIAS	SUBJ	OBIAS	AIAC	UAIF	PCIATL
IAE	Pearson Correlation	1	.630**	.383**	.189	.497**	.165	.380**	.558**	.527**
	Sig. (1-tailed)		.000	.002	.078	.000	.108	.002	.000	.000
	N	58	58	58	58	58	58	58	58	58
InAIn	Pearson Correlation	.630**	1	.438**	.034	.235*	.090	.203	.429**	.415**
	Sig. (1-tailed)	.000		.000	.399	.038	.251	.063	.000	.001
	N	58	58	58	58	58	58	58	58	58
MS	Pearson Correlation	.383**	.438**	1	.226*	.181	.408**	.282*	.181	.442**
	Sig. (1-tailed)	.002	.000		.044	.087	.001	.016	.087	.000
	N	58	58	58	58	58	58	58	58	58
ACIAS	Pearson Correlation	.189	.034	.226*	1	.296*	.146	.313**	.391**	.282*
	Sig. (1-tailed)	.078	.399	.044		.012	.137	.008	.001	.016
	N	58	58	58	58	58	58	58	58	58
SUBJ	Pearson Correlation	.497**	.235*	.181	.296*	1	-.092	.318**	.240*	.354**
	Sig. (1-tailed)	.000	.038	.087	.012		.247	.008	.035	.003
	N	58	58	58	58	58	58	58	58	58
OBIAS	Pearson Correlation	.165	.090	.408**	.146	-.092	1	.121	.193	.224*
	Sig. (1-tailed)	.108	.251	.001	.137	.247		.182	.074	.045
	N	58	58	58	58	58	58	58	58	58
AIAC	Pearson Correlation	.380**	.203	.282*	.313**	.318**	.121	1	.420**	.398**
	Sig. (1-tailed)	.002	.063	.016	.008	.008	.182		.001	.001
	N	58	58	58	58	58	58	58	58	58
UAIF	Pearson Correlation	.558**	.429**	.181	.391**	.240*	.193	.420**	1	.494**
	Sig. (1-tailed)	.000	.000	.087	.001	.035	.074	.001		.000
	N	58	58	58	58	58	58	58	58	58
PCIATL	Pearson Correlation	.527**	.415**	.442**	.282*	.354**	.224*	.398**	.494**	1
	Sig. (1-tailed)	.000	.001	.000	.016	.003	.045	.001	.000	
	N	58	58	58	58	58	58	58	58	58

** . Correlation is significant at the 0.01 level (1-tailed).

* . Correlation is significant at the 0.05 level (1-tailed).

Appendix E: output of Regression Analysis

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.789 ^a	.623	.561	.4333594	.623	10.116	8	49	.000	2.228

- a. Predictors: (Constant), Professionally competent team leader, level of objectivity , Adequate and competent staff, Internal Audit Independence, Availability of Approved IA charter, sufficiency of budget, Management Support, Unrestricted access to information
- b. Dependent Variable: Internal Audit Effectiveness

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	15.199	8	1.900	10.116	.000 ^b
	Residual	9.202	49	.188		
	Total	24.401	57			

- a. Dependent Variable: Internal Audit Effectiveness
- b. Predictors: (Constant), Professionally competent team leader, level of objectivity , Adequate and competent staff, Internal Audit Independence, Availability of Approved IA charter, sufficiency of budget, Management Support, Unrestricted access to information

Coefficients^a

Variables	Un standardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
	(Constant)	.169	.514				.330	.743	-.863
Internal Audit Independence	.327	.102	.365	3.213	.002	.123	.532	.597	1.675
Management Support	.049	.121	.048	.409	.685	-.193	.292	.557	1.794
Adequate and competent staff	-.102	.118	-.089	-.863	.392	-.340	.136	.719	1.391
sufficiency of budget	.248	.078	.319	3.166	.003	.091	.405	.758	1.320
level of objectivity	.067	.090	.075	.748	.458	-.113	.247	.756	1.322
Availability of Approved IA charter	.062	.106	.061	.586	.561	-.151	.276	.718	1.393
Unrestricted access to information	.208	.095	.265	2.197	.033	.018	.399	.530	1.886
Professionally competent team leader	.094	.114	.095	.818	.417	-.136	.323	.574	1.743

Dependent Variable: Internal Audit Effectiveness