

**DETERMINANTS OF INTERNAL AUDIT FUNCTION EFFECTIVENESS  
OF DSE LISTED COMPANIES IN TANZANIA: MODERATION EFFECT  
OF AUDIT COMMITTEE**

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**A THESIS SUBMITTED IN FULFILLMENT OF THE REQUIREMENTS  
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY (PhD)  
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**2020**

**CERTIFICATION**

The undersigned certify that they have read and hereby recommend for examination a thesis titled; “Determinants of Internal Audit Function Effectiveness of DSE Listed Companies in Tanzania: Moderation Effect of Audit Committee” in fulfillment of the requirements for the award of degree of Doctor of Philosophy (PhD) in Business Management of The Open University of Tanzania

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Signature

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## **DEDICATION**

I dedicate this thesis to my late mother and my beloved family.

## ACKNOWLEDGEMENT

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Disclaimer, I would like to absolve all of the above-mentioned persons from any error/s committed or purported to be committed in facts, omission or any other shortfalls that may be found in this thesis that such errors, omissions or shortfalls are solely the responsibility of the author.

## ABSTRACT

The study aimed at examining determinants of internal audit function effectiveness of DSE listed companies in Tanzania and moderation effect of audit committee. The study applied a cross-sectional survey design, positivist paradigm and deductive approach. The study collected quantitative data through questionnaire from DSE listed companies in Tanzania. The hypothesized model of the study examined whether organizational independence, top management support, professional proficiency, communication skills and audit committee determine internal audit function effectiveness. The study also examined whether the moderator moderates the relationship between independent variables and dependent variable. Data analysis was done through PLS-SEM path modelling. The study findings were that professional proficiency ( $p=0.045$ ), communication skills ( $p=0.003$ ) and audit committee ( $p=0.000$ ) had statistically significant positive impact on internal audit function effectiveness of listed companies in Tanzania. Organizational independence ( $p=0.914$ ) and top management support ( $p=0.523$ ) were statistically insignificant; however their indicator measurements were found to be significant determinant of IAF effectiveness. Another notable finding was that audit committee had statistically significant positive partial moderating effect on communication skills ( $p=0.036$ ). Moderation effect of audit committee on the relationship between communication skills and IAF effectiveness found to be a theoretical contribution of this study to resolve the agency problem of information asymmetry. The determinants are considered to be key inputs for strengthening IAF of listed companies in Tanzania. Lastly, practitioners and academia can use the results of this study for future references.



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## LIST OF ABBREVIATIONS

ACE	Audit Committee
AVE	Average Variance Extracted
BOD	Board of Directors
BOT	Bank of Tanzania
CAE	Chief Audit Executive
CBOK	Common Body of Knowledge
CB-SEM	Covariance Based Structural Equation Modeling
CEO	Chief Executive Officer
CIA	Chief Internal Auditor
CMSA	Capital Market and Securities Authority
CR	Composite Reliability
CS	Communication Skills
DSE	Dar es Salaam Stock Exchange
GOF	Goodness of Fit
HR	Human Resources
HTMT	Heterotrait-Monotrait
IAF	Internal Audit function
IAFE	Internal Audit Function Effectiveness
IIA	Institute of Internal Auditors
IIARF	Institute of Internal Auditors Research Foundation
INTOSAI	International Organization of Supreme Audit Institutions
ISPPIA	International Standards for the Professional practice of Internal Auditing

KMO	Keiser-Meyer-Olkin
LVC	Latent Variable Correlation
NBAA	National Board of Accountants and Auditors
OECD	Organization of Economic cooperation and Development
OI	Organizational Independence
OLS	Ordinary least Squares
OUT	Open University of Tanzania
PLS-SEM	Partial Least Square-Structural Equation Modeling
PP	Professional Proficiency
SPSS	Statistical Package for Social Sciences
TMS	Top Management Support
VB-SEM	Variance Based Structural Equation Modeling
VIF	Variance Inflation Factor

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Overview**

This chapter draws out a picture of what research context is and delineates clearly the problem of the study. It involves a background of the study, statement of the research problem, research objectives, significance and organization of the research study.

#### **1.2 Background to the Research Problem**

Internal audit function has evolved over time in tandem with business environment changes and challenges in both private and public sectors. It is underlined that with the growth in size and complexity of many companies in recent years, the importance of internal audit function has equally increased so as today is a factor in enhancing the quality of a company's internal control, and its development has made a substantial contribution to the contemporary audit practices (Whittington & Pany, 2012).

The scope of internal audit has broadened to include good governance processes, risk management and internal control systems beyond financial transactions alone. The Institute of Internal Auditors International has echoed the role changes of internal audit function as it is defined as “an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It helps an organization accomplish its objectives by bringing systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control and governance processes” (IIA, 2015, p. 33). The definition has changed the prior

understanding of many people that internal audit is the “eyes” and “ears” or gatekeepers of the management/owners as watchdog/police looking for wrongdoers in the company for punishment (Adams, 1994; Chambers & Odar, 2015).

The definition has also shown the expanded role of internal audit function (IAF) to add value to the organization by offering both assurance and consultancy services. The IAF role changes are that it is regarded as one of the corporate governance mechanism that helps management and board of directors to manage risk by identifying areas that demand management attention to see to it that corporate goals are achieved, as well as providing recommendations for appropriate management implementation (Lenz & Hahn, 2015; Mihret & Grant, 2017). Therefore in the response to the new challenges, changes and expectations of stakeholders within the business environment, IAF is pressurized to do more effectively as a key component of the organization’s governance framework (Liu, 2017). IAF effectiveness is construed as achieving its intended objectives, doing risk-based auditing and not necessarily auditing everything in order to add value in the organization (Barišić & Tušek, 2016; Erasmus & Coetzee, 2018)

The importance of IAF has skyrocketed ever than before as a result of pressures for improved corporate governance owing to the incidences of financial scandals in the world since 2000 (Dejnaronk, Little, Mujtabaa, & McClelland, 2015; Jiang, André, & Richard, 2018). Despite of the roles played by IAF, its establishment is voluntary and commonly found in big companies that benefit from the independent assurance and advisory services to ensure the effectiveness of risk management, governance and internal control processes (Azzali & Mazza, 2018; Liu, 2017). Internal auditing

main purpose is to improve organizational efficiency and effectiveness through constructive criticism (Cohen & Sayag, 2010). Alzeban and Gwilliam (2014a) contend that, as IAF has grown in prominence in governance, risk and control environment, issues as to how it plays effectively this role have emerged with greater proportions than before.

In Tanzania similarly, private companies do establish IAF voluntarily, except for listed companies at DSE are statutorily installed under Capital Market and Securities Authority (CMSA) Act, 1994, guidelines of corporate governance of 2002. It is provided in the guidelines on corporate governance practices by listed public limited companies in Tanzania, to establish an audit committee and effective IAF in their place (URT, 1994). However, the guidelines have not provided the determining factors to gauge effectiveness of IAF in these companies. The researcher is not aware of any research done on the effectiveness of IAF of listed public companies in Tanzania, hence the purpose of this study.

Despite of the importance of IAF in the economy, it has not attracted many research especially on its effectiveness (Al-Matari & Mgammal, 2020; Bananuka, Mukyala, & Nalukenge, 2017; Coetzee & Erasmus, 2017). Even with meagre studies, no agreed framework for measuring IAF effectiveness and no specific theoretical framework for studying it (Endaya & Hanefah, 2016). The few studies suggested the effectiveness of internal audit function hinges on independent and objectivity of internal auditors, professional proficiency, top management support and competency of internal audit staff (Baharud\_din, Shokiyah, & Ibrahim, 2014; Cohen & Sayag, 2010; Drogalas, Karagiorgos, & Arampatzis, 2015). Equally, Coetzee & Erasmus

(2017) developed six variables as drivers of IAF effective which are; Chief Audit Executive leadership profile, Internal Audit Function (IAF) independence, Internal audit competence, IAF services and role, IAF status and functioning of IAF.

Unlike other researchers, Coetzee and Erasmus (2017) provide as well variables to measure the effectiveness of IAF which are implementable recommendations that are practical and cost-effective, reliance by external auditors and satisfaction of stakeholders on the IAF work. However, limited studies have tested moderating effect of audit committee to reveal whether there is a change of strength and/or direction of a relationship between independent variables and dependent variable hence the uniqueness of this study (Badara & Saidin, 2013). Different theories have been used to assess IAF effectiveness due to its paradigm shift from the traditional role of compliance and monitoring to risk-based audit to add value to the organization.

However, agency theory has become dominant in assessing the effectiveness of internal audit function for sometimes now, since the function is one of the components of corporate governance mechanism in the organization to resolve agency problem (Alzeban & Gwilliam, 2014a; Endaya & Hanefah, 2016; Ramachandran, Subramanian, & Kisoka, 2012). Simultaneously, institutional theory has become popular nowadays after agency theory suffers some criticism that it does not consider the motivation of a manager who attains firm goals to gain reputation in the society and it has not captured paradigm shift of internal audit activities to risk-based auditing (Coetzee & Erasmus, 2017; Cohen & Sayag, 2010). Similarly, communication theory has been used in combination with agency and institutional

theories to showcase that good work of internal audit cannot be recognized if it is not effectively communicated to its stakeholders to address deficiencies noted for business goals accomplishment (Endaya & Hanefah, 2013). Hence, the current study employed agency, institutional and communication theories to capture dynamics of IAF to come up with a conceptual framework for studying IAF effectiveness in Tanzania context of DSE listed companies.

Abdullah (2014) contends that internal audit effectiveness might be affected by the contexts of its operations/environment. Therefore, the level of internal audit effectiveness in other countries may be different from Tanzania context. For instance, a research done in Tanzania commercial banks produced perplexing results that IAF was not effective though replicated the same study by Cohen and Sayag (2010) which reported it is effective in Israel (Ramachandran et al., 2012). Therefore, the author was moved to conduct a study on internal audit function effectiveness in Tanzania, the area with a dearth of research especially of DSE listed companies.

### **1.3 Overview of Dar es Salaam Stock Exchange**

The Dar es Salaam Stock Exchange (DSE) was incorporated in 1996 as a private company limited by guarantee without share capital. It started operations in April 1998 with Tanzania Oxygen limited Company as its first listing. In 2016, the company changed its registration from mutual status to a public company owned by shareholders and changed its name from Dar es Salaam Stock Exchange to Dar es Salaam Stock Exchange Public Company (DSE PLC- annual report 2016). DSE PLC activities were to provide securities markets for investors who wanted to invest in listed companies and platforms for companies to raise capital through issuance of



equity and debt securities. DSE do cross-listing of foreign companies in the bourse and allow foreign investors to invest through the bourse. It is a member of the African Stock Exchange Association and works together with Nairobi Securities Exchange in Kenya, Uganda Securities Exchange in Uganda and Rwanda Stock Exchange in Rwanda under the umbrella of East African Securities Exchange Association (EASA).

DSE had 28 listed companies as accessible on the website ([www.dse.co.tz/listed-companies](http://www.dse.co.tz/listed-companies)) on December 2018. All listed companies underwent rigorous listing requirements including continual adherence to the principles of best practice of good corporate governance as per CMSA guidance as improved from time to time. The (URT, 1994), CMSA guidelines on corporate governance which were operational in 2002 requires listed companies to maximize shareholders value through efficient and effective management of corporate resources. The CMSA best practices required also listed companies interalia; the board to establish an audit committee of at least three independent and non-executive directors who shall report to the board, with written terms of reference, which deal clearly with its authority and duties. The board should disclose in its annual report whether it has an audit committee and the mandate of such committee.

DSE is not alone in the world because the New York Stock Exchange in 2004 strengthened its corporate governance to restore investors' trust following World.com collapse by requiring all listed companies in the bourse to establish an audit committee and internal audit function. In a similar vein, CMSA guidelines prescribe among other activities of the audit committee is to ensure effectiveness of

internal audit function and hence the purposes of this research study.

#### **1.4 Statement of the Research Problem**

One of the controversial studies is how to measure effectiveness of internal audit function in the organization, especially in African economies, Tanzania organizations in particular, where corporate governance is at an infancy stage (Melyoki, 2005; Nyaki, 2013). This might be due to the fact that IAF is linked indirectly with the bottom line, profit and loss account, providing evidence of adding value function is difficult, hence resorting to qualitative factors as a measurement of its proactive, impactful and result oriented function to add value in the company (Lenz, 2015).

The problem of IAF effectiveness is exacerbated by the fact that its establishment is voluntary in some private companies (Azzali & Mazza, 2018). However, in Tanzania, the establishment of IAF is mandatory for listed companies on DSE (URT, 1994) which bring challenges to the study of IAF effectiveness. A prior study done in Tanzania commercial banks by Ramachandran et al.(2012) has confirmed that instituting IAF to comply with statutory requirements render the function ineffective as its work concentrates much on compliance and monitoring audit, and not risk based auditing to add value. Therefore, the study was attempting to see whether the situation has changed by involving various companies from different industries listed at DSE in Tanzania.

The issue of IAF effectiveness is not well known in Tanzanian organizations as people have still a negative perception that, internal auditors are value destroyers

rather than value creators, they label them as fault finders (Nicodemus, 2010). Similarly Busee (2013) find that IAF effectiveness concept is not well understood, as about 81% of Tanzania NBC bank staff perceived IAF as not value adding function rather than as a watchdog and not a business partner. This leads to management skepticism, hatred, vague value proposition, lack of trust and failure to collaborate with internal auditors to attain organizational objectives (Busee, 2013). This showed that top management support to IAF may be limited to statutory requirement only.

It is well established that top management support is important for IAF effectiveness as they are responsible for the establishment of organizational independence of IAF, provide staff with appropriate professional proficiency and also with effective communication skills (Alqudah, Amran, & Hassan, 2019; Cohen & Sayag, 2010; Endaya & Hanefah, 2016). It is also found that audit committee influences effectiveness of IAF as they ensure top management support it in terms of resources to fulfill its responsibilities commensurate with its annual plan and the function is independent of management to play its new role of adding value in the company effectively (Ramachandran et al., 2012). However, these factors may provide different results in Tanzania as empirical research in other parts of the world proven them as significant for IAF effectiveness (Abdullah, 2014; Azzali & Mazza, 2018; Cohen & Sayag, 2010; Endaya & Hanefah, 2016).

Similarly the crux of the problem is compounded by the fact that IAF in Tanzania is still perceived as an ineffective one as good corporate governance is still at germinating stage (Ramachandran et al., 2012). Simultaneously, CMSA guideline is vague as it directed Tanzania listed companies at DSE to set up an effective IAF

but did not stipulated the determinants for its effectiveness neither how to measure it (URT, 1994). Therefore, looking at what determines IAF effectiveness in Tanzania context especially for DSE listed companies was important now than ever before to show that it is not a policing function rather a value adding and an effective function.

## **1.5 Research Objectives**

### **1.5.1 General Research Objectives**

The general research objective was to examine the determinants of internal audit function effectiveness of listed companies in Tanzania moderated by audit committee.

### **1.5.2 Specific Research Objectives**

The study was guided by the following specific objectives: -

- i. To examine if organizational independence is a determinant of internal audit function effectiveness of listed companies in Tanzania.
- ii. To examine if top management support is a determinant of internal audit function effectiveness of listed companies in Tanzania.
- iii. To examine if professional proficiency is a determinant of internal audit function effectiveness of listed companies in Tanzania.
- iv. To examine whether communication skills is a determinant of internal audit function effectiveness of listed companies in Tanzania.
- v. To examine whether audit committee is a determinant of internal audit function effectiveness of listed companies in Tanzania
- vi. To examine whether audit committee moderates the relationship between

independent variables and internal audit function effectiveness of listed companies in Tanzania

### **1.6 The significance of the Study**

Theoretically, the study adds to the body of knowledge on factors that determine IAF effectiveness in Tanzania and global at large. Extrinsic factors of organizational independence and top management support were found not significant for IAF effectiveness in Tanzania which sparks more debate by scholars of what are dominant factors for IAF effectiveness. Theoretically too the uniqueness of employing three theories of agency, institutional and communication in combination add to a theoretical framework as lenses for studying IAF effectiveness in Tanzanian environment.

Equally, the study findings contribute to the quantitative method of research in testing hypothesis on determinants of IAF effectiveness of listed companies in Tanzania where corporate governance is at a nascent stage. The findings of the study contribute also to the uniqueness on the methodological part of the use of moderation effect in rare research in IAF. Similarly, the study adds to the global research in IAF especially in developing countries where this area is less researched and more so in Tanzania context.

Practically, the study also increased awareness of the role played by IAF in the economy so as to be judged as effective in the society. This can illuminate the importance of the function in the society since it is thought as gatekeeper or police of top management looking for a culprit for punishment rather than a change agent to

improve organizational performances. Furthermore, the study findings can add value in several ways as follows: -

- i. Professional bodies like NBAA and IIA can take advantage of the findings to strengthening standards and syllabuses to sharpening skills of their professional members to become more effective in their careers especially internal auditors;
- ii. Regulatory bodies like BOT and CMSA can use the findings in reviewing policies and guidelines regarding IAF effectiveness in their regulated bodies;
- iii. Board of directors and audit committee members, especially of listed companies in Tanzania, can benefit from the findings by improving factors which determine IAF effectiveness;
- iv. Top management can benefit from the study findings in particular value adding services of IAF in aiding achievement of the company core business objectives;
- v. Internal auditors can benefit from the findings in fulfilling stakeholders' needs to narrow the expectation gap;
- vi. Lastly, academic scholars can use the study findings as a referencing point for further studies.

### **1.7 Chapter summary**

This chapter has indicated that IAF effectiveness is a new concept in Tanzania where a need for narrowing the expectation gap is vital as many people were still holding the old notion that it is a policing function rather than a value adding one. A critical literature review which follows in the next chapter, with supporting theories will provide us with testable variables and will also delineate in detail existing research gaps for the study.

## **1.8 Organization of the Study**

Chapter two provides a literature review which includes conceptual definitions, theoretical and empirical literature review, operational definitions of the construct, research gap, conceptual framework, theoretical framework and research hypotheses. Chapter three dwells on research methodology which incorporates research philosophy, research paradigm and research approach. It continues with research design, strategy, target population, area of the study, sampling procedures and data collection methods. The chapter includes also research instruments, data analysis and concluding with ethical consideration of the study. Chapter four provides the results of data analysis both descriptive and inferential. Chapter five discusses the findings of the study to support and/or contrast with other studies and the theoretical model of the study. Chapter six comprises conclusion, implications and recommendations for further studies.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Overview**

This chapter provides a conceptual definition of abstract concepts used in this study. It provides also theoretical and empirical literature review for the report. It identifies research gap from critical literature reviewed. It concludes with the conceptual and theoretical framework, and research hypotheses for the study.

#### **2.2 Conceptual Definitions**

##### **2.2.1 Organizational Independence**

Independence is defined as “the freedom from conditions that threaten the ability of the internal audit activity to carry out its responsibilities in an unbiased manner”(IIA, 2015, p. 42). Independence is an inherent quality for any professional services work to be with especially auditors as it increases stakeholders’ trust (Sunyoto, Ghazali, & Purwanto, 2017). It is argued that independence is taken as objectivity or as the means to insulate against bias, conflict of interest or undue influence of others that would impair professional judgments (Abbott, Daugherty, Parker, & Peters, 2016). Independence is also claimed to be a cornerstone of auditing as devoid of it, is like a giraffe without a neck (Kehinde, Che Ahmad, & Popoola, 2017).

Therefore, organizational independence is placing internal audit function in the organization structure where it can freely draw out its auditing scope, perform its strategic role and communicate results without undue influence from the management team or other departments. IIA (2015) stresses that to achieve organizational independence, Chief Audit Executive (CAE) must report to a level



within the organization that allows the internal audit activity to fulfill its responsibilities, and must confirm this to the board at least annually. Therefore, this study defined organizational independence as positioning internal audit function in the organization structure where it can accomplish its responsibilities freely and a reporting structure which allows IAF to be effective in the organization.

### **2.2.2 Top Management Support**

Dejnaronk et al. (2015) defined top management to include Chief Executive Officer (CEO), C-suit management like Chief Financial Officer, Chief Information Officer and Chief Operation Officer, President, Board of Directors, and Audit Committee. This study defines top management to comprise all senior management team who manage the day to day operations of the organization in attaining effectively its objectives on behalf of the board of directors. Top management support is linked to the commitment and leadership philosophy in advocating for the importance of the IAF activities the same as other core activities in the organization ( Peurseem, 2005; Shbail & Turki, 2017). Therefore, top management support is the cooperation given to the IAF by the senior management team in the organization to ensure the effective execution of their responsibilities.

### **2.2.3 Communication Skills**

It is provided that, the word communication in Latin language is “communicare” and means to ‘share’ (Atalay, Günal, & Kuşseven, 2016; Lotto, 2014). It is posited that communication is “the creation or exchange of thoughts, ideas, emotions and understanding between the receiver(s) and sender(s)”(Kristina & Sanchez, 2005, p. 78). This definition is narrow as it is not appreciating the role of feedback from the

receiver to the sender hence it is a linear relationship of communication, It is similarly stated that communication is a process of building common meaning/understanding between exchanging parties (Endaya & Hanefah, 2016). It is also argued by Singh and Masuku (2014) that communication is a vehicle through which tasks, roles, duties and resources needed to carry out an assignment and expected results are made known to the stakeholders for better performance.

Equally, communication is defined also as a social process whereby individuals make use of symbols to create and interpret meaning in their environment (West & Turner, 2018). They expound five important components used in defining communication for more clarity, which are social, process, symbols, meaning and environment. They assert that communication is social because it involves people interacting face to face or through technology. It is as well a process because it is an ongoing, dynamic and unending phenomenon. In addition, it is symbol as it stands for concept or an idea. The meaning also refers to what people extract from a message and lastly communication is environment because of a situation or context where communication happens.

Moreover Arena and Azzone (2009) defined communication skills as behavioural skills which make internal audit function understood and recognized by the stakeholders in the organization of the role it plays. This study defined communication skills as a social process whereby internal auditors use their behavioural skills to showcase their roles and contributions of adding value to their stakeholders in the organization.

#### **2.2.4 Professional Proficiency**

IIA(2015) defined professional proficiency as knowledge, skills and other competencies required of internal auditors to effectively carry out their professional responsibilities. This study defined professional proficiency as knowledge, experience, skills and other competencies relevant for the IAF to execute its responsibilities effectively.

#### **2.2.5 Audit Committee**

An audit committee is defined as a standing committee of the board of directors whose purpose is to oversee the accounting and financial reporting process of the company and the financial statements audit (Islam, Islam, Bhattacharjee, & Islam, 2010). An audit committee is also defined as a committee which accomplishes its set objectives (Badara & Saidin, 2013). An audit committee is defined also as one incorporating independent members and well-resourced with board authority to do diligently oversight role on internal controls, risk management and financial reporting to protect shareholders' interest (DeZoort et al 2002) as cited by Sarens and Abdolmohammadi (2011). This study defined audit committee as a committee established by the board of directors with independent directors whose at least two members are financial expert with industry business knowledge, who meet frequently with commitment and diligent to do oversight role on internal control, risk management and governance processes to achieve set objectives as adapted from Qasim (2018).

#### **2.2.6 Internal Audit Function**

Internal audit function is construed as all personnel in internal audit office

performing the roles and responsibilities of an internal auditor to provide assurance to the organization in its achievement of corporate objectives (Alzeban & Gwilliam, 2014a). Therefore, this study defined internal audit function as an umbrella term referring to internal auditors performing internal audit responsibilities in a company whether in house, outsourced or co-sourced internal auditors.

### **2.2.7 Internal audit Function Effectiveness**

INTOSAI (1992) refers effective as the accomplishment of objectives or to the extent to which the outcomes of an activity match the objective or the intended effects of that activity. It is provided also that effectiveness is an achievement of goals and objectives using the factors provided in determining such achievement (Joe & Emmanuel, 2016). Pepper and Gore (2015) provide that, an action, event, plan, policy or program is considered to be effective if it is capable of achieving its intended objectives. Similarly, Windahl, Signitzer, and Olson (2009) defined effectiveness simply as a product of goal fulfillment. Moreover, Rainer (2014) defined effectiveness as a risk based goal attainment concept that helps an organization achieves its objectives. Therefore, this study defined internal audit function effectiveness as the one which achieves predetermined objectives/goals set forth like assuring management on the effectiveness of internal control system, risk management and governance processes.

## **2.3 Theoretical Literature Review**

Theories are simple models that aid us to better understand the reality and the logic of things we observe. It is also claimed that theories are explanations of natural or

social behaviour events or phenomena (Bhattacharjee, 2012). The theory also tells its users how things and events are related and can also provide the likely direction of causality (Mbura, 2013). Therefore, the current study employed agency theory, institutional theory and communication theory in combination as a bedrock for developing a framework for studying determinants of IAF effectiveness in Tanzania listed companies on DSE.

The rationale of applying three theories in combination was to link the practice of internal audit from traditional auditing processes of compliance to more recent evolving practices of risk-based auditing. Agency theory informed us why auditing was needed in the first place and what role it played in the organizations. Institutional theory amplified more on how internal auditing withstands the storm of pressures put on the professional of internal auditors to add value to the organization, especially at the prime time where society had hazy perception brought by grand financial scandals and financial crisis engulfed the world in the recent past.

Also it showed what were institutional pressures that push internal auditing to become more effective in assisting management and the board of directors to ensure internal control systems is working effectively, risk is managed properly and governance processes are effective to send home business objectives of the organization. Communication theory illuminated also on how effective internal audit function contributed to the attainment of corporate objectives by collaborating fittingly with auditees as a partner in business in resolving and improving internal controls to scale up performances for the benefit of the institutions.

### **2.3.1 Agency Theory**

Agency theory proposes that people are self-interested, rationalist, individualistic and opportunistic which causes a conflict of interest over some decisions they make in managing company properties for their benefits rather than company shareholders. Therefore the agency theory provides a structure to model and understands different human organizational arrangements including incentive compensation, auditing and bonding relationships of all sorts in an organization (Jensen, 1994). The ultimate goal is hence to find out an optimal contract to align interests of the principal with that of the agent (Bendickson, Muldoon, Liguori, & Davis, 2016)

Organizations/companies are seen as legal fictions which serve a nexus of a potentially imperfect complex set of incomplete contracting relationship among individuals (implicit and explicit) (Jensen & Meckling, 1976; Pepper & Gore, 2015). In the nexus of contracts, there are contract between owners and management, employer and employees, top management with middle managers and third parties like suppliers, government, customers and so forth (Shapiro, 2005).

An agency relationship is construed as a contract under which one or more persons (the principal/owners/shareholder) engage another person (the agent/manager, director or employee) to perform some services on their behalf which involves delegating some decision making authority to the agent (Jensen & Meckling, 1976). Adams (1994) Jensen and Meckling, (1976) claimed that, if both parties to the relationship have their interest differ, there is a good reason to believe that the agent/management would not always act in the best interests of the principal/owner. Agency theory posits that the agent has more information than the principals and that

this information asymmetry adversely affects the principals' ability to monitor effectively whether their interests are being properly served by the agents. It is argued that problems of moral hazards (such as shirking duties to enjoy leisure and hiding inefficiencies to avoid loss of rewards), adverse selection and opportunism of agents are also associated within information asymmetry (Zogning, 2017). It is further elaborated that both adverse selection and moral hazards are associated with incentive and monitoring problems (Zogning, 2017).

It is similarly argued that the essential concern of corporate governance arises from the separation of ownership and control in modern public corporations, which is the source of the agency problem (Christopher, Sarens, & Leung, 2009; Moldoveanu & Martin, 2001). Equally, it is opined that separation of ownership from control, risk averseness, conflict of interest and information asymmetry are the key causes of agency problem (Panda & Leepsa, 2017). It is suggested that a crucial part of an entity's corporate governance is its IAF (Coram, Ferguson, & Moroney, 2008). Simultaneously Elmghaamez and Ntim (2016) argued that agency theory provides a flexible and reasonable popular framework of the need for and suggestions for a monitoring role of internal audit on organization management behaviour. Consequently, principals and agents are rational economic persons who seek to maximize their self-interest hence do engage in contracting to achieve Pareto-optimality, by instituting monitoring mechanism including employment of IAF (Adams, 1994).

According to Joe and Emmanuel (2016) internal auditors are employed by senior management and are also agents of the board of directors and audit committees who

trust their ability to monitor and evaluate senior management works. It is also argued that management support IAF to signal to the board of directors that they have the company under control; have adequate and effective risk management and appropriate system of internal controls in order to protect their employment contract (Sarens & Abdolmohammadi, 2011).

It is suggested that information asymmetry can be reduced with the contribution of an effective and independent internal audit department effectively communicating the necessary information to both agents and principals in order to improve the level of trust between them (Drogalas et al., 2015; Liu, 2017; Swinkels, 2012). It is similarly claimed that there are challenges on trusting these 'unmonitored' monitors, however, because auditors are of course subject to the same shirking and perk risks as are management, as they are agent as well (Peursem & Pumphrey, 2005).

Internal auditors, as rational economic persons are faced also with conflict of interest to maximize their best interests which would not reduce agency problem (Balafoutas, Czermak, Eulerich, & Fornwagner, 2017). Therefore, they may side with management for better perks, handsome allowances and assured promotions which may entice them to camouflage malpractices of the management at the expense of the owners/board of directors (Shamki & Alhajri, 2017). This is the essence of this study to investigate whether IAF is effective in adding value to the company or are there to fulfill their economic motives. It is further provided that, this complex web creates an inherent dilemma for the internal auditor; how can they carry out their monitoring role over management when they are not subjected to effective monitoring themselves? (Peursem & Pumphrey, 2005). It is again argued



that the Enron financial scandal which led to loss of funds of their shareholders and employees cast doubt on the effectiveness of internal auditors to monitor top management behaviour (Dejnaronk et al., 2015; Fadzil, Haron, & Jantan, 2005). Notwithstanding, Arthur Andersen was both an outsourced IAF and an external auditor of the Enron company implying that there was a conflict of interest hence IAF was not independent (Ammar, 2015). However, to the credit of IAF, WorldCom financial reporting fraud was unearthed by its internal audit department (Sorensen & Miller, 2017).

Internal audit as an agent of the board and audit committee has to work objectively by following their professional standards to refute claims of shirking and negligence of monitoring mechanism on senior management. It is also provided that to prevent the profession of internal auditors from being bias on information flow to the board of directors and audit committee owing to bonding relationship with management, conformance to the international internal audit standards may increase objectivity and independence of the function to the stakeholders (Endaya & Hanefah, 2013). It is posited also that, principals institute mechanism to prevent managers from curtailing the scope of the IAF and/or ignoring internal auditors' recommendations (Adams, 1994). They ensure that the role and responsibilities of internal audit are stipulated in internal audit charter (Adams, 1994).

Similarly, the head of internal audit reports directly, and in an unrestricted way, to the board of directors and/or audit committee (Adams, 1994). Besides, the corporate reputation and independence of internal audit can be promoted through the appointment of qualified and experienced staff and top management support with

adequate financial resources for running the function effectively including staff development and training (Adams, 1994).

Empirical evidence suggests that audit committee complement existing IAF in reducing agency problem (Cai, Hillier, Tian, & Wu, 2015). Watts and Zimmerman (1983) add that audit committees were formed in response to the complexity of firm operations and changes in agency costs between contracting parties. Simultaneously, it is provided that the existence of an audit committee in the company strengthens internal audit independence and reduces senior management interference either in internal audit scope or its performance (Endaya & Hanefah, 2016). Equally, audit committee monitors the management team properly and reduce information asymmetry (Ramachandran et al., 2012). It is also found that an audit committee has a moderating effect on the experience and internal audit function effectiveness (Badara & Saidin, 2014). It is as well argued that audit committee act as a communication link between internal auditors, external auditors, senior management and the governing body of the company to attain IAF effectiveness (Islam et al., 2010)

Paradoxically, top management supports IAF due to competitive pressure on them to deliver for shareholders' interest lest they are replaced by more efficient managers from the market (Adams, 1994). In this way, internal audit function fulfills its objective effectively by assuring robustness of internal control system, risk management and governance processes to attain the firm's goal. The agency theory has been criticized for its limitation for the paucity of internal audit research (Al-

Twaijry, Brierley, & Gwilliam, 2003). It is also argued that much reliance on capitalist western agency theory by most IAF scholars have neglected social implications of effective IAF (Mihret, 2014; Yee, Sujan, James, & Leung, 2008). The theory also is criticized for its lack of explanatory power on the dynamics of strategic entrepreneurship, social entrepreneurship and family business (Bendickson et al., 2016).

In a similar vein, agency theory is also hammered on the ground that it is only relevant for capitalist countries with developed economies, competitive markets characterized with matured stock exchanges and good corporate governance (Mihret, James, & Mula, 2010). However, agency theory provides the need for internal auditing as is traced back into the contractual relationship between management and shareholders of firms as part of addressing agency problem minimization (Bananuka, Nkundabanyanga, Nalukenge, & Kaawaase, 2018). It is also claimed that an audit by a third party independent of the manager/agent reduces the agency problems that arise due to conflict of interest of the firm manager who needs to benefit more than the residual claimants from the firm properties (Watts & Zimmerman, 1983). It is further affirmed that agency theory may not only help to explain the existence of internal audit in organizations but can also aid in illuminating some of the characteristics of the internal audit department, like its size and the scope of its activities such as financial versus operational auditing (Adams, 1994).

Nonetheless, the recognition of the evolving role of internal auditor, the benefits of IAF services in assisting companies to meet their corporate objectives require more

than agency theory can explain in development and operation in varied settings (Abdullah, 2014; Mihret et al., 2010). Hence the need to combine agency theory with institutional and communication theories to explain paradigm shift of the role of internal audit from the traditional role of compliance to policies and monitoring of performance to risk based auditing to be effective in adding value to the organization.

### **2.3.2 Institutional Theory**

Institutional theory premised that social world comprised substantially of institutions like unending rules, phenomena, practices and structures that stipulate conditions for action of which compliance with them give the company legitimacy, resources stability and increase prospects of its survival (Lawrence & Shadnam, 2008; Meyer & Rowan, 1977). It is also premised that, the institutional theory explains how organizational structures and practices are shaped through changes induced by institutional pressures (Mihret et al., 2010). These pressures sometimes lead the organization to be controlled by legitimated elements, from standard operating procedures to professional certification and state constraint, which usually have the effect of directing attention away from work performance (Zucker, 1987). Internal audit scholars argued that this institutional pressure is a source of internal audit function effectiveness in an organization (Coetzee & Erasmus, 2017).

Similarly, this pressure leads to the struggle of IAF to demonstrate to its stakeholders that it adds value to legitimate its presence in the organization (Spira & Page, 2003). However, there is a new concept of institutional theory, which stipulates that mutual relations between the internal and external environments define the behaviour of the

organization (Elmghaamez & Ntim, 2016). Although organizations conform to institutional pressures, they do so to get social approval (legitimacy) and enhances organizational survival (Forgues, Greenwood, Marti, Monin, & Walgenbach, 2012; Meyer & Rowan, 1977).

According to (Suchman 1995, p. 574) the word “Legitimacy” refers to “generalized perception or assumption that the action of an entity is desirable, proper or appropriate within some socially constructed system of norms, values, beliefs and definitions”. IAF to get legitimacy it has to be effective in achieving objectives of its existence in the company. This is supported that IAF evidence of added value and effectiveness in the organization is perceived as a way of legitimizing it in the eyes of major stakeholders (Lenz & Hahn, 2015). Paradoxically, providing evidence of value added by internal audit function as a support function is difficult to proof. This is because IAF has no direct impact on the bottom line, profit and loss account of the company, hence to demonstrate its identity as a proactive, impactful and result oriented function as measurement of its effectiveness is subjective in qualitative factors as advocated by Nobel (2010) as cited by Lenz (2015). Hence for the internal audit function to get its legitimacy in the society must be effective in conformance to internal and external forces.

Coetzee and Erasmus (2017) suggested that internal and external forces are micro and macro factors respectively. They argued that internal audit is faced with micro factors like internal resources, processes, relationship, and organization. We may infer that; internal resources may be adequate number of internal audit staff with pertinent professional qualification and funds for continued career development as

support from senior management. A relationship may be interaction/communication with audit staff, auditees, management, board and other key stakeholders. Processes may be guidelines, internal audit charter, and quality assurance for IAF to render its services in the organization effectively. IAF organization includes variables related to charter, experience and communication (Azzali & Mazza, 2018).

IAF exists in organizations that are heterogeneous in rules, policies, processes, resources and organizational structures to conform to the stakeholders' expectation, which surely defines roles, authority and responsibilities for IAF effectiveness (Lenz & Hahn, 2015). Simultaneously Coetzee and Erasmus (2017) argued that external forces are coercive, mimetic and normative pressures. These external forces once adopted by organizations they tend to legitimize similar practices and structure in the same organizations which were termed as institutional isomorphism changes (DiMaggio & Powel, 1983). They expanded that coercive forces refer to political pressures, the force of the state, providing regulatory oversight and control; these may be linked to CMSA guidelines for establishment of the IAF for every DSE listed company in Tanzania.

DiMaggio and Powel (1983) claimed that sources of normative pressure may come from industry groups, professions, and consultants in the field, education organizations, interest groups, trade unions and public opinion. Compliance with the International Standards for Professional Practice of Internal Audit (ISPPIA) as issued by the Institute of Internal auditors global, a standard setter of the profession of internal audit globally is linked to a source of normative pressure for IAF. Mimetic forces relate to benchmarking internal audit practices with other successful

internal audit function from highly experienced organizations and align with best practices as responses to circumstances of uncertainty.

It is premised that institutionalized professions can bring their professional norms and values into organizations, which might lead to similar organizational behaviour (Najeeb, 2014). Similarly, institutional theory especially normative pressure lead to adherence to the ISPPIA and its impact on the companies' support of internal audit which is a source of IAF effectiveness (Endaya & Hanefah, 2013; Fadzil et al., 2005; Obeid & Abdelnur, 2018). Equally, it has been confirmed empirically through normative pillar that, IAF professionalization element of compliance with IIA global guidance lead to IAF effectiveness which ultimately adds value to the organizational corporate governance robustness (Vadasi, Bekiaris, & Andrikopoulos, 2020).

Institutional pressures of coercive, mimetic and normative are applicable for internal auditors in Tanzania context as well. It is well argued that IAF effectiveness is only possible if senior management has interest and dedication to support its activities (Carey, Simnett, & Tanewski, 2000). It was likewise deduced that management do establish internal audit department in response to coercive pressure as a symbolic function for legal and governance compliance not an effective one to add value in the organization (Ramachandran et al., 2012).

In a similar line of argument, once internal audit function is formed to conform with regulatory requirements, it becomes ineffective and do not follow professional standards to do risk based auditing rather they dwell much on compliance audit which do not add value to the company (Ramachandran et al., 2012). In a similar

vein, audit committee may be formed as a result of institutional pressure from regulatory bodies. It may not include members who are affiliated with the management, are not financial expert nor have audit expertise hence ineffective and rubberstamp to support management interests in decision making. In this instance, audit committee plays a ceremonial role and endorses institutional perspective in the governance role in the organization (Baharud\_din et al., 2014).

Al-Twajry et al. (2003) refer this situation as decoupling practices where management form IAF to show to the external world that the company is legitimate but not an effective function as IAF may comply with organizational internal policies rather than IIA professional standards, and hence not effective in risk based auditing to add value in the organization. Surprisingly, institutional theory has been criticized for its persistence on homogeneity of practices, structures, policies and taken-for- granted rules which is not practicable as institutions are not static, do conform to pressure for changes as a result of competition for resources and new expectations of company's stakeholders (Dacin, Goodstein, & Scott, 2002; Hany, Maged, & Ahmad, 2016). I

It is also claimed that once institutionalization is established it creates routines and uniform structures, actions and roles which are highly resistant to change unless dominant actor brings in efficient and effective alternative institutionalization (Zucker, 1987). Institutionalized profession like internal auditing can bring changes in the organization to cope with business dynamics in the digital economy (Vadasi et al., 2020).



The notion of institutional entrepreneurs was introduced in institutional theory as change agents who initiate divergent changes, changes that break the institutional status quo, in a field of activity and thereby possibly lead to transformation of the existing institutions or change how things are being done to conform to the new business environment (Battilana, Leca, & Boxenbaum, 2009). It is inferred that internal audit function as an emerging change agent, can challenge the status quo and initiate to alter “the way we do things” in an institution setting (Lenz, 2015). It is also emphasized that being an effective internal auditor, ultimately hinges on one’s ability to be an agent for change (Chambers & McDonald, 2013). It is implied that institutional normative pillar through IAF professionalism alter the way things are done in a company to achieve corporate objectives hence its effectiveness (Vadasi et al., 2020). Therefore, institutional theory is an appropriate lens to study internal audit function effectiveness in the context of the Tanzanian environment, especially for DSE listed companies.

### **2.3.3 Communication Theory**

The communication theory has one universal law written by Scudder in 1900s and later reported in 1980 which states that “All living entities, beings and creatures communicate” and further clarified that “communication is a means of survival, existence, being and does not need another to acknowledge its presence” (as cited in Juicharern, 2010, p. 26). It is also argued that there are three basic truth about communication theory; It is impossible not to communicate, communication involves at least two persons (is two-way traffic) and a message sent not necessarily equal to message received (Endaya & Hanefah, 2013; Salterio, Hoang, & Luo,

2018). Therefore IAF to survive in the company it must develop a clear communication pathway as a professional, strategic partner in business which ultimately boosts overall influences it exerts (Pitt, 2014).

Lotto (2014) argued that the possibility of success in peoples' jobs, socially, among friends, family members, children, spouse, boss or co-worker all depends on how effectively they can communicate. Communication effectiveness has been advocated in many areas for instance it impacts on workers' performance with a positive relationship between workers performance, commitment and productivity (Femi, 2014). Communication skills are long credited for its immense contributions to organization effectiveness (Greenbaum, 1974).

Similarly, it is identified that communication skills are a key attribute for internal auditors effectiveness in the 21<sup>st</sup> century due to radical changes escalating now than ever before (Liu, 2017). It is premised that communication skills are one among challenges facing internal auditors in Tanzania hence make them ineffective (Nicodemus, 2010). In similar vein, it is asserted that communication is an important determinant for internal audit function effectiveness (Rossiter, 2007). Therefore internal auditors should advocate for the role they play and value adding to the organization by communicating to their key stakeholders, senior management and audit committee among others (Tackie, Marfo-Yiadom, & Achina, 2016).

IIA as a global standard setter and guidance of internal auditors has shown the importance of communication skills. In IIA pulse internal audit reports, the respondents underscored communication skills as the most required skills of internal

auditors among others (IIA, 2017). It is established that for internal auditors to attain communication skills should show its skills maturity in communicating complete, correct, concrete, clear, concise, constructive, relevant, timely, considering stakeholders current and future needs and putting less emphasis on audit technical jargon that hampers organization members' understanding (Feizizadeh, 2012; IIA, 2015). Mustika (2015) contended that internal auditors must have relevant communication skills in order to interact well during their work engagements and with their stakeholders.

Moreover, communication skills are given utmost priority in marketing discipline as it aids companies to win customers by delivering pertinent information to the target markets to meet their needs economically and conveniently (Kotler, 2002). It should not much be emphasized that IAF to be effective must regularly communicate to auditees, senior management and the board of directors or its audit committee on the IAF activities, purpose, authority, responsibilities, scope and performance relative to its plan (Azzali & Mazza, 2018). It is as well posited that internal auditors must develop communication skills to succeed in their professional work which are listening, interpersonal, written and oral communication skills to facilitate understanding of audit findings and the ability to finish their responsibilities effectively (Smith, 2005). Consequently, communication skills by IAF surely can resolve the agency problem of information asymmetry between shareholders as principals and management as agents of listed companies in Tanzania.

Simultaneously, to be effective communicator, one must avoid communication barriers like information overload, message complexity, differing status, lack of

trust, unethical communication, inefficient communication, physical distraction, closed communication climate, incorrect choice of medium and inadequate communication structures (Hahn, 2008). For instance, on information overload, too much information is as bad as too little because it reduces the audiences' ability to focus effectively on the most key messages, communication environment is a key factor along with medium of communication (West & Turner, 2018).

Accordingly, internal auditors have to be cognizant of the fact that, a level of reporting requires different information like a detailed report to the auditee for implementation and a very summarized report go up to the ladder to the board for decision making. Communication medium adds to IAF effectiveness dimension as nowadays social media like e-mails, WhatsApp, Zoom, Skype and the like are dominant in use so IAF should make use of them for prompt response (Joe & Emmanuel, 2016). Therefore, communication skills can illuminate the importance of the internal audit function in the organization by interacting well with internal audit stakeholders and elucidate to them how effective it is in value addition to the organization (Joe & Emmanuel, 2016). IAF output can be construed as a Cinderella activity if not effectively communicated to its stakeholders (Peurseem & Pumphrey, 2005).

Similarly, scholars have credited communication skills as a promo tool for internal auditors especially illuminating to its stakeholders the value, they bring in the company. Lenz and Hahn (2015) contend that Chief Audit Executive who interact frequently and timely with stakeholders using problem solving communication, nurture IAF effectiveness especially when that communication is buttressed by

shared goals, shared knowledge and mutual respect. Therefore, auditees consider such internal auditor as business partner whose intentions are to further their work efficiently hence cooperates with them to redress noted internal control deficiencies for organization goals attainment.

Lenz and Hahn (2015) argued also that infrequently and delayed communication characterized with finger pointing to auditees, accusing and looking for wrongdoings surely make internal audit function ineffective, as collaboration from auditees will be minimal lest that internal auditors are policing for a culprit to report to the top management for punishment. It is added that the practice of internal audit should be more collaborative in the future to exploit other sections' personnel expertise and experience in strengthening effectiveness of internal audit which will surely bring big impact on corporate governance as a consequence (Al-Twajjry et al., 2003). Therefore, internal auditors should not position themselves as investigators or number crunchers rather as business partner in the organizations for attaining business objectives.

Communication theory has been used in IAF research and proved to be a pertinent lens for investigating its effectiveness. Elmghaamez and Ntim (2016) applied communication theory in assessing the effectiveness of internal governance control, the case of internal audit skills in Libya and concluded that communication theory indicates that all internal auditors need to improve their communication skills continuously even though are good communicators. Specifically, IAF communication skills help to resolve information asymmetries which increase IAF effectiveness as well in the firm (Zhang & Gao, 2012). Therefore, the current study

investigated the role of communication skills as a construct in influencing IAF effectiveness in the context of listed companies in Tanzania. According to the theoretical review, communication theory is found to be a relevant lens for investigating internal audit function effectiveness of DSE listed companies in Tanzania.

## **2.4 Empirical Literature Review**

### **2.4.1 General Studies in Global Perspectives**

Jiang et al (2018) did an international study of IAF quality (effectiveness) on factors that influence IAF quality in an organization. They found that board monitoring and audit committees are positively and significantly associated with high quality IAF. However, they found a negative association of CEO power with high quality IAF. They argued that CEO power discourages high quality (effective) IAF in order to get less scrutiny and behave opportunistically to earn personal benefits at expense of organization owners. They found also that characteristics of external factors particularly industry competition and regulatory requirements have positive association with high quality IAF. They argued that strong home corporate governance code plays a dominant role in IAF development. They connected demand for high quality IAF to the worldwide pressure on improved corporate governance due to the financial scandals in the 2000s.

The study based on 2010 common body of knowledge (CBOK) survey by IIA obtained from world scope database. Although the survey included 265 respondents from different countries around the world, 2010 CBOK is outdated as IIA has new variables in the 2015 survey. The results may be affected by the level of corporate

governance in the economies involved hence context determines effectiveness of IAF, like the case of Tanzania environment (Abdullah, 2014). Agency theory and contingency theory applied in the research could not clearly elaborate paradigm shift of IAF from traditional compliance and monitoring role to the risk-based auditing with a view of value addition role in the company. Therefore, the current study combines theories of agency, institutional and communication to address this contextual and theoretical gap.

Chevers et al. (2016) did a study on factors that influence IAF effectiveness in Jamaica commercial banks. They adopted a conceptual framework as provided by Cohen and Sayag, (2010) that IAF effectiveness is determined by professional proficiency, organizational independence, top management support and audit quality as independent variables. IAF effectiveness was measured by internal audit work quality, evaluation by auditees and contribution of added value by IAF. The study observed that professional proficiency, organizational independence, top management support and quality of audit work have significant impact on IAF effectiveness.

The authors defined professional proficiency to include internal auditors' professional and business knowledge, education and experience, training and development, technical skills and proficiency as contributing variables to the IAF effectiveness. They also claimed that employment and termination of head of internal audit by audit committee/board of directors, free access to information, records, location and organizational data pool, IAF operating as an independent, autonomous unity, internal audit plan included budget and regular and direct

interaction with audit committee as organizational independence variables which enhance IAF effectiveness. They defined also top management support to include management awareness of IAF needs and allocation of sufficient budget, adequate human resource commensurate with workload and skills set required as variables that determine IAF effectiveness. They further claimed that audit quality construct includes whether audit plan focuses on relevant areas to meet stakeholders' expectations.

Similarly, they argued that, audit quality encompasses areas with identified risk and whether internal audit findings enhance organization effectiveness in terms of policies, procedures and controls. Lastly, they add that audit quality should show connection of internal audit performance against approved annual internal audit plan, clear communication of scope and objective which must be agreed during the planning phase and auditees kept informed on issues identified during the audit with IAF follow up on action taken to address audit findings as variables judged to enhance IAF effectiveness. Although they involved 119 respondents from middle management, supervisors and top management in Jamaica commercial banks, the results could be skewed towards financial institutions which might have unique characteristics to drive home IAF effectiveness. They did not recognize the role of communication skills and audit committee which the current study included. The current study as well attempted to address single industry biasness by including respondents from 6 different industries of DSE listed companies in Tanzania.

Mustika (2015) researched on factors influencing internal audit effectiveness in Indonesia. He found that internal audit competence, internal audit independence and



relationship between internal and external auditors have significant and positive influence on internal audit effectiveness. However, auditee support factor has no positive effect on internal audit effectiveness. The study associated lack of auditee support to the IAF to perception of auditees that internal auditors are police/watchdog function looking for wrongdoers in the organization for management punishment.

Therefore, internal auditors must perfect their communication skills as included in the current study to showcase their roles of value addition and interact well with auditees to win their cooperation as a partner in business aiming at achieving organizational objectives. The framework for assessing internal audit effectiveness was drawn on contingency theory. The contingency theory as a lens of analysis in the research is lacking as it is designed for compliance by the organization to the external pressures which is not appropriate as internal audit is an internal organization phenomenon (Lenz & Hahn, 2015). The research was also biased as it was based on self-assessment of internal auditors from Java Inspectorate and could not be replicated in another study because of small sample of 33 respondents. The researcher encouraged a study on the same theme basing on adequate number of respondent population and involving other factors affecting internal audit function effectiveness hence the need for the current study.

Cohen and Sayag (2010) researched the effectiveness of internal auditing, an empirical examination of its determinants in Israel organizations. They applied both supply side perspectives of internal auditors' self-assessment and demand side perspectives of senior management evaluation of internal audit effectiveness. They

use both sectors (public or private), professional proficiency, quality of audit work, organizational independence, career and advancement and top management support as independent variables assessed by internal auditor themselves. They also employed auditing quality, auditees' evaluation and added contribution of internal auditors as variables for evaluating internal audit function effectiveness by senior management. They found that top management support was the dominant variable that determines IAF effectiveness irrespective of the sector, whether it is private or public.

Moreover, Cohen and Sayag (2010) assert that other variables that determine IAF effectiveness are derived from top management support. For instance, hiring professional proficiency internal audit staff, developing their career channels of internal audit staff and providing organizational independence of their work, all are the result of top management decisions. They found lack of relationship between professional proficiency and career and advancement with IAF effectiveness that, effectiveness is a matter of organizational and managerial characteristics rather than a matter of qualifications and work setting of the internal audit staff. The study did not consider the role of communication skills and audit committee which the current study included. Besides, the study did not include moderation term of audit committee which the current study employed.

Similarly, the study uses institutional theory which is not sufficiently explaining clearly the genesis of IAF to link traditional audits practices with current risk-based auditing to add value which the current study tried to fill this theoretical lacuna by

applying three theories of agency, institutional and communication. However, the authors encourage replication of their study in other different parts of the world which the current study did but included additional variables.

#### **2.4.2 Studies in African Countries**

Coetzee and Erasmus (2017) looked at what drives and measures public sector internal audit effectiveness, in South Africa. The primary research objective was to refine the insights into the drivers and measures of both independent and dependent variables of internal audit effectiveness in the public sector. Through a literature review and survey, they ended up with 92 items for analysis of IAF effectiveness. They then run exploratory factor analysis (EFA) to reduce the 92 items into a meaningful manageable number of variables to form new independent and dependent variables based on internal audit effectiveness and present a foundation for further study. They ended up with six variables of; Chief Audit Executive profile (leadership), Internal Audit Function (IAF) independence, Internal audit competence, IAF services and role, IAF status and functioning of IAF, as drivers (independent variables) of internal audit function effectiveness.

They also ended up with 3 measures (dependent variables) of effectiveness of internal audit function as; implementation of IAF recommendations that are practical and cost effective, reliance placed by external auditors on IAF and satisfaction by stakeholders on IAF work. It is among rare studies to employ both supply side perspectives of internal auditors' self-assessment and demand side perspectives of other stakeholders, chair of audit committee and Management to evaluate internal audit function effectiveness.

The study employs neo-institutional theory to support the variables included in the analysis. The authors suggested further research in the area as the variables developed can be used in both public and private sectors. The research has attempted to mitigate the effects of biasness of the internal auditors assessing themselves on their effectiveness by linking with their stakeholders to evaluate effectiveness of the function. However, the authors separated stakeholders between reliance placed by external auditors on internal audit work and satisfaction by other stakeholders on IAF work which should be the same as both are stakeholders.

It is argued that much reliance on external auditors to evaluate IAF effectiveness based on international standards on auditing has contributed to a great extent scarcity of internal auditing studies (Jiang et al., 2018). The study employed competence as a separate construct which should be an indicator of professional proficiency because a mere education and possession of professional certificate do not guarantee IAF effectiveness (Cohen & Sayag, 2010). In addition, they split organizational independence into three factors which were internal audit function independence, IAF services and role, IAF status and functioning which should be simply organizational independence.

Lastly, they did not take into account the role of communication skills of internal auditors as a variable to illuminate the role of internal audit in the organization, though they use loosely Chief Audit Executive profile or leadership as a factor. The current research used the same techniques in applying supply and demand side perspectives though responded in the same questionnaire. However, they applied neo-institutional theory which is not sufficient to provide the genesis of the internal

auditing to link with the current phenomena of the profession to add value. The current study tried to resolve this theoretical gap by applying three theories of agency, institutional and communication in unison to show evolution of internal auditing from traditional role to contemporary practices of value addition. The study did not also put into account the role of audit committee and communication skills which the current study considered. The study as well did not consider moderation term which the current study applied.

Endaya and Hanefah (2016) employed agency theory and institutional theory in studying IAF effectiveness in Libya. They concluded that internal audit effectiveness is impacted directly by internal auditors' characteristics and internal audit department performance, as well as organization members' support as a moderating variable on these relationships. They expound internal auditors' characteristics to include objectivity, communication skills, and proficient and due professional care, training and development. They proposed that internal auditors' characteristics and their dimensions are positively and significantly related to internal audit effectiveness. They add that internal auditor performance refers to planning and supervision, fieldwork, recording, reporting findings and recommendations and following-up of internal audit recommendations which collectively impact on IAF effectiveness.

They explained further that, organization members' support refers to both senior management support and the existence of an audit committee. They claimed that internal auditing is most effective when it has support from senior management, and when an audit committee exists. Similarly, they provided measures of internal audit

effectiveness which hinges on financial and compliance audit that are not depicting value adding role of IAF (Coetzee & Erasmus, 2017; Cohen & Sayag, 2010). Conceptually, an audit committee cannot be part of senior management in the organization. Hence, this study looked at audit committee as a separate construct from senior management to moderate internal audit function in the organization.

Also, it is vividly shown that their results based on external auditors perception (Members of Libyan Association of Accountants and Auditors) to evaluate IAF which might be biased as external auditors link effectiveness of IAF with resources and independent from management influence which is limited to international auditing standards (Al-Twaijry et al., 2003), hence inclusion of internal auditors and other stakeholders to lessen the problem in the current study. They also suggested replication of their study using three theoretical models in other parts of the world and collecting data from other interested groups of IAF, hence the need for the current study.

#### **2.4.3 Empirical Studies in Tanzania**

There have been relatively little research on IAF effectiveness in Tanzanian context, mostly are case studies and few in one or two industrial sectors only (Busee, 2013; Mbelwa & Lenatusi, 2019; Mkwe, 2013; Nicodemus, 2010; Ramachandran et al., 2012). Ramachandran et al. (2012) employed agency theory and stakeholder theory in examining effectiveness of IAF in commercial banks in Tanzania. They adopted the model as developed by Arena and Azzone (2009) to test the same variables of internal audit resources and competencies, internal audit activities and the level of interaction between internal auditors and audit committee as independent variable

and internal audit effectiveness as dependent variable. The research study was conducted through structured survey questionnaire which distributed to respondents of commercial banks in Tanzania.

The result showed that there is positive association of internal auditor resources, independence and competence with internal audit effectiveness in Tanzania. The results also confirmed that the level of interaction between internal auditor and audit committee have positive association with internal audit effectiveness. However, internal audit activities have no significant relationship with internal audit function effectiveness because the internal audit activities are skewed towards compliance audit to meet regulatory requirement by the Bank of Tanzania. Although the study collected perception of other stakeholders of internal auditors, they did not measure internal audit function effectiveness which the current study did. In addition, the study uses respondents from one industry, commercial banks in Tanzania. A study in the same commercial bank industry may give unique results due to its peculiarities of working policies and strongly regulated by the bank of Tanzania. The current study attempted to fill up the theoretical, contextual and methodological gap by using respondents from five different industrial categories of listed companies in Tanzania and analyzed through SEM.

Mbelwa and Lenatusi (2019) did a study on assessment of factors influencing management reliance on internal audit function, evidence from oil and gas companies in Tanzania. They applied three theories of agency, resource dependence and grounded theory of manipulating legitimacy in arriving at their testable variables. Their conceptual framework is comprised of independent variables of

competence, independence and objectivity, role and scope, work performance and communication skills of IAF regressed against dependent variable of reliance of IAF work by top management and audit committee. They found that competence of internal auditors, IAF independence and objectivity, role and scope of IAF, work performance of IAF and communication skills of IAF have significant and positive relationship with reliance/effectiveness of IAF.

The study grouped together Chief Executive Officer, Chief Financial Officer and members of audit committee as senior management personnel which is incompatible with corporate governance practices. Senior management includes executive officers whose role is resource control to maximize shareholders value as agent while audit committee members are non-executive directors who have a monitoring role over management action as principal. The current study separated them by including top management support and audit committee as determinants of IAF effectiveness. Although the study included 17 companies in oil and gas in Tanzania, the results may be skewed towards the two industries due to its peculiarity.

The current study involved 27 listed companies in Tanzania from five industries to solve biasness of two sectors peculiarities. Moreover, the study did not include audit committee as an independent variable as it can enhance reliance of IAF works which the current study applied. Lastly, their study did not include moderating variable to confirm whether a third variable may influence strength and direction of a relationship between independent variables and dependent variable which the current study applied audit committee as a moderating variable.



In the empirical review, researchers have used subjective determinants of internal audit effectiveness as evaluated by the management. Cohen and Sayag (2010) support the idea that effectiveness could not be computed rather than based on subjective perception as assessed by function stakeholders. The current study used survey questionnaire to obtain perspectives of both internal auditors and their stakeholders in examining the determinants of IAF effectiveness (Coetzee & Erasmus, 2017; Cohen & Sayag, 2010)

## **2.5 Research Gap**

The existing researches on the effectiveness of internal audit function are few but have shown that there is important lacuna to fill in terms of theoretical, conceptual, contextual and methodological gaps. According to the theoretical review, various studies in IAF effectiveness use -institutional theory (Al-Twaijry et al., 2003; Coetzee & Erasmus, 2017; Cohen & Sayag, 2010), agency theory and stakeholder theory (Ramachandran et al., 2012), Agency and Institutional theory (Endaya & Hanefah, 2016), Agency theory and Contingency theory (Jiang, André et al. 2018). Endaya and Hanefah (2013) used agency, institutional and communication theories to develop a conceptual framework for IAF effectiveness but they did not test it empirically. Therefore, no agreed theoretical model developed for researching IAFE.

This study attempted to fill this theoretical lacuna by applying three theories of agency, institutional and communication in unison to develop testable variables at listed companies in Tanzania. Contextually, IAF effectiveness seems to be affected by the contexts of its operations/ environment (Alzeban & Gwilliam, 2014a; Coetzee & Erasmus, 2017; Cohen & Sayag, 2010; Shbail & Turki, 2017). Determinants of

IAF effectiveness are perceived as a multidimensional phenomenon which should be adapted to the needs and requirements of the researched area (Barišić & Tušek, 2016). Therefore, determinants of IAF effectiveness employed in research in other economies with well-established corporate governance and matures stock exchange may have different results in developing countries like Tanzania where corporate governance processes are at an infancy stage, hence the need to resolve this contextual gap.

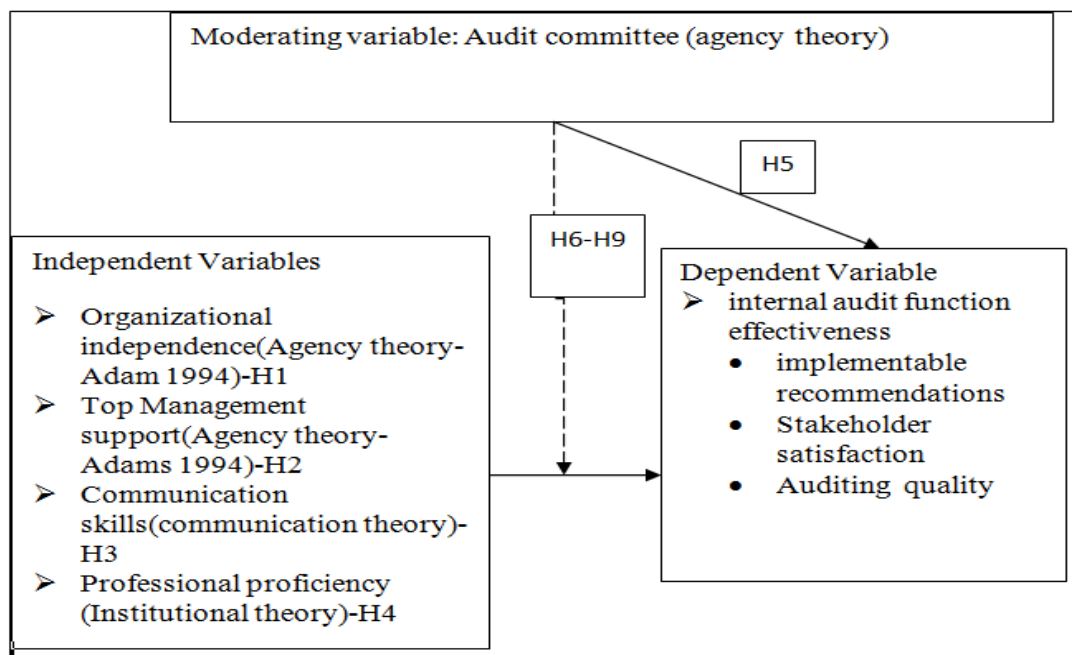
Conceptually, IAF is construed as a monitoring (gatekeeper, watchman, policing) function for big companies and its establishment is voluntary (Azzali & Mazza, 2018). The present research attempted to fill this conceptual gap in IAF effectiveness of its role as a value adding function and its importance in every organization setting irrespective of its size. Methodologically, reviewed literatures have shown that there is no agreed framework for determinant of IAF effectiveness (Badara & Saidin, 2014b; Endaya & Hanefah, 2013; Lenz & Hahn, 2015). Most researches in IAF effectiveness have been looking at drivers of effectiveness which is biased as respondents are internal auditors themselves (Drogalas, Arampatzis, & Anagnostopoulou, 2016; Zureigat & Al-Moshaigeh, 2014).

Few scholars developed drivers and measures of IAF effectiveness (Coetzee & Erasmus, 2017; Cohen & Sayag, 2010). Besides, very few researchers have included moderating effect on drivers and measures of IAF effectiveness (Endaya & Hanefah, 2016). Equally, most of the researchers employed multiple linear regressions as an analytical tool. Moreover, researchers on IAF effectiveness have not employed moderation variables to test the whole model rather on few variables only (Badara,

2015). Therefore, the current research attempted to tackle these methodological gaps by analyzing drivers, measures and moderator of IAF effectiveness through Partial Least Square Structural Equation Modeling (PLS-SEM). The advantages of PLS-SEM is that it can estimate effect size between latent/unobserved variables and can create complex latent interaction/moderation effect which ordinary least squares (OLS) cannot (Lowry & Gaskin, 2014).

## 2.6 Conceptual Framework and Hypotheses Development

Kothari (2004) provides that conceptual research relate to theory or some abstract idea/s. From the literature review, we have seen that agency theory revealed that internal audit function is needed but independence and objectivity are importance for IAF effectiveness. The theory provides that support of management to the function is assured through internal audit charter for professional skilled staff, recommendations implementation, adequate budget for career development and training.



**Figure 2.1: Conceptual Framework of the Study**

Source: Literature Review 2019

Agency theory also provides that an audit committee moderates IAF effectiveness in an organization. Institutional theory tells us that effectiveness of internal audit hinges on it as a change agent, especially normative domain correlates with professional standards and organization where it operates. Moreover, communication theory informs us about the interrelationship of the internal audit function with its stakeholders to showcase added value to their expectations so as to be judged as an effective function. Therefore, the theoretical review culminated into a conceptual framework as presented in Figure 2.1

## **2.7 Research Hypotheses**

The conceptual framework generated the following tested hypotheses: -

- H<sub>1</sub>: Organizational independence is positively and significantly related to internal audit function effectiveness of listed companies in Tanzania.
- H<sub>2</sub>: Top management support is positively and significantly related to internal audit function effectiveness of listed companies in Tanzania.
- H<sub>3</sub>: Professional proficiency impacts positively and significantly internal audit function effectiveness of listed companies in Tanzania.
- H<sub>4</sub>: Communication skills impacts positively and significantly internal audit function effectiveness of listed companies in Tanzania.
- H<sub>5</sub>: Audit committee impacts positively and significantly internal audit function effectiveness of listed companies in Tanzania.
- H<sub>6</sub>: Audit committee moderates the relationship between organizational independence and internal audit function effectiveness of listed companies in Tanzania.

H<sub>7</sub>: Audit committee moderates the relationship between top management support and internal audit function effectiveness of listed companies in Tanzania.

H<sub>8</sub>: Audit committee moderates the relationship between communication skills and internal audit function effectiveness of listed companies in Tanzania.

H<sub>9</sub>: Audit committee moderates the relationship between professional proficiency and internal audit function effectiveness of listed companies in Tanzania.

## **2.8 Operational Definition of Independent Variables**

From the above literature review and supporting theories of this study, hereunder are operational definitions of the constructs included in the conceptual framework.

### **2.8.1 Organizational Independence**

The operational definition of organizational independence as a construct involves reporting function, access, autonomy, and CIA appointment and removal approval (Chevers, Lawrence, & Laidlaw, 2016; Cohen & Sayag, 2010). This study adopts this operational definition.

### **2.8.2 Top Management Support**

Operational definition of top management support includes implementation of recommendations by management, provide inputs into internal audit plan, commitment and attitude of management towards the importance of IAF, interaction of CIA with management, provision of sufficient budget to IAF, involvement of CIA in management meetings and employment of qualified internal audit staff with a diversity of skills (Arena & Azzone, 2009; Barišić & Tušek, 2016; Cohen & Sayag, 2010; Dejnaronk et al., 2015; Endaya & Hanefah, 2013; Lenz & Hahn, 2015;

Ma'ayan & Carmeli, 2016; Shbail & Turki, 2017). This study applied this operational definition.

### **2.8.3 Communication Skills**

Communication skills are operationalized by understandability of IA reports, timely reports issuance, IAF as a business partner, collaboration with other experts, relevant reports, focus on the present and future needs of the company, concise and complete reports (Elmghaamez & Ntim, 2016; Joe & Emmanuel, 2016). This study adopted this operational definition.

### **2.8.4 Professional Proficiency**

IIA (2015) refers to professional proficiency as “knowledge, skills and other competencies required of internal auditors to efficiently carry out their professional responsibilities” These competencies accrue over years through experience, training and acquisition of professional certification like Certified Public Accountants (CPA), Certified internal auditor (CIA) which enable internal auditors to render different services in risk management, internal control and governance processes effectively and efficiently (Alzeban & Gwilliam, 2014a; Cohen & Sayag, 2010). Therefore, professional proficiency as a construct was operationalized as possession of professional certification, application of internal audit standards, knowledge of accounting principles and techniques and lastly knowledge of the business by the internal auditors.

### **2.8.5 Audit Committee**

Audit committee is operated by attributes of industry experience, business acumen,

judgmental skills, independent directors, financial expert, diligence and commitment and frequency of meetings and monitoring implementation of internal auditor recommendations (Alzeban & Sawan, 2015; Koutoupis, Pazarskis, Lazos, & Ploumpis, 2019; Qasim, 2018). This study adopted this operational definition.

### **2.8.6 Operational Definition of Moderating Variable**

The moderating variable under this study was audit committee; provide that a moderator variable is the one which influences the strength and/or the form of the relationship between independent (predictor) and dependent (criterion) variable/s (Hair Jr., Hult, Ringle, & Sarstedt, 2017; Sekaran & Bougie, 2016). Therefore, a test was done to find out if audit committee has a significant influence on the strength and/or direction of the relationship between independent variables and the dependent variable.

#### **2.8.6.1 Moderating Variable**

A moderating variable is defined as a third variable that modifies/affects direction and or strength of the original relationship between independent (exogenous) variable(s) and dependent (endogenous) variable (Baron & Kenny, 1986; Sekaran & Bougie, 2016).

#### **2.8.6.2 Moderator Effect**

Moderator effect is an effect which occurs when a moderator (an independent variable or construct) changes the strength or even the direction of the relationship between two constructs in the model (Hair Jr. et al., 2017).

## **2.9 Operational Definition of Dependent Variable**

The dependent variable in this study is IAF effectiveness. Cohen and Sayag (2010) tested three measures of IAF effectiveness as audit quality, auditees evaluation and added contributions of internal audit as a measure of effectiveness. Coetzee and Erasmus (2017) developed three variables of reliance placed by external auditors on internal audit works, implementation of IAF recommendations and stakeholder satisfaction, as a measure for internal audit function effectiveness. The two authors though use different measures can be summarized into three variables of, implementation of practical and cost-effective recommendations, stakeholders' satisfaction and internal audit work quality as a measure of internal audit effectiveness which were used in the current study.

### **2.9.1 Implementation of Recommendations**

This construct adapts an operational definition that is internal audit recommendations are constructive and relevant, easily implementable, strengthened internal controls and have significantly improved companies business operations (Coetzee & Erasmus, 2017).

### **2.9.2 Auditing Quality**

An operational definition of this construct was adopted from Cohen and Sayag (2010) that report of high professional quality, operations improvement, data for decision making and vital information.

### **2.9.3 Satisfaction by Stakeholders**

This construct operational definition is adapted from other authors that positive



evaluation by management, appreciated added value, meet expectations and improve auditees' performance by the IAF (Coetzee & Erasmus, 2017).

## **2.10 Chapter Summary**

This chapter provides an extensive literature review for the study of IAF effectiveness in DSE listed companies in Tanzania. Through the review of theories of agency, institutional and communication, a theoretical framework was developed that IAF is established to deal with conflict of interests, pressures from the society for quality information to resolve agency problem in order to improve corporate governance in the company. However, a summary of the empirical literature review is provided in Appendix II for more insights. Empirically, the literature reviewed showed that contextually, theoretically, methodologically and conceptually existence of gaps calling for research to test generated hypotheses with appropriate research methods.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Overview**

Research methodology is a strategy or plan of action that unites methods to the outcome of the research and systematically solves the research problem at hand (Creswell, 2009; Kothari, 2004). This part illustrated the steps the researcher went through to find answers to the research problem of the study. It answers the question of why, what, from where, when and how data is collected and analysed. Therefore, this part explained research philosophy, paradigm employed and area where the study was undertaken. It also described a type of research design, procedures used and justification of measurement variables employed in the study. As well showed how data were collected, processed and analysed. Lastly, it elucidated on how ethics considerations were observed in research to attain credible study.

#### **3.2 Research Philosophy**

Philosophy of this research rested on positivism. The researcher looked at the nature of observable reality (ontology), through collection and analysis of data to look for a causal relationship, to generate acceptable knowledge (Epistemology) about the study (Saunders, Lewis, & Thornhill, 2012). Similarly, it is argued that positivist follows a strategy of natural science where the researcher is external to the data collection and cannot influence final results as he has to meet rigorous validity and reliability tests in order for the research to be credible and replicable in another area or study of the same nature (ibid). The researcher collected quantifiable data through a questionnaire to test hypothesis in order to find out the determinants of IAFE.

Therefore, this research investigated determinants of IAFE of DSE listed companies in Tanzania.

### **3.3 Research Paradigm**

Saunders et al. (2012) asserted that paradigm is a particular way of looking at social events to gain knowledge about these events and provide an explanation. Bhattacharjee (2012) states that, if researchers view the world as consisting mostly of social order (ontology) and hence seek to study patterns of ordered events or behaviours, and believe that the best way to study such a world is using objective approach (epistemology) that is independent of the person conducting the observation or interpretation, such as by using data collection tools like surveys, then they are adopting a paradigm of functionalism. Hence the current study adopted functionalist/quantitative research paradigm. Saunders et al.(2012) posit that functionalist paradigm assumes organizations are rational entities which require rational explanations for solutions of rational problems in which this study stood on.

### **3.4 Research Approach**

Deductive research approach was employed in this study. Saunders et al. (2012) assert that a deductive approach you start with a theory developed from literature review and then you design a research strategy to test the theory. Equally, it is argued that deductive reasoning is a logical process of arriving at a conclusion about a phenomenon from a specific known general premise or something believed to be true (Zikmund, Barry, Carr, & Griffin, 2013). Therefore this study derived conclusion based on premises from agency theory, institutional theory and communication theory about what determines IAF effectiveness in listed companies

in Tanzania. Saunders et al. (2012) also provide several features of deductive research which fits well with the current study that; it explains causal relationship; operationalization of concept enables facts to be measured quantitatively and selection of satisfactory sample size for the study generalization.

### **3.5 Research Design**

Explanatory research design is applied in this study. Explanatory design look at causal relationship between variables (Saunders, Lewis, & Thornhill, 2016). The design was chosen for this study to match with structural equation modeling (SEM) where causal paths are involved and collective identification of strength of multiple variables in the model (Creswell & Creswell, 2018). This study collected quantitative data through a questionnaire survey to examine association between determinants of IAF effectiveness in DSE listed companies in Tanzania.

### **3.6 Research Strategy**

The research strategy is defined as a plan of action on how the researcher would go about to answer his/her research questions (Saunders et al., 2012). Choice of a research strategy depends on research objectives, questions, existing knowledge, time, available study and philosophical foundation of the study (Saunders et al., 2012). Research strategies may be experimental, survey, archival research, case study, ethnography, action research, mixed methods research, grounded theory and narrative inquiry (Saunders et al., 2012).

Across-sectional survey strategy was employed in this study. The cross-sectional survey was employed in this study due to its economical use, can approve/refute

theories, can be applied at a specific point in time, can include manifold of variables, can collect data of homogeneous and unidimensional items and can be generalized (Mbelwa & Lenatusi, 2019). Moreover, use of survey strategy to collect data through questionnaire can be easy to explain, understood and more importantly can be applied cheaply in a wide area of population with ease of comparison (Saunders et al., 2016). Data were collected through survey questionnaires administered to the respondents from DSE listed companies in Tanzania to test hypotheses on the determinants of IAF effectiveness.

### **3.7 Survey Population**

Survey population is the subjects from where the data was collected and normally include customers, employees, suppliers and distributors (Zikmund et al., 2013). In this study data was collected from top management, members of board of directors and audit committee from DSE listed companies to get their opinion on IAF effectiveness. The study survey population involved 216 individuals from DSE listed companies in Tanzania.

### **3.8 Area of the Research**

The areas of the study were the city of Dar es Salaam and Tanga. Dar Es Salaam city was chosen because most of the DSE listed companies in Tanzania are headquartered there. Tanga City was visited because of Tanga Cement company production site where top management team are found as referred to by their Dar es Salaam office. These two cities were chosen because most of relevant information was found and respondents were there.

### **3.9 Target Population**

Population is defined as an entire group of entities which share the same common characteristics (Chambers & Odar, 2015). Population is also simply defined as includes all members of a certain group (Tiemann, 2010). Therefore, target population is the population with relevant characteristics the researcher is looking for to include in data collection to accomplish his/her research objectives. Inclusion and exclusion criteria were applied for a company to be considered for selection in the target population (Kitchenham & Pfleeger, 2002).

Inclusion criteria are defined as relevant characteristics of the target population that the researchers will use to answer their research questions at hand while exclusion criteria are features of the potential study participants who qualify in inclusion criteria but have different unique features which can interfere with the study results or increase risk of an unfavourable outcome of the research from data collection (Bryman, 2012; Patino & Ferreira, 2018). The study used inclusion criteria of a listed and active company in Tanzania on DSE by December 31<sup>st</sup>, 2018 and had an IAF as inclusion criteria.

In December 31<sup>st</sup>, 2018 as per DSE website, there were 28 listed companies in Tanzania but one company, 'Uchumi' Supermarkets Limited was excluded as it was inactive on the bourse hence 27 listed companies were qualified as a target population. 'Uchumi' Supermarkets Limited business operations in Tanzania and Uganda were closed due to poor financial performance (Bananuka et al., 2017). However, it is advisable to survey the entire population if it is less than 50 (Kitchenham & Pfleeger, 2002). The approach was slightly different from a census

method used on effect of IAF and internal control system on public accountability which incorporated all 37 public Universities in Indonesia (Sari, Ghozali, & Achmad, 2017).

Target population from these companies were knowledgeable individuals who by virtue of their positions were able to provide pertinent and reliable information to assess IAF effectiveness at their companies (Sekaran & Bougie, 2016). Therefore, target population included; CEOs, Directors of Finance, member of BOD, member of AC, CIAs, Directors of Human Resource, Chief Accountants and Legal Officers of DSE listed companies in Tanzania. The rationale of selecting CEOs was that there were facilitators of day to day activities of IAF and where CIA report to administratively (IIA, 2015).

Directors of Finance, Directors of Human Resources, Chief Accountants and Legal Officers have close interaction with IAF as auditees. CIA was included in the target population because is the one to drive effectiveness of the IAF as head of the function to add value in the organization hence a key player in the study so as his/her inputs. Board of directors and Audit committee are where CIA reports functionally and also they approve employment and termination of CIA as prescribed by IIA (2015), therefore are pertinent respondents to the questionnaire. The researcher targeted eight (8) individuals from each of 27 listed companies in Tanzania which made a total population of 216 respondents.

### **3.10 Sampling Procedure**

Sampling is a selection of a subset of individuals from a population to estimate the

characteristics of the whole population (Singh & Masuku, 2014). Therefore, sampling procedure is the process involved in selecting items/individuals from the target population to fulfil research objectives. There are two major techniques of sampling that is probability and non-probability sampling. This study adopted non-probability sampling design (Zikmund et al., 2013). Judgmental sampling is type of non-probability sampling where items in the target population have known chance of selection.

Judgmental sampling procedure was deemed appropriate for this research as the purpose of the study was theory testing to explain determinants of IAFE and more so due to lack of sampling frame of the respondents (Bruwer, 2016; Memon, Ting, Ramayah, Chuah, & Cheah, 2017). Similarly, judgmental sampling is sufficient for testing effects of a proposed theoretical model for acknowledging extension on theory and concept contribution which is the overarching aim of this study (Hulland, Baumgartner, & Smith, 2018). Moreover, Judgmental sampling is useful where the research intention is to include all knowledgeable people in a wide cross-section to ensure valuable data is obtained which to some extent emulate a representative sample in probability sampling (Denscombe, 2010).

The study applied purposive-judgmental (expert opinion) sampling technique to draw individuals knowledgeable on the topic from listed companies in Tanzania. The judgmental sampling technique was chosen because of the experience of the researcher about individuals knowledgeable and capable of assessing IAF effectiveness in these companies. The unity of analysis was respondent's opinion. The rationale of selecting these listed companies on the DSE Stock Exchange was



that they are required to have audit committee in place along with IAF as enshrined in the guidelines of corporate governance practice by listed public limited companies in Tanzania (URT, 1994).

### 3.11 Sample Size Determination

Sample size is defined as a subset of individuals from the target population where the information will be elicited (Kumar, 2011). It is argued that sample size less than 30 cases have a serious effect on normality but diminishes with larger sample size (Hair Jr., Black, Babin, & Anderson, 2010). The sample size was arrived at based on a statistical formula. Sample size hinges on the level of precision, the level of confidence, degree of variability, desired power, alpha level, number of independent variables and effects size expected (Israel, 1992; Tabachnick & Fidell, 2007).

According to Cochran (1977), sample size determination for continuous data with Likert type scale is provided by the following formula as cited in Barlett, Kotrlik, & Higgins, ( 2001):-

$$n = \frac{([t])^2 * (s)^2}{(d)^2}$$

*Where*

“n” is the sample size,

“t” is 5% or 0.05 selected alpha level divided by 2 to arrive at 0.025 for each tail which is 1.96 critical ratio.

“s” =1.25 which is the standard deviation for the sample using 5-point Likert type scale, calculated by dividing 5 points (including all ranges in the scale) by 4 (number of standard deviations).

“d” = 0.20 is an acceptable margin of error being estimated (being arrived at, by taking the margin of error for this study assumed to be 4% multiply by 5-point Likert type scale).

The formula returned a sample size of 150 respondents. However, normally researchers increase the sample size by 40% -50% to cover for lost questionnaires, uncooperative and untraced respondents especially when participation is voluntary and anonymous, and also data collection is done by a way of self administered survey questionnaire (Ahmad & Halim, 2017). In that regard, addition of 40% of the calculated sample size of 150 sums up to an absolute sample of 210 individuals. Therefore, 210 individuals sampled from the target population was the sample size for the study.

### **3.12 Data Collection Methods**

Data collection method for this study was survey questionnaires. The questionnaires were administered to the respondents to collect primary data for hypothesis testing. The closed-ended questionnaires were found to be suitable for this study since they are economical, can attract many respondents to collect uniform information, attain ethical consideration of anonymity and confidentiality and are easier for data analysis (Sekaran & Bougie, 2016).

#### **3.12.1 Primary data**

These are data collected for the first time by the researcher for analysis (Bhattacharjee, 2012). These were responses collected through administered

questionnaire survey to the respondents personally and collect later or through emails as per respondent's choice in reply with responded questionnaire attachment.

### **3.12.2 Data Source**

Primary information was obtained from questionnaires gathered through survey from respondents of DSE listed companies in Tanzania. The listed companies DSE was chosen because they are all public companies with many shareholders and required to establish an effective IAF. Therefore, it was appropriate for the listed companies to provide data to fulfill the objective of the study.

### **3.13 Research Instruments**

Research instruments were developed basing on the objective of the study, theoretical and empirical reviews to fit SEM analysis. The questionnaire measurement items were adapted from other scholars in the field of IAF.

#### **3.13.1 Survey Questionnaires**

Questionnaire is a research instrument consisting of all methods of data collection where each respondent is asked to respond to the same set of questions in a manner to get their information for statistical analysis (Bhattacharjee, 2012; Saunders et al., 2012). A structured questionnaire was pre-tested by a group of expert for correctness, understandability and easy to answer to capture information pertinent to the research problem to attain reliability and validity of the scale. Variables were measured on continuous scale because indicators were linearly modeled with their respective latent variables for quantitative data analysis in SEM (Flora, LaBrish, &

Chalmers, 2012).

It is argued that a Likert type scale is considered as a suitable continuous variable rating scale for quantitative data analysis (Field, 2018). The variables were measured on a 5-point Likert-type rating scale. The Likert scale was developed by Rensis Likert for attitudinal measure of intensity of feelings of respondents about the researched issue (Zikmund et al., 2013). A Likert scale is a multiple indicator or multiple item measures of several attitudes relating to the area of research (Bryman, 2012). This study used multiple items to measure IAF effectiveness of listed companies in Tanzania.

The 5-point Likert type scale ranges from “1” for strongly disagree to “5” for strongly agree. The 5 points Likert-type scale was chosen for this study besides of 4 points Likert scale because of its advantage of efficacy in discriminant power, one-dimensional and high reliability and validity of questionnaire instruments (Croasmun & Ostrom, 2011). Similarly, Likert –type scale method was chosen as it assumes equal weights to all items, therefore, respondents’ responses to each item can be summated together to create a composite score for the same respondent (Saunders et al., 2012).

Analysis of the Likert type scale was that, if the aggregated mean score approaches “5” it means a positive feeling that they agreed with the statement otherwise a score of “1” means a strong negative perception that the respondents disagree with the item. Equally, Likert type scale generates an interval scale due to its equidistance

suitable for quantitative analysis (Mihret, 2010). A closed-ended questionnaire was administered to the respondents by the researcher in their place of work but others delivered through emails as desired by the respondents.

### **3.14 Measurement of Variables**

Measurement scale for this study is an interval scale through a five-point Likert type scale. This scale was compatible with the level of analysis, measurement model and conceptual framework of the study. Since validity and reliability was the driving force for credible results, the scales were formulated to suit SEM analysis and research objectives. Evaluation of research instruments is very important with a goal to reduce measurement error and to ensure validity and reliability of the questionnaires (Hair, Ringle, & Sarstedt, 2011; Smith, 2003). A good measure should be both accurate and consistent which means that it should attain validity and reliability (Zikmund et al., 2013).

Measurements of these variables were on multiple items and administered through questionnaires to the internal auditors and other stakeholders in DSE listed companies in Tanzania. It was the perception of internal auditors and other stakeholders as drivers and measures respectively for internal audit effectiveness (Coetzee & Erasmus, 2017; Cohen & Sayag, 2010), on a 5-point Likert scale type. To ensure high convergence and discriminant validity, constructs and items used were tested in previous studies as provided in the measurement model in Table 3.1.

**Table 3.1: Constructs of the Measurement Model**

Variable	Construct	Code	Indicator	Scale	Reference/s
Dependent	Internal Audit Function Effectiveness (IAFE)	IAFE_1	IAF recommendations are constructive and relevant	Interval (5-point scale)	Mustika (2015) (Barišić and Tušek 2016), Chevers, Lawrence et al. (2016) Cohan and Sayag (2010) Alzeban & Gwilliam(2014)  Coetzee& Erasmus 2017
		IAFE_2	IAF recommendations are easily implementable		
		IAFE_3	IAF recommendations improve internal controls of the company		
		IAFE_4	IAF provides quality reports for company operations.		
		IAFE_5	IAF objectives always focus on testing high risk areas.		
		IAFE_6	Management is satisfied with the contributions of IAF.		
		IAFE_7	Board of Directors satisfied with the added value of IAF.		
		IAFE_8	IAF contributions meet my expectations.		
Independent	Organizational Independence	OI_1	Head of IAF has a functional reporting to the Audit Committee.	Interval (5-point scale)	Endaya and Hanefah(2016) Cohan and Sayag (2010)Barišić and Tušek 2016) Mustika(2015)Chevers, Lawrence et al. (2016), Alzeban & Gwilliam (2014)
		OI_2	Internal auditors have free access to the employees, records and information systems.		
		OI_3	Board of directors appoint and remove Head of IAF.		
		OI_3	IAF is autonomous as it can audit any area in the company.		
	Top Management support	TMS_1	Top management considers IAF as a valuable unit in the company	Interval (5-point scale)	Endaya and Hanefah (2016) Cohan and Sayag(2010),Barišić and Tušek 2016),Chevers, Lawrence et al. (2016),Alzeban & Gwilliam (2014)
		TMS_2	Top management ensures IAF findings and recommendations are implemented		
		TMS_3	Top management provides input into IAF annual plans		
		TMS_4	Top management support IAF with resources for training and development		

Variable	Construct	Code	Indicator	Scale	Reference/s
	Communication skills	EC_1	Internal audit reports are understandable easily	Interval (5-point scale)	Endaya and Hanefah (2016)Barišić and Tušek (2016), Dejnaronk,Little Mujtaba & MCcellan(2016)
		EC_2	Internal auditors collaborate with technical expert from other departments		
		EC_3	Internal audit reports focus on strategic objectives of the company		
		EC_4	Head of IAF interact regularly with the top management		
	Professional proficiency	PP_1	Professional qualifications	Interval (5-point scale)	Endaya and Hanefah(2016), Cohan and Sayag (2010) Mustika(2015), Chevers, Lawrence et al. (2016)
		PP_2	International professional standards		
		PP_3	Internal auditors exhibit technical competence and proficiency while auditing		
		PP_4	Internal auditors have adequate knowledge of the business operations		
	Audit committee	ACE_1	At least one AC member is an expert in accounting and auditing	Interval (5-point scale)	Endaya and Hanefah (2016)(Koulouris et al., 2019),. Alzeban&Sawan 2015
		ACE_2	Independent members		
		ACE_3	AC meetings are conducted quarterly		
		ACE_4	AC members are familiar with the company business operations		

**Source:** Literature Review, (2019).

### **3.15 Data Analysis**

After questionnaires were collected from the respondents, they were coded then entered into IBM SPSS version 22 and Smart PLS-SEM version 3.2.9 developed by Ringle, Wende and Becker (2015). Thereafter, descriptive and inferential analyses were carried out.

#### **3.15.1 Descriptive Data Analysis**

The descriptive statistics are always done to get an accurate profile of respondents involved with questionnaire data collection (Saunders et al., 2016). The data were analysed to profile respondents' characteristics through percentages and frequencies in IBM SPSS version 22. The respondents were also classified in terms of age, sex, level of education, profession, designation, the company they work for and experience to get feeling that data provided were credible. Similarly, descriptive data analysis provides the extent of which latent variables were measured by their respective observed variables and how they influenced the dependent variable. The descriptive data analysis also help to know if the scale used make sense in terms of mean, number of respondents and standard deviation to elicit answers to the research questions to facilitate discussion of the study findings (Pallant, 2011).

#### **3.15.2 Inferential Data Analysis**

Inferential data analysis is used for testing hypothesis for the causal effect of independent variables on dependent variables to prove/disapprove supporting theories of the research. It is pointed out that, inference statistics analysis tell us where two variables are associated or not and level of significance to accept or reject hypothesised model (Kumar, 2011). In the study hypothesis testing and examination



for statistical level of significance was done through structural equation modelling (SEM).

SEM is a 2<sup>nd</sup> generation multivariate technique which combines the aspects of factor analysis and multiple regression to enable the researcher to simultaneously look at a series of interrelated dependence relationship among the measured variables and latent constructs as well as between several latent constructs (Gaskin, 2016; Hair Jr. et al., 2010; Tabachnick & Fidell, 2007). SEM has an advantage over other conventional regression analysis as it has the possibility of controlling for random and non-random measurement errors even if there is multicollinearity (Steinmetz, Davidov, & Schmidt, 2011).

SEM has made it possible to include an interaction term in the analysis and being able to measure its effects and interaction effects in the model on other variables (Schumacker & Lomax, 2010). SEM is suitable for this study as there were several latent (unobserved) variables/constructs which could not be measured directly but through indicators/manifest/observable variables only (Hair Jr. et al., 2010). There are two types of SEM; Covariance based SEM (CB-SEM) and Partial Least square SEM or commonly known as Variance based SEM (VB-SEM). These two types of SEM are termed as second generation (2G) statistical techniques differentiating them from the first generation(1G) that is regression and correlation analysis (Lowry & Gaskin, 2014).

The point of departure of the two SEM is that CB-SEM has stringent requirements for achievement of multivariate assumption that data must be normally distributed,

minimum of three indicators per construct and maximum of ten indicators per construct and larger sample size, higher than 100 (Awang, 2015; Hair Jr. et al., 2010). While VB-SEM (PLS-SEM) has no such stringent requirements as it works well with small sample size even less than 100 observations, non-normal data and even a single indicator and no maximum number of indicators per construct (HairJr, Sarstedt, Hopkins, & Kuppelwieser, 2014; Rigdon, 2016).

On the other hand, CB-SEM provides poor results for measurement model but significant relationship in the structural model while PLS-SEM offers satisfactory results in the measurement model but insignificant relationship in the structural model (Hair, Hult, Ringle, Sarstedt, & Thiele, 2017). Similarly, PLS-SEM is an extension to least squares algorithm which combine principal component and canonical correlation analysis (Henseler, Hubona, & Ray, 2016). Likewise, PLS-SEM is like using multiple linear regression analysis where its primary objective is to maximize explained variance of the dependent variable and evaluate quality of the measurement model characteristics (Hair et al., 2011). In addition reference of PLS-SEM over other statistical techniques relies on its power to concurrently estimate manifold and interrelated dependent association between variables and measurement of latent variables as applied in this research (Rouf & Akhtaruddin, 2018). In the same vein Shmueli, Ray, Velasquez Estrada and Chatla (2016) postulate that PLS-SEM provides a diagnostic capability of testing and informing on theory in causal models.

To recap, the reasons for applying PLS-SEM for this study was as delineated hereunder.

- i. Small population restricted to small sample size;
- ii. Non-normal data distribution, data were skewed;
- iii. Model complexity, which measured latent variables reflectively and inclusion of moderation term.
- iv. The research was explanatory of dependent (endogenous) latent variables by independent (exogenous) latent variables for theory testing, for identifying key driver constructs.

The above criteria were some of the requirements for applying PLS-SEM as a causal statistical model as prescribed by different authors (Hair, Risher, Sarstedt, & Ringle, 2019). Interestingly, PLS-SEM method works well on integration of multiple theories which suit the current study choice as three theories were used in combination (Olya, 2017). Equally important Lowry and Gaskin (2014) argued in favour of the use of PLS-SEM for confirmatory theory analysis so did for the current study.

Furthermore, PLS-SEM testing on model fit depends on bootstrapping to determine the possibility of obtaining a discrepancy between the empirical and the model implied correlation matrix (Henseler et al., 2016). Bootstrap is a non-parametric technique where samples are taken from modified samples which entail orthogonalization of all variables and subsequent imposition of the model implied correlation matrix (Henseler et al., 2016).

Hence bootstrap resampling is drawn for testing significance of parameters in PLS-SEM models (Hair Jr. et al., 2017). The study used non-parametric complete

bootstrap at 5,000 subsamples, bias corrected and accelerated (Bca), no sign change at two tailed 0.05. Hypothesis testing was that when path critical value was above 1.96 for a p-value equal to or less than 0.05 it is concluded that the parameter was statistically significant different from zero.

### **3.16 PLS-SEM Path Models**

PLS-SEM path model is divided into two model forms, measurement model which relate indicators to their respective latent variable and structural model which relates latent variables against another latent variable (Henseler et al., 2016; Tenenhaus, Vinzi, Chatelin, & Lauro, 2005). The PLS-SEM was run in two steps, measurement model (outer model) for confirmatory composite analysis of quality criterion of variables and structural model (inner model) for path coefficient of latent variables and causal relationship for hypothesis testing (Hair et al., 2019).

#### **3.16.1 Measurement Model**

A measurement model was based on measurement theory where latent variables can be measured reflectively and/or formatively (Sarstedt, Ringle, & Hair, 2017a). A model is measured reflectively if arrows point outward from the latent variable to the indicators (Vinzi, Chin, Henseler, & Wang, 2010). While for formative models, arrows point inward from indicators to the latent variable and indicators are not correlated to measure the same underlying phenomena as the latent variable is caused by the assigned indicator (Hair, Ringle, & Sarstedt, 2013). This study applied reflective measurement model because of homogeneity and unidimensionality of the indicators (Bhattacharjee, 2012; Vinzi et al., 2010).

Among other reasons for use of reflective model are; latent variables give rise to the indicators to minimise complications of sample size and multicollinearity of each block of indicators (Chinn, 1998). The reflective model also aimed at explanation/prediction of indicators by the latent variable to minimise residual variances; and reflective indicators measure the same underlining phenomena/construct as indicators covary because changes in one indicator lead to changes in others in the same block (Chinn, 1998).

A reflective measurement model was developed basing on theories, literature review and empirical studies from different researchers. Measurement model is a confirmatory model which defines relationship between scores on measurement instrument/indicators and underlying constructs they designed to measure. It discovers the reliability and validity in relation to the latent variables. The first criteria to be confirmed with real data were construct reliability, validity and indicator reliability (Hair Jr. et al., 2017). It is claimed that measurement model should be tested for confirmatory composite analysis (CCA) for the attainment of quality criteria (Hair Jr., Howard, & Nitzl, 2020). The test was conducted as follows:-

#### **3.16.1.1 Indicator Reliability**

Reliability is a condition for validity hence indicator reliability was first checked to ensure indicators measures in common their respective latent construct (Wong 2016). Indicator reliability is measured by the outer loadings of the latent variables in the model (HairJr et al., 2014). Indicator loading of at least 0.50 is adequate for latent variable measurement (Hair Jr. et al., 2017; Hair Jr, Black, Babin, &

Anderson, 2014). However, since established items were used in the study, indicator loadings should be higher than 0.60 (Awang, 2015). In similar vein, Chinn,(1998) recommend that indicator load of 0.60 are acceptable if there are other indicators in the same block of latent variables for comparison basis. However, Chinn, (1998); Hair Jr. et al., (2017) recommended that indicator loading between 0.04- 0.70 should be removed from the model only if it increases composite reliability and convergence validity. Hattie (1985) stressed the importance of achievement of unidimensional in that, “a set of variables forming an instrument all measure just one thing in common is a critical and basic assumption of measurement theory” as cited in (Awang, 2014)

### **3.16.1.2 Reliability**

Reliability refers to the consistency of research instruments that when applied repeatedly in another research, the measure will achieve similar results in a similar situation (Juichareern, 2010). Reliability of scale is also construed as how a scale is free from contamination by random errors (Pallant, 2011). In addition, internal consistency reliability is a measure of reliability which shows the consistency of correlation of items within the same construct (Bhattacharjee, 2012). Cronbach's Alpha coefficient is a traditional measure of reliability or internal consistency (homogeneity and one-dimensional) of items in a questionnaire survey (HairJr et al., 2014).

However, Hair Jr et al. (2014) discredit Cronbach Alpha ( $\alpha$ ) as a measure of reliability in the sense that it underestimates the value of internal consistency as it is sensitive to the number of items in the measurement scale and it assumes that all

indicator loadings are alike in the entire block which is fallacious. They proposed composite reliability instead to overcome the noted drawbacks of Cronbach Alpha ( $\alpha$ ). It is also claimed that composite reliability measures degree of homogeneity of questionnaire items (Ninsiima, 2019). It is recommended that composite reliability evaluation of scale scores are linearly combined with composite measures (Nunnally & Bernstein, 1994). It is further argued that Cronbach Alpha gives a lower bound of estimates of reliability (Vinzi et al., 2010). Therefore, this study used composite reliability to measure internal consistency of the questionnaire scale items. Vinzi et al. (2010) provided a cut-off of 0.70 or higher composite reliability (CR) measure for reflective models. It is claimed that composite reliability ranges from 0.70 to 0.90 as satisfactory for confirmatory measurement model (Vinzi et al., 2010; Hair Jr. et al. 2017). However, composite reliability above 0.95 is considered undesirable as it shows that all indicator variables are measuring the same thing hence not a valid measure of the construct (Hair Jr. et al. (2017). In a similar vein, composite reliability below 0.60 shows the lack of construct reliability (Hair Jr. et al. (2017).

### **3.16.1.3 Validity**

Validity refers to whether the research instrument measure what it is supposed to measure to arrive at the expected outcome of the research (Smith, 2003). There are face validity, content validity, construct validity, convergent validity and discriminant validity (Pallant, 2011).

### **3.16.1.4 Face Validity**

Face validity is a test of whether an indicator appears to be a reasonable measure of its respective unobservable construct (Bhattacharjee, 2012). Confirmation of face

validity was done through expert discussion with 6 CIAs and some of the university academicians who agreed that indicators used in the questionnaire were appropriately measured their underlying latent variables.

#### **3.16.1.5 Content Validity**

Content validity refers to the adequacy with which a measure or scale has sampled from intended universe or content domain (Tabachnick & Fidell, 2007). It is also a measure of how well a set of scale items matches with the pertinent content domain of the unobservable construct that it is attempting to measure (Bhattacharjee, 2012). The questionnaires were pre-tested and reviewed by a subject expert to ensure obvious problems were removed before administered to the general respondents for answers to attain survey objectives. The questionnaire instruments were reviewed by subject experts and 6 chief internal auditors who confirmed the contents reliability.

Thereafter, Pilot study was conducted to test validity and reliability of items relative to the research problem before questionnaires were distributed to the respondents to collect their responses. The questionnaires were piloted to the Directors of Finance, Directors of Human Resources, Chief Internal Auditors and Audit Committee members of different institutions to get their responses before administered to the target population. The pilot study reliability score was Cranach alpha above 0.60 which was adequate to distribute the questionnaires to the respondents. Fink (2003) provides that 10 questionnaires as a minimum number for a pilot study to test for reliability and validity before administering them for data collection for the real study as cited by Saunders et al.(2012).



### **3.16.1.6 Construct Validity**

Construct validity consists of testing a scale not against a single criterion but in terms of theoretically derived hypotheses about the nature of the underlying variable or construct (Pallant, 2011). The construct validity was explored by investigating its relationship with other constructs, both related, convergent validity and unrelated, discriminant validity (Pallant, 2011).

### **3.16.1.7 Convergent Validity**

Convergent validity shows the extent to which indicators belonging to one latent variable really measure the same construct (Benitez, Henseler, Castillo, & Schubert, 2019). Average Variance Extracted (AVE) is suggested as a measure of convergent validity (Fornell & Larcker, 1981). AVE measures on average, amount of variance a latent variable captures from its indicator variables relative to the amount due to measurement error (Chinn, 1998). AVE is a grand mean value, the same as communality of a construct, is computed as a sum of squared loadings of latent variable indicators divide by the number of indicators in that construct (Hair et al 2017). AVE measured convergent validity and an empirical evidence score of 0.50 or higher confirms attainment of convergent validity of the variables in the scale (Hair Jr. et al., 2017). Therefore, an AVE of minimum of 0.50 indicates that the construct explains 50% of variance more than error variance (Hair et al 2014).

### **3.16.1.8 Discriminant Validity**

Discriminant validity shows a latent construct is unique and uncorrelated with other constructs in the model (Gaskin, 2016). It also shows the degree to which a measure

does not measure other constructs that it is not theoretically related to measure (Bhattacharjee, 2012). It is similarly argued that discriminant validity test should show that constructs measurement are not overlapping to each other and are not measuring the same thing to cause a problem of multicollinearity (Hamid, Sami, & Sidek, 2017). The measurement model was assessed by both traditional criteria of Fornell-Larker, Cross-loadings and latest criterion of Heterotrait-monotrait (HTMT) ratio of correlations (Ali, Ali, Badghish, & Baazeem, 2018; Hair Jr. et al., 2017).

#### **3.16.1.9 Fornell-Larcker Criterion**

The Fornelli and Lancker criteria make a comparison of the square root of the AVE values in the diagonal with the latent variable correlations (Sarstedt, Ringle, & Hair, 2017b). It is argued that for the achievement of Fornelli and Lancker criteria, the diagonal values of a construct should be higher than values in its column and row (Anderson & Gerbing, 1988; HairJr et al., 2014).

#### **3.16.1.10 Cross-loading Test Criterion**

Cross-loading is another procedure for measuring discriminant validity (Garson, 2016). It is established that cross-loading is run to make sure that no indicator is mistakenly assigned to a wrong construct in the measurement model (Henseler et al., 2016). Similarly, it is posited that each block of indicators should load higher with its latent variable than indicators for other constructs (Chinn, 1998).

#### **3.16.1.11 Heterotrait-Monotrait Ratio of Correlation (HTMT) Test Criterion**

Heterotrait-Monotrait ratio of correlation (HTMT) is the most stringent measure of discriminant validity. HTMT is construed as an estimate of true correlation between

two constructs if were perfectly measured (Hair Jr. et al., 2017). HTMT criterion is also defined as the mean value of the indicator correlations across constructs which is the heterotrait –hetero method correlation in relation to (geometric mean) correlations of indicators measuring the same construct (Sarstedt et al., 2017b). It is suggested that traditional methods that are Fornell & Larker and cross-loading are not robust to detect discriminant validity problem in variance based structural Equation Modeling (Henseler, Ringle, & Sarstedt, 2014).

It is also provided that, two constructs are clearly distinct from one another if value of HTMT ratio is less than one ( $<1$ ) (Alarcón & Sánchez, 2015; Hair et al., 2019; Olya, 2017). Simultaneously, it is argued that exact cut-off of HTMT ratio of correlation is debatable as some proposed cut-off of 0.90 (Teo et al 2008) and others like Kline(2011) set the value at 0.85 (Voorhees, Brady, Calantone, & Ramirez, 2016). Therefore this study established that discriminant validity violation is singled out when HTMT ratio exceeds one ( $HTMT > 1$ ) (Alazzabi, Mustafa, & Karage, 2020).

#### **3.16.1.12 Common Method Bias Assessment**

Common method bias refers to how amount of spurious covariance shared between independent and dependent variables that are measured at the same point in time (Bhattacharjee, 2012). It is argued that data collected from same source (self-report) share common method bias hence inflate/deflate observed correlation (Cohen & Sayag, 2010; Spector, Rosen, Richardson, Williams, & Johnson, 2019). In addition, it is argued that standard convergent and discriminant validity assessment may fail to detect multicollinearity in the model for overlapping measurement items (Kock,

2015).

It is proposed that to detect the error, full colinearity test should be done comprehensively and simultaneously for assessment of lateral and vertical collinearity by VIF to check the model for presence of common method bias (Kock, 2017). Therefore, full collinearity test for common method bias for composite based PLS-SEM algorithm, threshold set is equal to or below 3.3 of VIF (Kock, 2015). It is proposed also that VIF less than 5 show minor common method bias which is acceptable by many scholars (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Common method bias cause path coefficient inflation/deflation between the constructs to lead to measurement errors like type I errors (false positives) or type II errors (false negatives) (Kock, 2017; MacKenzie & Podsakoff, 2012).

### **3.16.2 Assessment of the Structural Model**

After the measurement model (outer model) achieved global quality criteria for construct validity and reliability, assessment of the structure (inner ) model was conducted (Fornell & Larcker, 1981; Henseler et al., 2016). The structural model is the path model which relates independent variables to dependent variables (Rahman, Shah, & Rasli, 2015). It is provided that a structural model in SEM context is the complete model, stipulating both the constructs with their indicators and the causal relationship between the construct (Greenland, 2012). In this instance, the theories, literature review and other research guidelines of prior research were used to address structural model to determine which independent variables predict the dependent variable. The structural model developed for the study based on three theories of agency, institutional and communication.

A structural model evaluation involved looking at the hypothesized relationship between independent latent variables and dependent latent variables for impact analysis to test the hypotheses of the study (Hair et al., 2011). Structural model was evaluated for correlation of latent variables and predictive relevance. This involved, coefficient of determination ( $R^2$ ), path coefficient ( $\beta$  -Values), effect size ( $f^2$ ), T-statistics, P-values, Goodness of fit, and predictive relevance of the model (Q2). The structural model was first estimated and evaluated for the main effect in PLS-SEM path model and subsequently introduction of moderator analysis to avoid error of mixing main effect of the variables and simple effect generated by moderator effect (Hair, Ringle, & Sarstedt, 2013). However, before assessment of structural model, test for multicollinearity between exogenous latent variables was important to ensure that regression results were reliable to ascertain their interrelationship (Hair et al., 2019).

#### **3.16.2.1 Multicollinearity Assessment**

The structural model was first tested for multicollinearity of the latent variables and VIF value of equal to or less than 5 confirm lack of multicollinearity (Hair Jr. et al., 2017; Kwong-Kay Wong, 2016). However, Hair et al. (2019) recommended being cautious when multicollinearity test between predictor (independent) variables value of VIF is above 3.

#### **3.16.2.2 Measuring the Value of $R^2$**

$R^2$  assesses goodness-of-fit of the ordinary least square (OLS) regression, implying that how the model fits the data (Wooldridge, 2016). Since PLS-SEM works on OLS,  $R^2$  interpretation is the same as traditional regression explanations (Chinn,

1998).  $R^2$  measured how the exogenous (independent) latent variables explain the endogenous (dependent) variable in the structure model therefore it shows effect size and predictive accuracy of the causal inner model. Therefore,  $R^2$  is a measure of explanatory power of the model (Sarstedt et al., 2017a).  $R^2$  ranges from 0 to 1, with higher value represent accuracy of predictive accuracy. Chinn (1998) provides that obtained  $R^2$  coefficient of endogenous variable in the structure model of 0.67, 0.33 or 0.19 are considered as substantial, moderate or weak respectively.

### **3.16.2.3 Evaluation of Path Coefficient ( $\beta$ –Values)**

The structural model produces path coefficient ( $\beta$ ) of each independent variable in the inner model. The path coefficient of the model is equivalent to the multiple regression beta values which shows a change of dependent variable as a result of a unit change of an independent variable keeping other variables constant to zero (Sarstedt, Hair, Ringle, Thiele, & Gudergan, 2016). Path coefficient helps to test the hypothesized model of the study. The test of the hypotheses was assessed regarding strength, direction and level of significance of the coefficients of every latent variable in the inner model.

Assessment of the level of significance of path coefficient was tested through bootstrapping to find the level of precision of PLS-SEM estimates (Chinn, 1998). A complete bootstrapping with 5,000 subsamples, was done in Smart PLS-SEM, bias correlated, with scores, no sign change and two tailed test at 0.05 level of significant (Hair et al., 2011; Henseler et al., 2016). A criterion for hypothesis support was that path coefficient must be positive with p-values equal to or less than 0.05 and critical value with a higher than or equal to 1.96 (HairJr, Hult, Ringle, & Sarsdtedt, 2013).

#### **3.16.2.4 Evaluation of Moderation effect of Audit Committee**

The structural model was tested for moderation effect of audit committee on the determinants of internal audit function effectiveness to assess if there was any effect. A moderating term between the moderator, audit committee and organization independence, communication skills, professional proficiency, top management support and internal audit function effectiveness were created in Smart PLS-SEM. According to Two-stage moderation, procedure is found to be effective for testing models with small samples (Becker, Ringle, & Sarstedt, 2018; Henseler & Sarstedt, 2013).

Equally, a two-stage approach is preferable when research objective is to determine if or not the moderator shows a significant effect on the hypothesized relationship (Hair Jr. et al., 2017). It is also universally usable whether the moderator variable and /or exogenous variables are measured formatively or reflectively (Hair Jr. et al., 2017). For a better moderation effect test, bootstrapping at 5,000 with no sign changes should be done to limit biasness of concluding there is significant moderation while in fact there was none (Hair Jr. et al., 2017).

Hair Jr. et al. ( 2017) provide that moderation term may be complete or partial. A complete moderation effect occurs when moderated independent latent variable had no statistically significant impact on dependent variable in the main effect before inclusion of the moderator variable (interaction effect). Similarly, partial moderating effect occurs when the independent variable had statistically significant effect on dependent variable but its moderation effect is statistically significant too (Hair Jr. et al., 2017).

### **3.16.2.5 Evaluation of the Effect Size ( $f^2$ ) of the Model**

It is argued that basing on significant of path coefficient through t-statistics and p-values is not complete as interpretation of data have to explain effect scores ( $f^2$ ) of an independent variable on the dependent variable (Shaiti & Al-matari, 2020). The  $f^2$  indicates the degree of impact of each exogenous variable on the endogenous variable in the structural model. It shows that the changes of  $R^2$  value as a result of deletion or removal of an independent variable from the path model and its level of significant influence of the removal of the independent variable on the value of the dependent variable. It is provided that  $f^2$  value of 0.02, 0.15 or 0.35 depict weak, moderate and strong effect size respectively (Cohen, 1988).

### **3.16.2.6 Evaluation of the Moderation Effect Size**

The main purpose of including moderator in the model is to check if there was an impactful and meaningful effect on the relationship between independent variables and dependent variable. It is provided that a standard benchmark of 0.005, 0.01 and 0.025 as small, medium and large moderation effect respectively (Kenny, 2018).

### **3.16.2.7 Evaluation of Goodness -of -Fit Index**

A Goodness of fit (GOF) index is developed to provide an overall single index for measurement of both measurement model and structural model hence overall prediction performance of the model (Vinzi et al., 2010). The goodness of fit index represents a geometric mean of the average communality/AVE and average  $R^2$  (Tenenhaus et al., 2005) which is given by the following formula:-

$$\text{GOF} = \sqrt{\text{Average AVE} * \text{Average } R^2}$$



It is construed that as the above formula partly based on average AVE, the GOF index is considered appropriate for reflective measurement models as the case for this study (Vinzi et al., 2010). The GOF index gives a global validation of PLS path model that it gives a complete model fit that the model suitably explains the empirical data (Vinzi et al., 2010). GOF varies between 0 and 1, where 0.10, 0.25 and 0.36 representing small, medium and large GOF respectively (Hussain, Fangwei, Siddiqi, Ali, & Shabbir, 2018).

#### **3.16.2.8 Evaluation of Predictive Relevance ( $Q^2$ ) of the Structural Model**

An evaluation of the stone-Geissers predictive relevance ( $Q^2$ ) is essential to check if data points of indicators of endogenous construct in the reflective measurement model is correctly predicted (Kwong & Wong, 2013).  $Q^2$  is produced in Smart PLS through blindfolding procedures (Kwong & Wong, 2013). Blindfolding is a procedure where part of data points are omitted from a particular block during parameter estimation and subsequently attempts to estimates the omitted data using estimated parameters. It is provided that  $Q^2 > 0$  indicates the model has predictive relevant otherwise  $Q^2 < 0$  shows lack of predictive relevance (Chinn, 1998). The extent of magnitude is provided by the rule of a thumb that  $Q^2$  in the range of 0, 0.25 and 0.50 depicts small, median and large predictive relevance of PLS path model respectively (Hair et al., 2019).

#### **3.17 Regression Equation**

Since PLS path model coefficients are similar to beta values of multiple regressions, a regression equation can be formulated. Regression model for the study which was tested to explain relationship among the factors was as expressed in the equation

below;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 (X_1 * X_5) + \beta_7 (X_2 * X_5) + \beta_8 (X_3 * X_5) + \beta_9 (X_4 * X_5) + \epsilon$$

Where  $Y$  = Internal audit function effectiveness (dependent variable)

$\beta_0$  = (Intercept) constant performance of internal audit irrespective of independent variables and error (disturbance) term, it gives the effect on  $Y$  when all the other variables are excluded from the model.

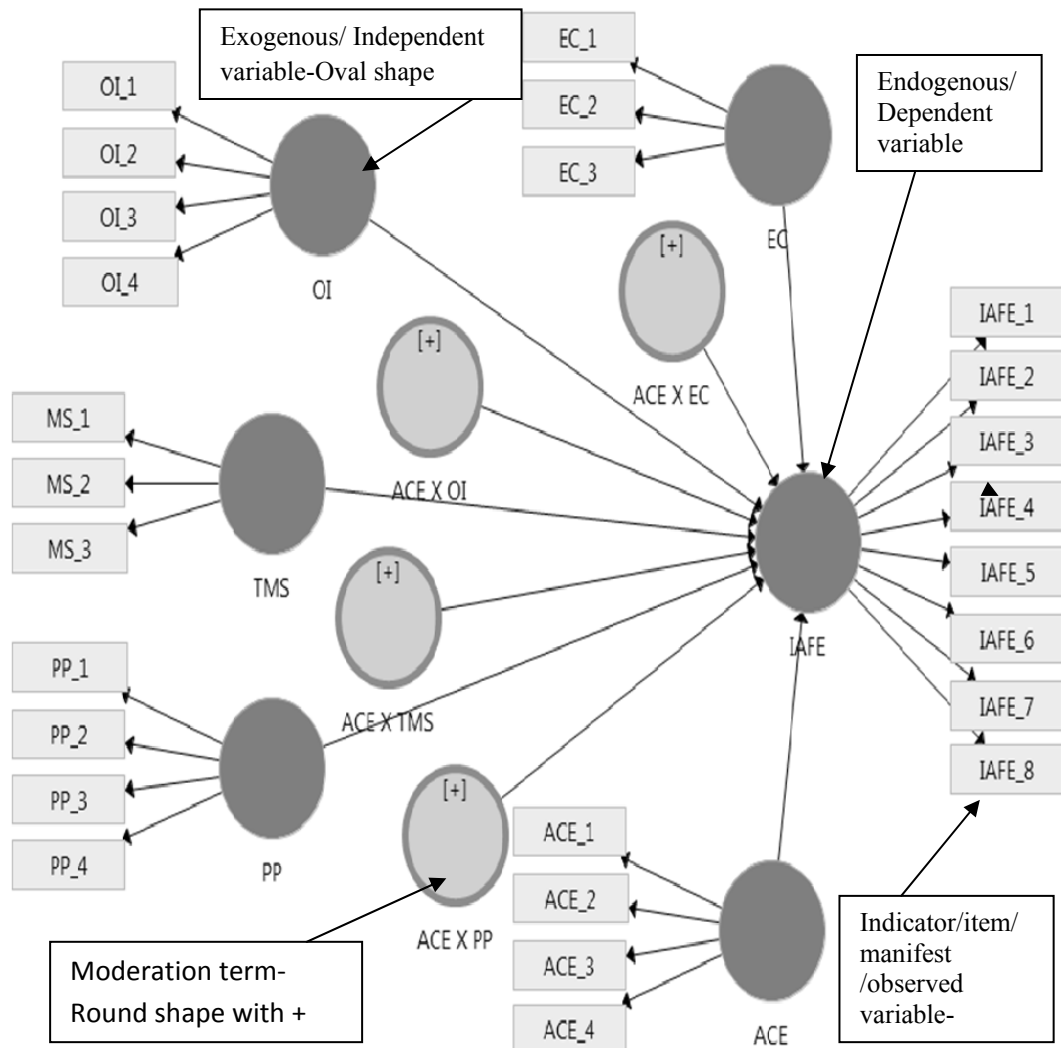
$\beta_1 - \beta_5$ , denotes a unit change of dependent variable as a result of a unit change of respective independent variable

$\beta_6 - \beta_9$  denotes a coefficient of interaction effect of the moderator on the relationship between the dependent variable and the respective independent variable.

$X_1$ =Organizational independency	} Independent variables
$X_2$ =Top management support	
$X_3$ =Professional proficiency	
$X_4$ =Communication skills	
$X_5$ = Audit committee	

$\epsilon$  =random error term/disturbance or unexplained variation

Figure 3.1 was a proposed structural model which shows, factors /latent /unobservable variables in circles, indicator/manifest/observable variables in square boxes. The arrows point towards dependent variable show correlation between independent /exogenous variable and (endogenous) dependent.



**Figure 3.1: Proposed PLS-SEM Model of the Study**

### 3.18 Ethical Consideration

Ethics refer to what is right and what is wrong in the eyes of scientific research (Bhattacharjee, 2012). Several steps were taken to ensure credible research outcome as ethical considerations were observed. The first step was to get a letter for research clearance from the Open University of Tanzania (OUT). Then, a letter of introduction was also obtained from DSE to ensure respondents were given assurance that their regulator knew the purpose of the research and gave permission to conduct it. The principle of anonymity and confidentiality was observed as the

questionnaire was designed in such a way that individuals and/or roles were not identified. In the introduction letter to the respondents, it was vividly stipulated that their involvement was purely voluntary and their responses would be kept confidential solely for the academic research purposes only. The OUT ethical guidelines and the country ethics requirement were also adhered to by the researcher. OUT clearance letter is attached as Appendix VI as part of ethical guidelines compliance.

## **CHAPTER FOUR**

### **FINDINGS**

#### **4.1 Introduction**

This chapter provides results based on collected data from the respondents of DSE listed companies in Tanzania. It starts with how collected data were prepared to ensure correctness for statistical analysis. It gives out also the description of the respondents' profile to shed light on the characteristics of respondents of the study. It elaborates further descriptive analysis of data normality and adequacy for the sample data collected for analysis. This chapter further provides an evaluation of the measurement model in terms of test for reliability and validity of the questionnaire items to see to it that they qualify for next stage of structural (Inner) model evaluation and hypothesis testing for this study. Lastly, it gives goodness of fit statistics to assure validation of the model by confirming global indices.

#### **4.2 Data Preparation**

After survey questionnaires were collected from the respondents, they were coded with nicknames variables and keyed into IBM SPSS version 22 for ease of data analysis. The coding of responses involved assigning numbers to the variables to ease data entry and processing like sex variable was coded as '1' for male and '2' for female and so forth until all items in a questionnaire were exhausted as per codebook in Appendix V. There is an argument that coding is very crucial in the application of multivariate analysis as it helps to determine when and how a certain type of scale can be used (Hair Jr. et al., 2017). The issue of data cleaning is stressed as important for data editing to look for outliers, missing data and so forth for better data quality

which this study did to pave way for statistical analysis (Sekaran & Bougie, 2016). Descriptive statistics were done in SPSS version 22 to get demographic characteristics of the respondents and questionnaire items parameter scores. The created data file in SPSS was then changed into delimited Comma file format readable by Smart PLS-SEM, for inferential data analysis. A new project file of DSE Internal Audit Function Effectiveness Tanzania was created in Smart PLS-SEM. IBM SPSS delimited common data file was then imported into Smart PLS-SEM for statistical analysis.

#### **4.3 Questionnaire Response**

It was intended to distribute 210 survey questionnaires but only 160 questionnaires were distributed to the respondents up to the close of the time for data collection on 30<sup>th</sup> September 2019. Data collection started in 22<sup>nd</sup> February 2019 to 30<sup>th</sup> September 2019, duration of seven months. 93 questionnaires were returned, a response rate of 43% of the sample. But one questionnaire was discarded because of unengaged respondent who circled all items as strongly agree (5) which was judged as a biased response, therefore 92 questionnaires were valid and usable for the analysis. It is proposed that when a respondent provides a similar score for all questions (straight-lining) is a sign of lack of seriousness to read the questions thoroughly, therefore, the questionnaire should be excluded from analysis (Gaskin, 2016; Hair et al., 2019).

Therefore, 92 questionnaires were judged as valid for analysis which was equivalent to 42.6% of the sample size of 210 respondents. However, response rate according to the distributed questionnaire was 58% as per Table 4.1. The reason for non-response of some respondents was due to some of the cross-listed companies refused to

participate because they had no IAF in their companies rather obtained the service from their parent company. Similarly, others accepted the questionnaires but they did not respond on the ground that they had tight working schedules.

Despite of several follow up through phone calls and physical visit at their offices but at the end, they did not respond to the questionnaires. However, according to Hair Jr et al (2010), a response rate of 30% is sufficient for survey research. In a similar vein, Drogalas et al (2015) found that questionnaire survey with a usable and valid response rate of 29% as satisfactory for data analysis. In fact response rate of at least 30% is satisfactory for delivery and collection questionnaires using top management or organizations' representative as respondents (Saunders et al., 2016). In general, the response rate of 58% achieved by this study was within the acceptable range of at least 35% to 50% in business and management research (Mellahi & Harris, 2016).

Similarly, PLS-SEM has the advantage of executing analysis with a small sample size even less than 100 (Awang, Afthanorhan, & Asri, 2015). Equally, Ninsiima, (2017) vindicated in Uganda that 60 questionnaires were adequate sample size for structural equation modeling. In a similar vein, guideline provided for minimum sample size is that to achieve at least 0.25 coefficient of determination ( $R^2$ ) with 80% power, at least 59 respondents are enough for PLS-SEM analysis (Hair et al., 2013). There is also, "10 times rule of the thumb" that a minimum sample size of PLS-SEM model should be the higher of ten times the maximum number of structural paths pointing at a latent variable anywhere in the structural model (Hair et al., 2011). Therefore, based on the rule, the current study had 5 structural paths pointing at the

latent construct, IAFE, which should result in a sample size of (10x5) 50 subjects.

Simultaneously, since PLS-SEM is based on ordinary least square (OLS) regression properties, sample size tables of Cohen (1988) was also applied to judge the appropriateness of the sample size achieved. According to Hair et al.(2014) detecting  $R^2$  of at least 0.25, a sample size of 70 observations is required to achieve 5% level of significance with a statistical power of 80% for a model with 5 independent variables pointing at a dependent variable which the current study achieved. This is backed also by Field (2018) that a sample size of 77 cases is sufficient for data analysis to achieve a larger effect size even with 20 independent variables. Lastly, robustness checks through smart PLS-SEM proved that model convergence was at 70 observations as all parameters could be estimated while at 92 observations no differences were noticed in parameter estimation hence, 92 observations were considered adequacy for PLS-SEM path modeling data analysis.

It is argued that convergence in PLS-SEM algorithm is reached sufficiently when empirical data fit the proposed model, no highly correlated variables, no missing values, no improper solutions or impossible parameter estimates and maximum iterations have been attained (Hair Jr. et al., 2017; Wolf, Harrington, Clark, & Miller, 2013). In a similar vein, Christopher et al., (2009) found 34 responses out of 206 questionnaires fairly reasonable for data analysis in IAF effectiveness in Australia. In nutshell, a sample size of between 30 to 460 cases is found to be adequate for SEM analysis depending on the number of parameters like indicators per latent variable, the number of independent variables, effect size, statistical power, the magnitude of factor loading, path coefficient, level of variance explained



in dependent variable, biasness and amount of missing data (Hair et al., 2017; Wolf et al., 2013).

**Table 4. 1: Questionnaire Response Rate**

Detail	Size/Rate
Sampled population	216
Distributed questionnaires	160
Questionnaire not distributed	56
Returned Questionnaires	93
Returned questionnaire but excluded	1
Valid and usable questionnaire	92
Questionnaires not returned	67
Response rate	58%
Valid response rate	57.5%

**Source:** Field Data 2019

#### 4.4 Descriptive Analysis of Respondents' Profile

The questionnaires were administered to the respondents from DSE listed companies in Tanzania. The respondents included were CEO, Director of Finance, Chair of BOD, Chair of AC, CIA, and Director of human resource, chief accountant and legal counsel drawn from DSE 27 listed companies in Tanzania. The Characteristics of the respondents from 19 listed companies as per appendix-IV, showed that 81.5% were male while 18.5% were female as indicated in Table 4.2.

**Table 4.2 : Gender Composition**

Gender	Frequency	Percent
Male	75	81.5
Female	17	18.5
<b>Total</b>	<b>92</b>	<b>100</b>

**Source:** Field Data (2019)

Table 4.3 showed that 3.3% were aged below 30 years, 37 % between 31-40 years old; the active young group in the society, and 32.6% were between 41-50 years old. While 27.2% were above 50 years old. It showed that overall 59.8% were individuals above 41 years old, therefore the respondents were matured enough to provide a credible assessment of the IAF effectiveness

**Table 4.3 Age Composition of Respondents**

<b>Age Group</b>	<b>Frequency</b>	<b>Percent</b>
below 30	3	3.3
31 to 40	34	37
41 to 50	30	32.6
Above 50	25	27.2
<b>Total</b>	<b>92</b>	<b>100</b>

**Source:** Field Data (2019)

Regarding education level, Table 4.4 showed that only 2.2% were secondary school leavers, 3.3% had diploma, 42.4% had bachelor degree while 52.2% had master's degree. In general, majority of the respondents 94.6 %, had at least bachelor degree therefore were knowledgeable enough to understand the questionnaires and provide valuable information.

**Table 4.4: Education Composition of Respondents**

<b>Education</b>	<b>Frequency</b>	<b>Percent</b>
Secondary School	2	2.2
Diploma	3	3.3
Bachelor Degree	39	42.4
Masters degree	48	52.2
<b>Total</b>	<b>92</b>	<b>100</b>

**Source:** Field Data (2019)

**Table 4.5: Profession Composition of Respondents**

<b>Professional</b>	<b>Frequency</b>	<b>Percent</b>
Certified Internal Auditor	4	4.3
Certified Public Accountant	48	52.2
Lawyer/Advocate	7	7.6
Finance/Banking	17	18.5
Engineer	5	5.4
HR	8	8.7
ICT	3	3.3
<b>Total</b>	<b>92</b>	<b>100</b>

**Source:** Field Data (2019)

Table 4.5 depicted that 4.3% were Certified Internal Auditors while 52.2 % were Certified Public Accounts. Lawyers category were 7.6% of respondents while finance and banking professionals were 18.5%. In addition, 5.4% were engineers, 8.7% HR specialists while 3.3 were ICT experts. The professional spread of respondents was good for better evaluation for the study which limits biasness of either group.

**Table 4.6: Company Sector Composition of Respondents**

<b>Company Sector</b>	<b>Frequency</b>	<b>Percent</b>
Manufacturing	19	20.7
Financial and Insurance	55	59.8
Information and communication	8	8.7
Mining and Quarrying	3	3.3
Transport and Storage	7	7.6
<b>Total</b>	<b>92</b>	<b>100.0</b>

**Source:** Field Data (2019)

Regarding industry sector from where the respondents came from, Table 4.6 showed that 20.7% were from manufacturing, 59.8% were from finance and insurance category, 8.7% from information and communication, 3.3% from mining and

quarrying and 7.6% from transport and storage.

**Table 4.7: Designation Composition of Respondents**

<b>Designation</b>	<b>Frequency</b>	<b>Percent</b>
CEO/MD	10	10.9
Chair-Audit Committee	4	4.3
Director Finance	14	15.2
Director-HR	6	6.5
Chief Accountant	9	9.8
Head of Internal Audit	22	23.9
Company Secretary	5	5.4
Head ICT	5	5.4
Head PMU	1	1.1
Others	16	17.4
<b>Total</b>	<b>92</b>	<b>100</b>

**Source:** Field Data (2019)

Regarding designation of the respondents, Table 4.7 showed that 10.9% were CEO/MD, while 15.2% were heads of finance. The table also showed that 23.9% were Head of internal audit while 6.5% were Director-HR. Furthermore, the table indicated that 4.3% were Chair audit committee while 20.4% were from other designation.

**Table 4.8: Working Experience of Respondents**

<b>Years</b>	<b>Frequency</b>	<b>Percent</b>
1-5 years	29	31.5
6-10 years	24	26.1
11 years and above	39	42.4
<b>Total</b>	<b>92</b>	<b>100</b>

**Source:** Field Data (2019)

Table 4.8 showed working experience of the respondents that, 31.5% had 1-5 years of experience, 26.1 % had between 6-10 years of experience while 42.4% were in the

companies for more than 11 years. This depicted that the respondents had wide knowledge and enough experiences in the companies to provide pertinent information for the assessment of IAFE.

#### **4.5 Descriptive Analysis of the Data**

Data cleaning is important to ensure findings are correct and replicable in other researches (Carpenter, 2018). Data standard deviation was below 3 for all observed variables in the study revealing lack of outliers as provided in appendix III. Data was checked also for normality and adequacy of sample to ensure credible analysis. Univariate normality analysis of skewness and kurtosis was done to confirm that data were normally distributed or not. It is provided that data signal for normality problem when absolute values are above 2 and 7 for skewness and kurtosis respectively (Kline, 2015). Result of the skewness and kurtosis as per Appendix III showed that data had no serious normality problem as kurtosis was below 7. Hence the data qualified for statistical analysis through PLS-SEM path modeling.

#### **4.6 Sample Size Adequacy for Factor Analysis**

Sample size determination depends on the research design. However, Guadagnoli and Velicer (1988) cited by Field, (2009) in their study concluded that adequacy of sample size depends on factor loadings. They argued that factor loadings above 0.60 are reliable regardless of sample size while factor loadings above 0.40 are reliable with sample size above 150. In that regard, factor loadings for this study were above 0.60, hence the sample size was adequate for factor analysis. Similarly, a number of indicators per construct are inversely proportional to the minimum sample size but model complexity increase sample size (Wolf et al., 2013). In that regard, the model

is simple with five factors of which each latent variable has a minimum of four indicators to complement for the study sample size. However, Field (2009) argued that Keiser-Meyer -Olkin (KMO) measure of sampling adequacy is an appropriate statistics to prove sample size adequacy for factor analysis.

Pallant (2011) recommend test for Bartlett's test of sphericity and  $p < 0.05$  is judged as significant statistically. Hutcheson and Sofroniou 1999 as cited by Field (2009) argued that  $KMO > 0.50$  is acceptable for sample size adequacy. However, they considered that KMO value between 0.50 to 0.70 as mediocre, 0.70-0.80 as good, 0.80-0.90 as great and above 0.90 as superb. Table 4.9 confirmed that sampling adequacy with KMO of 0.877 which was great and Barlett's test of sphericity of  $p = 0.000 < 0.05$  as significant. Hence the sample size was vindicated as adequate for factor analysis.

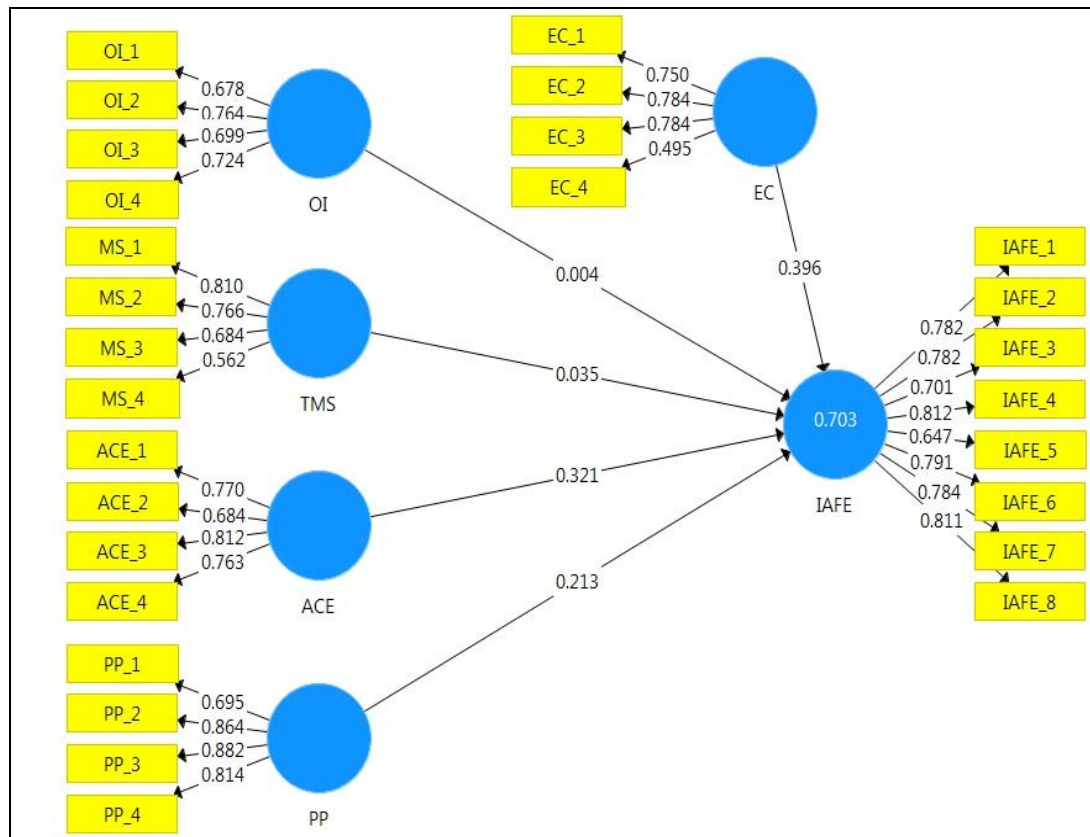
**Table 4.9: KMO and Bartlett's Test**

Kaiser-Meyer-O lkin Measure of Sampling Adequacy.		.877
Bartlett's Test of Sphericity	Approx. Chi-Square	1393.313
	Df	378
	Sig.	.000

**Source:** Field Data 2019

#### **4.7 Evaluation of Reflective Measurement Model**

Confirmatory composite analysis was done to test fitness of collected data with the theoretical model for hypothesis testing as follows. PLS-SEM path model presented in Figure 4.1 showed output of parameter analysis of the model in Smart PLS-SEM version 3.2.9. Figure 4.1 showed initial outer loadings of indicators before deletion of low loading below 0.60 to confirm the model as per requirement (Awang, 2015).



**Figure 4.1: Smart PLS-SEM Measurement Model**

#### 4.7.1 Indicator Reliability

Table 4.10 provide indicator loading as per Figure 4.2 which confirmed achievement of indicator reliability above 0.60. Indicators below 0.60 were deleted as per guideline provided in section 3.16.1.1. Figure 4.1, two indicators (Top management support IAF with training and development-M\_4 and Head of IAF has regular interaction with top management-EC\_4) were removed from the model as they had low loadings of 0.562 and 0.495 respectively and had no contribution to Average Variance Extracted (AVE) nor composite reliability. The deletion of the two indicators increased AVE and composite reliability of their construct respectively as per Figure 4.2. All indicators loadings were above 0.600 as per Table 4.10.

**Table 4.10: Indicators outer Loadings**

<b>Construct/Indicator</b>	<b>Outer Loadings</b>
<b>Audit Committee (ACE)</b>	
ACE 1	0.771
ACE 2	0.684
ACE 3	0.811
ACE 4	0.763
<b>Communication skills (EC)</b>	
EC 1	0.784
EC 2	0.802
EC 3	0.796
<b>Internal Audit Function Effectiveness (IAFE)</b>	
IAFE 1	0.786
IAFE 2	0.781
IAFE 3	0.702
IAFE 4	0.813
IAFE 5	0.642
IAFE 6	0.792
IAFE 7	0.785
IAFE 8	0.809
<b>Management Support(MS)</b>	
MS 1	0.848
MS 2	0.791
MS 3	0.673
<b>Organizational Independence(OI)</b>	
OI 1	0.678
OI 2	0.764
OI 3	0.698
OI 4	0.724
<b>Professional Proficiency(PP)</b>	
PP 1	0.695
PP 2	0.864
PP 3	0.882
PP 4	0.814

Source: Field Data 2019

#### 4.7.2 Internal Consistency Reliability

Reliability for internal consistency of the scale scores was checked through Smart



PLS-SEM algorithm which indicated that the measurement model was reliable with composite reliability of above 0.70 for all construct as indicated in Table 4.11. However, composite reliabilities for the study indices were all above 0.70 but below 0.95 as per guideline provided in section 3.16.1.2. Therefore was proved that the block of indicators of latent variables were homogeneous and one-dimensional hence the reflective model was appropriate for the study.

**Table 4.11: Construct Reliability**

<b>Construct</b>	<b>Composite Reliability(CR)</b>
Audit committee	0.844
Communication skills	0.837
Internal Audit Function Effectiveness	0.919
Organizational Independence	0.808
Professional Proficiency	0.888
Top Management Support	0.816

**Source:** Field Data (2019)

#### 4.7.3 Convergent Validity

The measurement model test indicated that all latent constructs reported AVE of above minimum value of 0.50 as per Table 4.12. Therefore, confirmed satisfactorily attainment of convergent validity as per guideline set in section 3.16.1.7.

**Table 4.12: Convergent Validity**

<b>Construct</b>	<b>Average Variance Extracted (AVE)</b>
Audit committee	0.576
Communication skills	0.631
Internal Audit Function Effectiveness	0.587
Organizational Independence	0.514
Professional Proficiency	0.668
Top Management Support	0.599

**Source:** Field Data 2019

#### 4.7.4 Fornell-& Larcker Discriminant Validity Criterion

Discriminant validity for all constructs was achieved as per Table 4.13 as the diagonal values (**bold**) of a construct were higher than values in its column and row as per guideline in section 3.16.1.9.

**Table 4.13:Fornell- Larcker Discriminant Validity Criterion**

Latent Variable Correlation(LVC)							Discriminant Validity achieved?
	ACE	EC	IAFE	OI	PP	TMS	(Square root of AVE>LVC)
ACE	<b>0.759</b>						Yes
EC	0.567	<b>0.794</b>					Yes
IAFE	0.704	0.752	<b>0.766</b>				Yes
OI	0.517	0.534	0.517	<b>0.717</b>			Yes
PP	0.623	0.737	0.726	0.53	<b>0.817</b>		Yes
TMS	0.306	0.519	0.452	0.42	0.47	<b>0.774</b>	Yes

Source: Field Data (2019)

Note, ACE=Audit committee, E C=Communication skills, IAFE=Internal Audit Function Effectiveness, TMS=Top Management Support, OI=Organizational Independence and PP=Professional Proficiency. LVC=Latent Variable Correlation

#### 4.7.5 Cross-loadings

Test of cross-loadings of indicator variables on latent variables confirmed also the achievement of discriminate validity as indicators load more with their own construct than with another construct as per guideline in section 3.16.1.10 and shown in Table 4.14.

**Table 4.14: Cross-Loadings of Indicators on Constructs**

Indicators	Constructs					
	ACE	EC	IAFE	TMS	OI	PP
ACE 1	<b>0.771</b>	0.415	0.555	0.215	0.416	0.470
ACE 2	<b>0.684</b>	0.351	0.430	0.214	0.285	0.353
ACE 3	<b>0.811</b>	0.432	0.540	0.145	0.439	0.458
ACE 4	<b>0.763</b>	0.505	0.591	0.344	0.411	0.581
EC 1	0.444	<b>0.784</b>	0.541	0.381	0.414	0.557
EC 2	0.424	<b>0.802</b>	0.566	0.513	0.461	0.558
EC 3	0.477	<b>0.796</b>	0.669	0.352	0.401	0.632
IAFE 1	0.651	0.625	<b>0.786</b>	0.361	0.567	0.649
IAFE 2	0.559	0.646	<b>0.781</b>	0.319	0.387	0.591
IAFE 3	0.333	0.441	<b>0.702</b>	0.336	0.213	0.471
IAFE 4	0.480	0.605	<b>0.813</b>	0.393	0.422	0.529
IAFE 5	0.590	0.578	<b>0.642</b>	0.133	0.395	0.536
IAFE 6	0.555	0.581	<b>0.792</b>	0.519	0.374	0.578
IAFE 7	0.539	0.532	<b>0.785</b>	0.399	0.379	0.544
IAFE 8	0.539	0.556	<b>0.809</b>	0.286	0.357	0.513
MS 1	0.390	0.576	0.430	<b>0.848</b>	0.390	0.538
MS 2	0.185	0.297	0.358	<b>0.791</b>	0.320	0.312
MS 3	0.035	0.261	0.206	<b>0.673</b>	0.233	0.130
OI 1	0.380	0.279	0.345	0.136	<b>0.678</b>	0.337
OI 2	0.276	0.389	0.306	0.338	<b>0.764</b>	0.348
OI 3	0.303	0.313	0.356	0.310	<b>0.698</b>	0.367
OI 4	0.481	0.513	0.444	0.395	<b>0.724</b>	0.443
PP 1	0.425	0.520	0.415	0.313	0.490	<b>0.695</b>
PP 2	0.544	0.701	0.634	0.440	0.497	<b>0.864</b>
PP 3	0.542	0.620	0.663	0.426	0.492	<b>0.882</b>
PP 4	0.513	0.561	0.621	0.345	0.285	<b>0.814</b>

Source: Field Data 2019

#### 4.7.6 HTMT Ratio of Correlation

The new measure of discriminant validity was tested as well to prove achievement of the criteria in the study. The results of HTMT ratio of correlation on Table 4.15 have shown that all constructs were below 1.00 hence confirmed achievement of

discriminant validity of the research measurement model as per guideline in section 3.16.1.11.

**Table 4.15: HTMT Ratio of Correlation**

Construct (Latent Variable)	AC	CS	IAFE	OI	PP
Communication skills	0.764				
Internal Audit Function Effectiveness	0.836	0.925			
Organizational Independence	0.688	0.746	0.629		
Professional Proficiency	0.771	0.952	0.82	0.702	
Top Management Support	0.375	0.705	0.549	0.576	0.553

Source: Field Data 2019

#### 4.7.7 Common Method Bias Assessment

The results of full collinearity test showed that all VIF values were below 3.3 as per Table 4.16 hence confirmed no serious cases of common method bias as per guideline provided in section 3.16.1.12.

**Table 4.16: Common Methods Bias: VIF - Full Collinearity Test**

Construct	ACE	EC	IAFE	OI	PP	TMS
Audit committee (ACE)		2.2	1.83	2.1	2.1	2.1
Communication skills(EC)	3.1		2.55	3.0	2.7	2.7
Internal Audit Function Effectiveness (IAFE)	2.8	2.7		3.3	3.1	2.8
Organizational Independence (OI)	1.6	1.6	1.6		1.6	1.6
Professional Proficiency (PP)	2.7	2.4	2.7	2.6		2.7
Top Management Support (TMS)	1.5	1.4	1.4	1.4	1.5	

Source: Field Data 2019

## 4.8 Assessment of Structural Model

### 4.8.1 Assessment of Multicollinearity in the Structural Model

The results of multicollinearity test for this study showed VIF values were all well

below 5.00 as per Table 4.17, hence confirmed lack of multicollinearity in the structural model. VIF is reported in the inner model of Smart PLS-SEM for multicollinearity assessment between exogenous constructs (Hair et al., 2019). Therefore, multicollinearity was not a problem to invalidate interpretation of the reported results.

**Table 4.17: VIF Values**

<b>Exogenous Variables</b>	<b>VIF Values</b>
Audit committee	1.826
Communication skills	2.55
Organizational Independence	1.633
Professional Proficiency	2.629
Top Management Support	1.452

Source: Field data 2019

#### **4.8.2 Coefficient of Determination ( $R^2$ )**

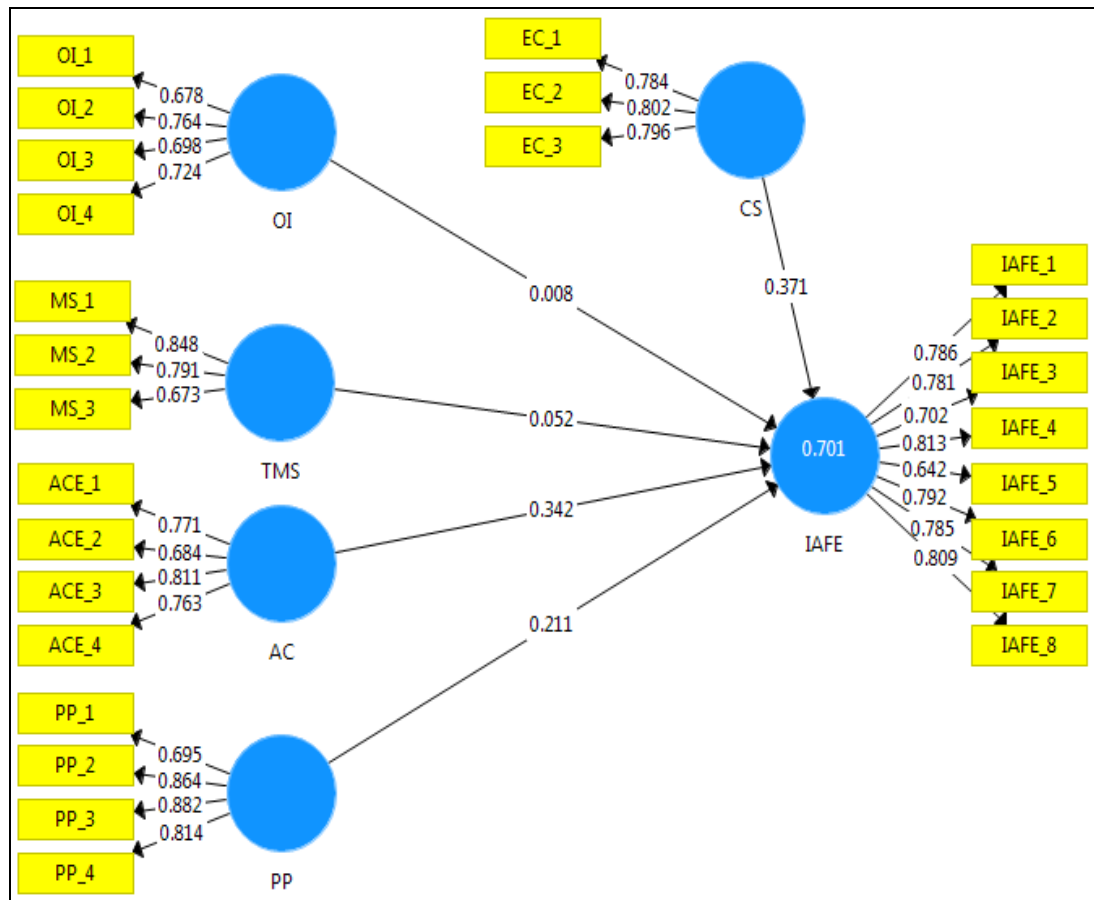
This measures how the exogenous (independent) latent variables explained the endogenous (dependent) variable in the structure model therefore it shows effect size and predictive accuracy of the causal inner model. In the study,  $R^2$  reported in the model before moderation effect was 0.701 as depicted in Figure 4.2. The  $R^2$  is statistically significant with a critical ratio of 17.062 and p-value of 0.000 which were higher than set critical ratio of 1.96 and lower than benchmarked p-value of 0.05 respectively as indicated in Table 4.18. This means that the five independent variables of Organizational Independence, Professional Proficiency, Top management Support, Communication skills and Audit committee in aggregate explained 70.1% variation in the dependent variable, Internal Audit Function Effectiveness. The other 29.8% is explained by other variables, in the error term, not

in the structural model. Chinn, (1998) provide that obtained  $R^2$  values of endogenous variable in the structure model of 0.67,0.33 or 0.19 are considered as substantial, moderate or weak respectively. Hence the reported  $R^2$  of 0.701 in the current study is considered as substantial value. Besides all indicators of IAFE had loading above 0.600 and were statistically significant as per Table 4.18.

**Table 4.18: IAFE  $R^2$  and Path Statistics**

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values	Result
IAFE	0.702	0.732	0.041	17.062	0.000	Significant
IAFE_1 <- IAFE	0.786	0.783	0.049	15.886	0.000	Significant
IAFE_2 <- IAFE	0.781	0.772	0.064	12.133	0.000	Significant
IAFE_3 <- IAFE	0.702	0.704	0.063	11.106	0.000	Significant
IAFE_4 <- IAFE	0.813	0.818	0.046	17.583	0.000	Significant
IAFE_5 <- IAFE	0.642	0.631	0.099	6.473	0.000	Significant
IAFE_6 <- IAFE	0.792	0.795	0.043	18.361	0.000	Significant
IAFE_7 <- IAFE	0.785	0.794	0.044	17.735	0.000	Significant
IAFE_8 <- IAFE	0.809	0.811	0.037	21.637	0.000	Significant

Source: Field Data 2019



**Figure 4.2: PLS-SEM Structural Model for Hypothesis Testing**

### 4.8.3 Hypotheses Testing

Hypotheses were tested based on path coefficient of the structural model generated from the Smart PLS-SEM as elaborated below:-

#### 4.8.3.1 Organizational independences a Determinant of IAFE

The study specific objective one was to assess whether organizational independence is a determinant of IAFE of listed companies in Tanzania. The corresponding hypothesis stated that:-

H1: Organizational independence is positively and significantly related to internal audit function effectiveness of listed companies in Tanzania.

In order to test this hypothesis, descriptive analysis was carried out to find out how each indicator/observed variable influenced IAFE as a latent variable in the PLS path model. The questionnaire was on a scale of 1 to 5, where "1" denoting strongly disagree responses while "5" indicating strongly agree responses.

**Table 4.19: Organization Independence Descriptive Statistics**

Item	Statement	N	Mini	Maxi	Mean	Std. Dev
1.	Chief Internal auditor has functional reporting to the Board Audit Committee(OI_1)	92	1	5	4.52	.895
2.	Internal auditors have free access to all employees, records and all information systems in the company (OI_2)	92	2	5	4.58	.683
3.	Appointment and removal of CIA is the ultimate approval of the Audit Committee and/or Board of Directors (OI_3).	92	1	5	4.41	.985
4.	Internal audit is autonomous as it can audit any area in the company (OI_4)	92	1	5	4.47	.777
	Valid N (listwise)	92				

Source: Field Data 2019

Table 4.19 showed that indicators of internal auditors have free access to all employees, records and all information systems in the company had the highest impact on IAFE with a mean score of 4.58. It followed by; Chief Internal Auditor has functional reporting to the Board Audit Committee in the company with a mean score of 4.52. The indicator, internal audit is autonomous in the company had an impact on IAFE with a mean score of 4.47. The least impact on IAFE was appointment and removal of CIA is the ultimate approval of the Audit Committee and/or Board of Directors with a mean score of 4.41. In general, all respondents



affirmed with the statements on the questionnaire with a mean score above 4.4 for all questions. The impact of an indicator on IAFE depends on the mean score with a score close to 5 indicating high impact and vice versa is true.

In order to test the hypothesis for a level of significance, bootstrapping was done in PLS-SEM at 0.05 p-value, two-tailed, 5,000 re-sampling cases. Generated results were as provided in table 4.20

**Table 4.20: Organization Independence Path Statistics**

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values	Result
OI -> IAFE	0.008	0.020	0.075	0.108	0.914	Not Significant
OI_1 <- OI	0.678	0.656	0.140	4.827	0.000	Significant
OI_2 <- OI	0.764	0.739	0.094	8.168	0.000	Significant
OI_3 <- OI	0.698	0.707	0.080	8.775	0.000	Significant
OI_4 <- OI	0.724	0.723	0.085	8.497	0.000	Significant

Source: Field Data 2019

The results on Table 4.20 indicate that path coefficient between organizational Independence and Internal Audit Function Effectiveness had a positive coefficient of 0.008 implying that there was a weak positive correlation between organizational independence and IAFE. Chinn (1998) and Lowry & Gaskin (2014) proposed that a substantial and significant structural paths coefficient should be at least 0.20 for a confident and meaningful discussion. The path coefficient of 0.008 falls below the

threshold hence not worth further discussion. Implying that, organization independence of IAF has no impact as a determinant on IAFE. However, all indicators of organization independence construct had a significant path coefficient of above 0.20 which deserves further discussion as presented in Table 4.20.

Additional analysis of the level of significance of organization independence on IAFE reported a critical value of 0.108 as per Table 4.20 with P-value of 0.914. The criterion set for hypothesis acceptance is that critical ratio must be at least 1.96 and p-value of 0.05 or below. Basing on the results of the analysis, organization independence is not a significant determinant of IAFE. Therefore, hypothesis H1 is rejected, as the correlation was not statistically significant. Paradoxically, all indicators of organizational independence were statistically significant as their critical ratios were above the threshold of 1.96 and below set p-value of 0.05 as depicted in Table 4.20 hence worth meaningful discussion. These results are the characteristics of PLS-SEM which offers satisfactory results in the measurement model but insignificant relationship in the structural model (Hair, Hult, Ringle, Sarstedt, & Thiele, 2017)

#### **4.8.3.2 Top management Support as a Determinant of IAFE**

The study specific objective number two was to examine if top management support is a determinant of internal audit function effectiveness, which culminate into the below hypothesis.

H2: Top management support is positively and significantly related to internal audit function effectiveness of listed companies in Tanzania.

Before testing the hypothesis, descriptive statistics were run in SPSS to find out how each indicator/observed variable influenced IAFE as a latent variable in the model. In Table 4.21 results showed that indicator MS\_1, top management consider IAF as a valuable unit in the company, had a strong impact on IAFE with the highest mean score of 4.37 followed by indicator MS\_2 with a mean score of 4.32 that top management ensures internal audit findings and recommendations are implemented. The analysis showed that indicator, MS\_4 had a mean score of 3.99 which was likely an average impact on IAFE, that top management supports training and development of internal audit staff.

**Table 4.21: Top Management Support Descriptive Statistics**

Item	Questionnaire Statement	N	Min	Maxi	Mean	Std. Dev
1.	Top management considers internal audit as a valuable unit in the organization (MS_1)	92	2	5	4.37	.658
2.	Top management ensures internal audit recommendations are implemented (MS_2).	92	3	5	4.32	.645
3.	Top management provides inputs into the annual internal audit plan (MS_3).	92	1	5	3.98	.914
4.	Top management supports training and development of internal audit staff (MS_4)	92	1	5	3.99	.845
	Valid N (listwise)	92				

**Source:** Field Data 2019

Though indicator MS\_3 had a mean score of 3.98, its impact on IAFE was average as it has passed a neutral scale of 3 hence respondents agreed that top management provides inputs into annual internal audit plan. The criterion is that the higher the mean score of an indicator close to 5, the higher the impact the indicator had on

IAFE. Overall, the questions measured relatively evenly the construct with a mean score of 4.00 implying that all respondents agreed with all the statements as a measure of top management support as a construct.

In order to test the hypothesis, Smart PLS-SEM path analysis through 5,000 bootstrapping re-sampling was done to prove if the path coefficient is positive and statistically significant at 0.05 p-value with critical value more than or equal to 1.96.

The results of the analysis are as provided in Table 4.22

**Table 4.22: Top Management Support Path Statistics**

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values	Result
TMS-> IAFE	0.052	0.055	0.081	0.639	0.523	Not Significant
MS_1 <- TMS	0.848	0.848	0.057	14.829	0.000	Significant
MS_2 <- TMS	0.791	0.778	0.099	7.957	0.000	Significant
MS_3 <- TMS	0.730	0.713	0.105	6.949	0.000	Significant

Source: Field Data 2019

The result on Table 4.22 indicates that path coefficient between top management support and Internal Audit Function Effectiveness had a positive coefficient value of 0.052 showing that there was a weak positive correlation between top management support and IAFE. Chinn (1998), Lowry and Gaskin (2014) posited that a substantial and significant structural path coefficient should be at least 0.20 for a confident and meaningful discussion. The path coefficient of 0.052 is below the threshold hence

not worth for further discussion. Implying that, top management support had no impact as a determinant of IAFE. However, surprisingly all path coefficients of indicators pointing to the top management support had a significant influence which deserves discussion as presented in Table 4.22.

Further analysis of the critical values of top management support on IAFE reported critical ratio of 0.639 and p-value of 0.523 as presented in Table 4.22. Criteria for accepting hypothesis, its p-value must be at least below 0.05 and critical ratio at least 1.96. In the current study, top management support is not a statistically significant factor of IAFE. Hence hypothesis H2 is rejected. Surprisingly, as per Table 4.22, all indicators of top management support (MS\_1=internal audit is considered as a valuable unit, MS\_2=Top management ensure implementation of recommendations, MS\_3=Top management provide inputs in internal audit annual plan) have shown were statistically significant as all of them had a critical ratio above 1.96 and p-values of 0.000 which were below target P-value 0.05, hence worth meaningful discussion. These results show the characteristics of PLS-SEM which may offer satisfactory results in the measurement model but non-significant relationship in the structural model (Hair, Hult, Ringle, Sarstedt, & Thiele, 2017)

#### **4.8.3.3 Professional Proficiency as a Determinant of IAFE**

The study objective three sought to examine if professional proficiency is a determinant of internal audit function effectiveness of listed companies in Tanzania. This led to the formulation of hypothesis three below.

H3: Professional proficiency impacts positively and significantly internal audit function effectiveness of listed companies in Tanzania

Before hypothesis testing, descriptive statistics were performed for this construct to profile impact of each indicator to the IAFE as provided in Table 4.23. The descriptive statistics have shown that professional qualification indicator had a big impact with a mean score of 4.34 followed by application of international professional standards with a mean score of 4.29. Indicator of application of technical competence and proficiency by internal auditors while auditing recorded a mean score of 4.22 and lastly knowledge of company business operations by internal auditors scored a mean of 4.23. In comparison, all professional proficiency indicators have relatively equal impact on internal audit function effectiveness with a mean score above 4.22, indicating that respondents agreed with all questions. It means that the higher the indicators mean score close to 5 the higher the impact it makes on internal audit function effectiveness.

**Table 4.23: Professional Proficiency Descriptive Statistics**

Item	Questionnaire statement	N	Min	Max	Mean	Std. Dev
1.	Internal auditors have professional related training (like CIA, CPA, CISA, ACCAetc)(PP_1)	92	1	5	4.34	1.019
2.	Internal auditors apply international internal audit professional standards (PP_2)	92	1	5	4.29	.908
3.	Internal auditors show technical competence and proficiency in auditing activities (PP_3)	92	1	5	4.22	.753
4.	Internal auditors are knowledgeable on the company business operations (PP_4)	92	1	5	4.23	.743
	Valid N (listwise)	92				

**Source:** Field Data 2019

Further analysis was done on coefficient path analysis through 5,000 re-sample bootstrapping in Smart PLS-SEM to look for the direction of the relationship whether positive or negative and strength hand significance of the path in

determining effectiveness of internal audit function. The results are presented in Table 4.24

**Table 4.24: Professional Proficiency Path Statistics**

Path	Original Sample (O)	Sample Mean (M)	STDEV	T Statistics	P Values	Result
PP -> IAFE	0.211	0.222	0.106	2.002	0.045	Significant
PP_1 <- PP	0.695	0.682	0.094	7.371	0.000	Significant
PP_2 <- PP	0.864	0.861	0.037	23.582	0.000	Significant
PP_3 <- PP	0.882	0.877	0.031	28.032	0.000	Significant
PP_4 <- PP	0.814	0.808	0.050	16.268	0.000	Significant

Source: Field Data 2019

The results in Table 4.24 showed that path coefficient between professional proficiency and internal audit function effectiveness was positive 0.211, which means that there was a correlation between the two latent constructs. Chinn (1998), Lowry and Gaskin (2014) aver that a substantial and significant structural path coefficient should be at least 0.20 for a confident and meaningful discussion. The path coefficient of 0.211 was above the threshold set hence was significant and meaningfully for discussion. Implying that, professional proficiency had a significant impact as a determinant of IAFE.

All path coefficients of indicators pointing to the professional proficiency had a significant influence which adds to the meaningful discussion as presented in Table 4.24. Further analysis of critical values of a path between professional proficiency and IAFE showed that critical ratio was 2.002 and p-value of 0.045 as per Table

4.24. Criteria set for a statistically significant path, critical ratio should be at least 1.96 and p-value below 0.05. The current results reported critical ratio above set target and p-value below set target hence professional proficiency is a statistically significant factor as a determinant of IAFE. Therefore, hypothesis H3 is accepted.

In addition, all Indicators ( PP\_1, PP\_2 PP\_3 and PP\_4) have also reported critical ratio values above 1.96 and p-value below 0.05 as presented in Table 4.24. It means that all four indicators of professional proficiency sufficiently measured the construct.

#### **4.8.3.4 Communication Skills as a Determinant of IAFE**

The study objective four examined if communication skills are a determinant of internal audit function effectiveness of listed companies in Tanzania. The tested hypothesis stated as follows; -

H4: Communication skills impacts positively and significantly internal audit function effectiveness of listed companies in Tanzania.

Descriptive analysis was first performed to profile impact of each indicator on internal audit function effectiveness as shown in Table 4.25. The indicator of regular interactions of head of internal audit with top management showed the highest impact on IAFE with a mean score of 4.35 followed by the relevance of internal audit reports with a mean score of 4.20. However, collaboration of internal audit with other experts has the least impact on IAFE with a mean score of 3.95 though easiness of internal audit reports indicator has a moderate impact with a mean score of 4.05. It means that the higher the indicators mean score close to 5 the higher the impact it makes on internal audit function effectiveness. Generally, the respondents



agreed with the questions that communication skills were determinant of internal audit function effectiveness.

**Table 4.25: Communication Skills Descriptive Statistics**

Item	Questionnaire Statement	N	Min	Max	Mean	Std. Dev.
1.	Internal audit reports are easy to understand (EC_1)	92	2	5	4.04	.824
2.	Internal audit collaborates with technical experts from other departments (EC_2)	92	1	5	3.95	.843
3.	Internal audit reports are relevant as they focus on the strategic objectives of the company (EC_3)	92	1	5	4.20	.774
4.	Head of internal audit has regular interactions with top management in the company (EC_4)	92	3	5	4.35	.686
	Valid N (listwise)	92				

Source: Field Data 2019

Furthermore, a path analysis was done in PLS-SEM to look for direction of the relationship and strength of the impact of communication skills on IAFE, as is presented in Table 4.26

**Table 4.26: Communication skills Path Statistics**

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ((O/STDEV)	P Values	Result
EC-> IAFE	0.371	0.368	0.123	3.014	0.003	Significant
EC_1 <- EC	0.784	0.778	0.065	12.143	0.000	Significant
EC_2 <- EC	0.802	0.796	0.054	14.894	0.000	Significant
EC_3 <- EC	0.796	0.793	0.053	15.032	0.000	Significant

Source: Field Data 2019

The results in Table 4.26 indicate that a path coefficient between communication skills and internal audit function effectiveness was positive 0.371, which means that there was a positive correlation between the two latent constructs. Chinn (1998), Lowry and Gaskin (2014) contend that a substantial and significant structural path coefficient should be at least 0.20 for a confident and meaningful discussion. The path coefficient of 0.371 is well above the threshold set hence is significant and worth meaningful discussion. Implying that, communication skills have a significant impact as a determinant of IAFE. All path coefficients of indicators pointing to the communication skills have significantly influenced IAFE which add to the meaningful discussion as presented in Table 4.26.

Additional analysis of the level of significance on a relationship between communication skills and IAFE showed that a t-statistics of 3.014 and p-value of 0.003 as per Table 4.26. The criterion is that for a path to be statistically significant t-statistics must be above 1.96 critical ratio and p-values equal to or lower than 0.05 which the current test achieved. Therefore, hypothesis H4 is accepted. All indicators (EC\_1 Internal audit reports are easy to understand, EC\_2 internal auditors collaborate with other experts and EC\_3 internal audit reports are relevant) critical ratios were above 1.96 and p-values=0.00<0.05 as indicated in Table 4.26. The finding was that all indicators were statistically significant as a measure of communication skills as a construct.

#### **4.8.3.5 Audit Committee as a Determinant of IAFE**

The study objective five examined whether audit committee is a determinant of internal audit function effectiveness of listed companies in Tanzania. The

corresponding hypothesis stated that;

H5: Audit committee impacts positively and significantly internal audit function effectiveness of DSE listed companies in Tanzania.

Before testing the hypothesis, a descriptive analysis was carried out to show how each indicator of this construct influenced internal audit function effectiveness as reported in Table 4.27. The results showed that expertise of audit committee members had a high impact with a mean score of 4.52, followed by Audit Committee meetings are conducted quarterly with a mean score of 4.40. The impact of independence of Audit Committee members' indicator is also great with a mean score of 4.27 but the familiarity of Audit Committee members with company business operations recorded minimal impact among other indicators with a mean score of 4.15. A criterion is that the higher the indicator means close to 5 the higher the impact it makes on internal audit function effectiveness. Generally, all respondents agreed that audit committee as a construct determines internal audit function effectiveness with all indicators mean scored beyond 4.00

**Table 4.27: Audit Committee Descriptive Statistics**

Item	Questionnaire Statement	N	Mini	Maxi	Mean	Std. Dev
1.	At least one Audit Committee (ACE) member is an expert in auditing and accounting (ACE_1)	92	1	5	4.52	.703
2.	AC members are independent because are coming from outside of the company (ACE_2)	92	1	5	4.27	1.100
3.	AC meetings are conducted on quarterly basis (ACE_3)	92	1	5	4.40	.771
4.	AC members are familiar with the company business operations (ACE_4)	92	1	5	4.15	.838
	Valid N (listwise)	92				

**Source:** Field Data 2019

Besides, PLS-SEM analysis was done to get path coefficient and its statistically significant indices to confirm or reject the hypothesis as shown in Table 4.28

**Table 4.28: Audit Committee Path Statistics**

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values	Result
ACE -> IAFE	0.342	0.342	0.073	4.674	0.000	Significant
ACE_1 <- ACE	0.771	0.753	0.081	9.537	0.000	Significant
ACE_2 <- ACE	0.684	0.677	0.090	7.555	0.000	Significant
ACE_3 <- ACE	0.811	0.800	0.062	13.028	0.000	Significant
ACE_4 <- ACE	0.763	0.759	0.066	11.584	0.000	Significant

**Source:** Field Data 2019

The results in Table 4.28 indicate that a path coefficient between audit committee and internal audit function effectiveness was positive 0.342 implying that there is a positive correlation between the two latent constructs. It is argued that a substantial and significant structural path coefficient should be at least 0.20 for a confident and meaningful discussion (Chinn, 1998; Creswell & Creswell, 2018; Lowry & Gaskin, 2014). The path coefficient of 0.342 is well above the threshold set hence is significant and worth meaningful discussion. Implying that, audit committee has a significant impact as a determinant of IAFE. All path coefficients of indicators pointing to the audit committee have a significant influence which adds to the meaningful discussion as presented in Table 4.28.

Additional analysis of the level of significance on a relationship between audit committee and IAFE showed that a t-statistics of 4.674 and p-value of 0.000 as per Table 4.28. The criterion is that for a path to be statistically significant t-statistics must be at least 1.96 critical value and p-value must be equal to or lower than 0.05 which the current test achieved. All the indicators of audit committee construct were statistically significant with a critical value above 1.96 and p-values of 0.000 as indicated in Table 4.28. Therefore, hypothesis H5 is accepted.

#### **4.8.3.6 The moderation effect of Audit Committee**

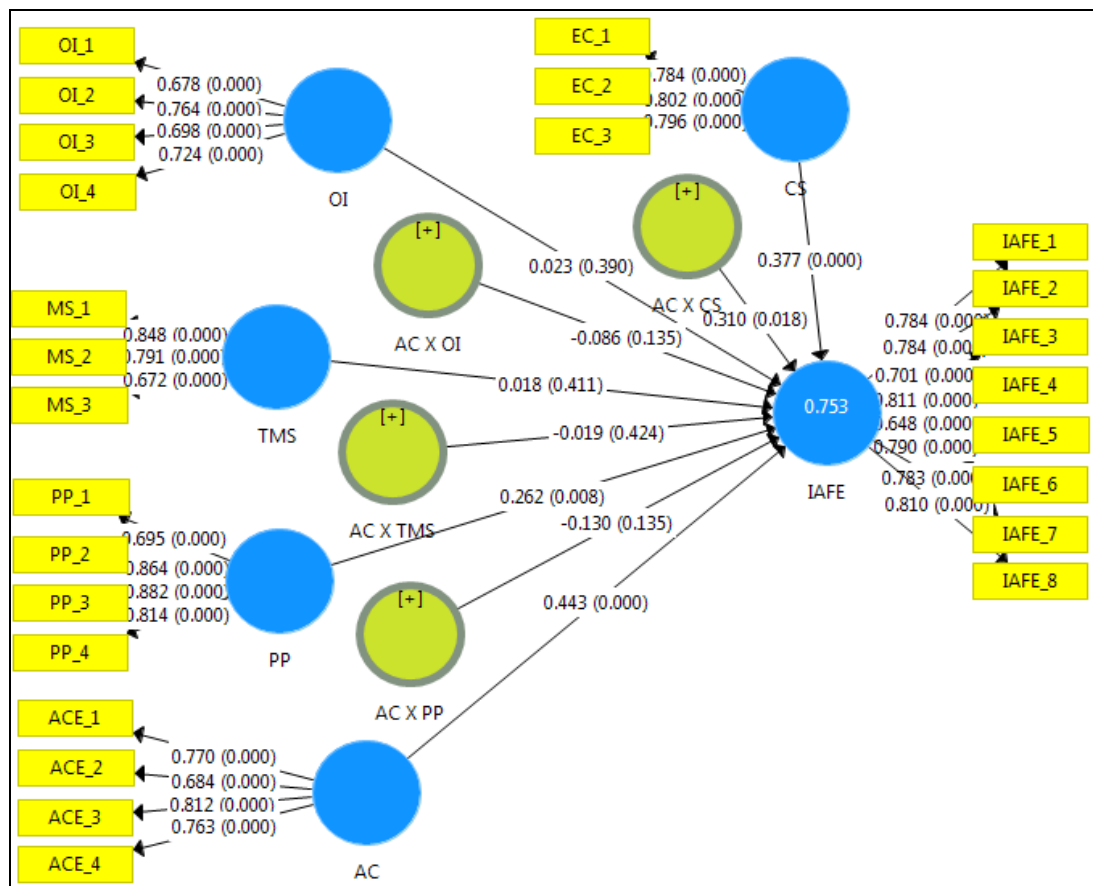
The study objective six sought to examine whether there was a moderation effect of audit committee on determinants of IAFE of listed companies in Tanzania. This objective generated hypothesizes 7 to 9 as tested below. In order to test if there was a moderation effect, two-stage moderation method was run through bootstrapping of 5,000 re-sampling to obtain statistically significant analysis to test the hypothesis in the structural model.

The coefficient of determination ( $R^2$ ) after moderation had a positive value of 0.753 as per Figure 4.3, statistically significant at a p-value of  $0.000 < 0.05$  with a critical value of  $17.873 > 1.96$  as indicated in Table 4.29. It is implied that at 5% the moderation model fits well to explain the relationship among the factors/constructs. The results exhibit that there was a moderation effect of audit committee on the independent variables and dependent variable since  $R^2$  before moderation was 0.702 which moved to  $R^2$  of 0.753 after inclusion of moderation term and was statistically significant at 5% p-value.

**Table 4. 29: R<sup>2</sup> After Moderation Path Statistics**

Endogenous/ Explained Variable	Original Sample (O)	Sam ple Mea n (M)	Standar d Deviatio n (STDE V)	T Statisti cs ( O/ST DEV )	P- Valu e	Result
<b>Internal Audit Function Effectiveness</b>	0.753	0.785	0.042	17.873	0.000	Significan t

Source: Field Data 2019



**Figure 4.3: PLS-SEM Path Model-Moderation Effect Structural Model**

**4.8.3.7 Audit Committee Moderating Effect on Organizational Independence**

The study hypothesized that there was a moderating effect of audit committee on organization independence and IAFE. The study sought to confirm hypothesized statement that;

H6: Audit committee moderates positively and significantly the relationship between organizational independence and IAFE of listed companies in Tanzania. To test this hypothesis, bootstrap analysis in Smart PLS-SEM path model was performed to generate statistical analysis as per Table 4.30

**Table 4.30: Moderation Effect on Organizational Independence Path Statistics**

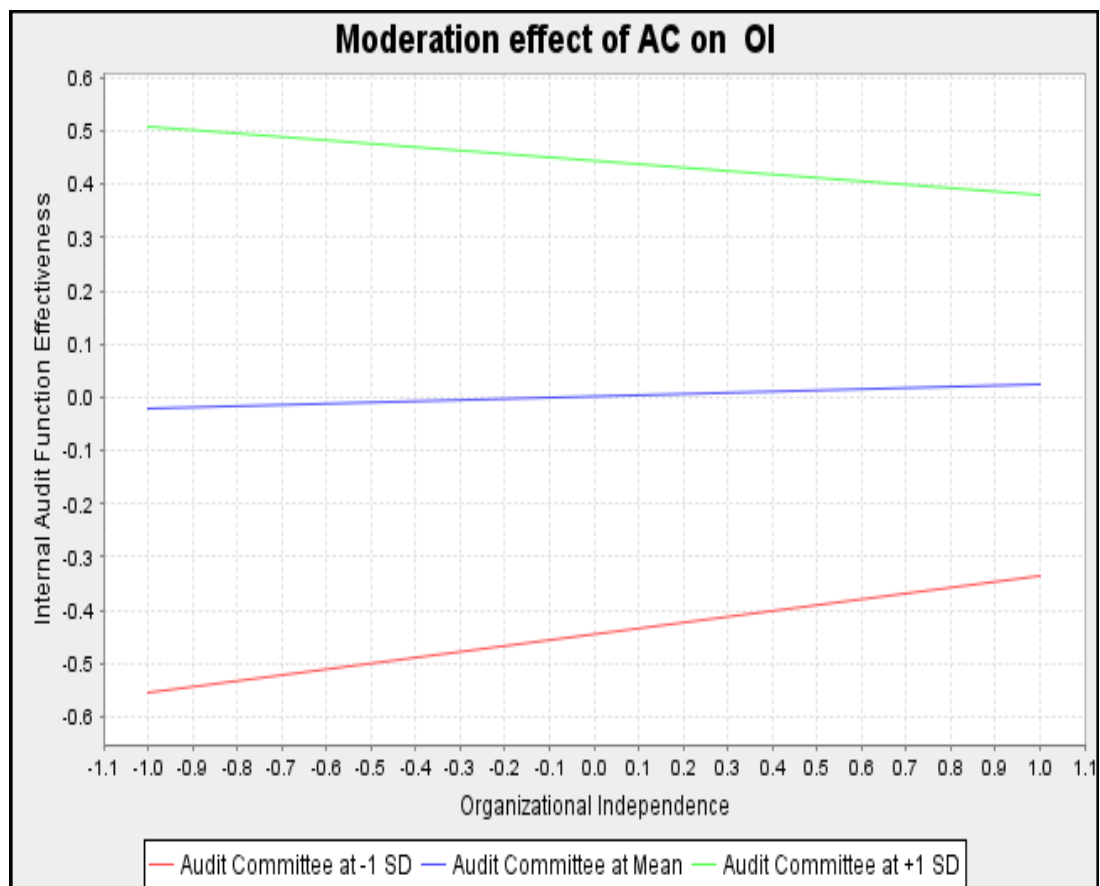
Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values	Result
<b>Moderating effect of Audit committee and Organizational Independence -&gt; Internal Audit Function Effectiveness</b>	-0.086	-0.088	0.077	1.12	0.263	Not Significant

Source: Field Data 2019

The results in Table 4.30 showed that a path coefficient of audit committee moderating the relationship between organizational independence and internal audit function effectiveness had a negative value of -0.086 implying that there was a weak negative moderating effect. It is indicated that the stronger the audit committee effectiveness the weaker the relationship between organizational independence and IAFE as provided in Figure 4.4.

Hair Jr. et al., (2017) argued that the magnitude of path coefficient and its sign provide an avenue for discussion and interpretation of the results to encapsulate phenomena presented by the moderating variable in the relationship between the two constructs. Additional analysis of the level of significance of moderating effect

of audit committee on the relationship between organizational independence and IAFE showed that t-statistics of 1.12 and p-value of 0.263 as per Table 4.30. The criteria is that for a path to be statistically significant, t-statistics must be equal to or above 1.96 critical ratio and p-value must be lower than or equal to 0.05 which the current test had not achieved. Therefore, hypothesis H6 is rejected.



**Figure 4.4 : Interaction term between audit committee (AC) and Organizational Independence (OI) on Internal audit Function Effectiveness**

#### **4.8.3.8 Audit Committee Moderating Effect on Top Management Support**

The research sought also to check if there was a moderating effect of audit committee on the relationship between top management support and IAFE as summarized in the hypothesis below: -



H7: Audit committee moderates positively and significantly the relationship between top management support and internal audit function effectiveness of listed companies in Tanzania.

To test this hypothesis, a structural path analysis of the moderating term was created in Smart PLS-SEM bootstrapping of 5,000 subsamples, 0.05 two tailed to generate significant parameters as provided in Table 4.31

**Table 4.31: Moderation Effect on Top Management Support Path Statistics**

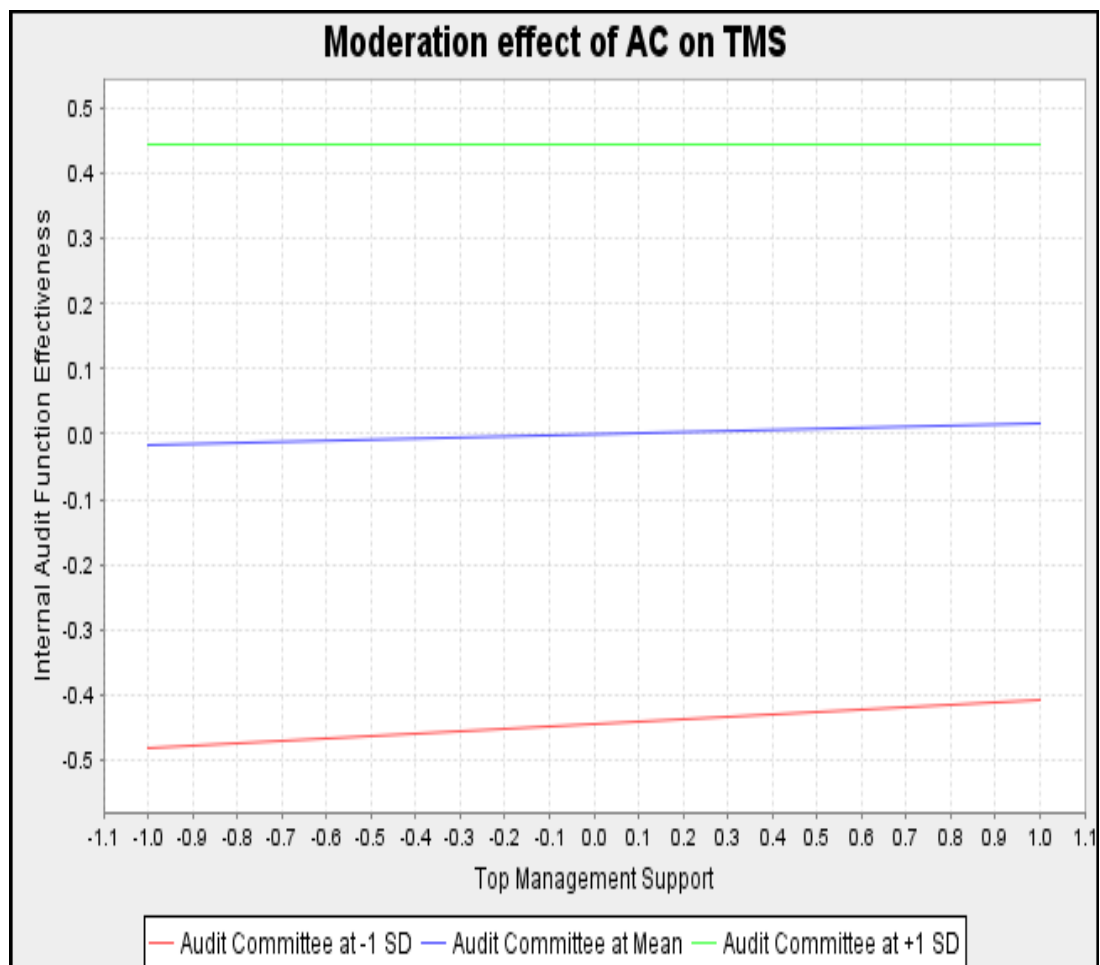
Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/S TDEV )	P-Value	Result
<b>Moderating effect of Audit committee on Top Management Support -&gt; Internal Audit Function Effectiveness</b>	-0.019	-0.01	0.097	0.192	0.848	Not significant

Source: Field Data 2019

The results in Table 4.31 showed that a path coefficient of moderating effect of audit committee on the relationship between top management support and internal audit function effectiveness had a negative value of -0.019 implying that there was a weak negative moderating effect. It is implied that the stronger the audit committee effectiveness the weaker the relationship between top management support and IAFE as provided in Figure 4.5. Hair Jr. et al. (2017) argued that the magnitude of path coefficient and its sign provide an avenue for discussion and interpretation of

the results to encapsulate phenomena presented by the moderating variable in the relationship between the two constructs.

Further analysis of the level of significance of moderating effect of audit committee on the relationship between top management support and IAFE showed that t-statistics was 0.192 and p-value was 0.848 as per Table 4.31. The criteria are that for a path to be statistically significant t-statistics must be above 1.96 critical ratio and p-value must be lower than or equal to 0.05 which the current test had not achieved. Therefore, hypothesis H7 is rejected.



**Figure 4.5: Interaction term between audit committee (AC) and Top Management Support (TMS) on Internal Audit Function Effectiveness**

#### 4.8.3.9 Audit Committee Moderating Effect on Communication Skills

The study sought to test if there was a moderating effect of audit committee on the relationship between communication skills and IAFE as hypothesized below; -

H8: Audit committee moderates positively and significantly the relationship between communication skills and internal audit function effectiveness of listed companies in Tanzania. A structural model of the path analysis from smart PLS-SEM is as shown in Table 4.32

**Table 4.32: Moderation Effect on Communication skills Path Statistics**

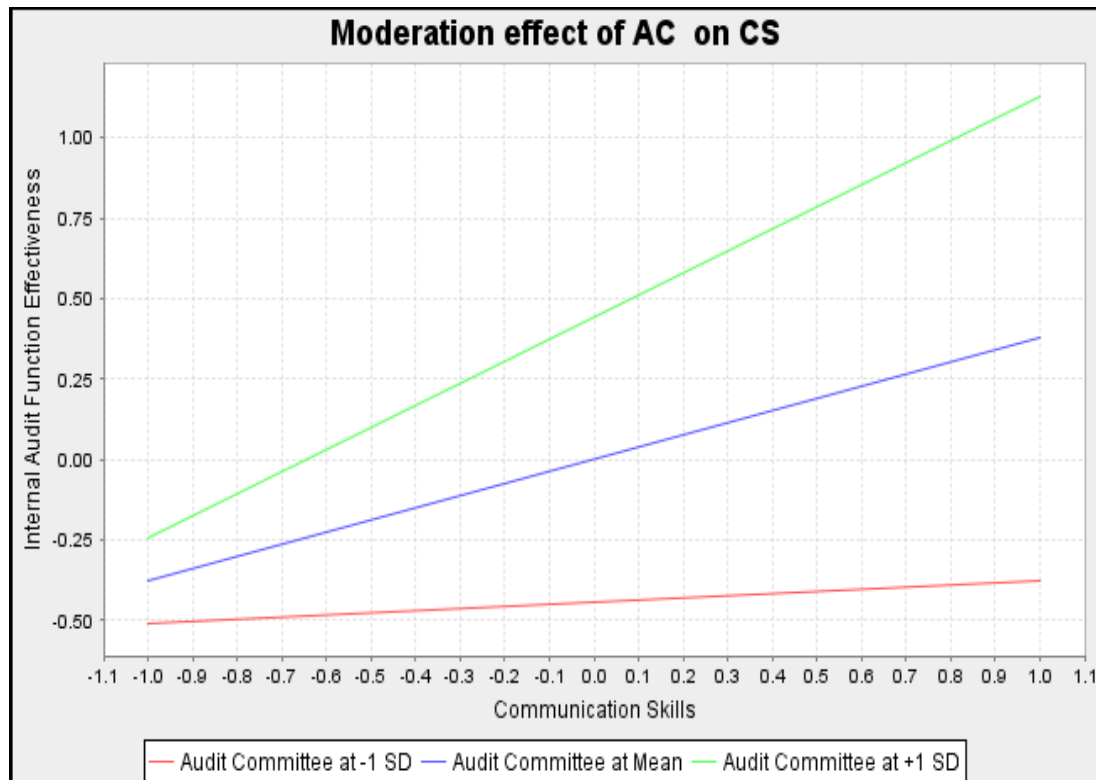
Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STD EV)	T Statistics ( O/STD EV )	P Values	Result
<b>Moderating Effect of Audit committee on Communication skills -&gt; Internal Audit Function Effectiveness</b>	0.310	0.305	0.147	2.101	0.036	Significant

Source: Field Data 2019

The results on Table 4.32 illustrated that path coefficient between moderating effect of audit committee on the relationship between communication skills and internal audit function effectiveness had a positive value of 0.310 implying that there was a positive moderating effect. It implied also that the higher the audit committee effectiveness the stronger the relationship between communication skills and IAFE and vice versa is the case as per simple slope analysis on Figure 4.6. It is posited that the magnitude of path coefficient and its sign provide an avenue for discussion and interpretation of the results to clearly show the effect brought out by the moderating

variable in the relationship between the two constructs (Hair Jr. et al., 2017).

Additionally, analysis of the level of significance of moderating effect of audit committee on the relationship between communication skills and IAFE indicate that t-statistics was 2.101 and p-value was 0.036 as per Table 4.32. The criteria is that for a path to be statistically significant, t-statistics must be above 1.96 critical ratio and p-value must be lower than or equal to 0.05 which the current test had achieved. Therefore, hypothesis H8 is accepted.



**Figure 4.6: Interaction Term between Audit Committee (AC) and Communication Skills (CS) on Internal Audit Function Effectiveness**

Figure 4.6 indicates interaction of audit committee on the relationship between communication skills and IAFE at different levels. The arrow in the middle of the graph indicates no moderating effect of Audit Committee on the relationship

between the two constructs. It shows a normal relationship between communication skills and IAF effectiveness. However, at low interaction effect of audit committee by moving one standard deviation below the mean (-SD), the slope of the arrow at the bottom is flatter implying that the weaker the relationship between communication skills and IAFE as result of audit committee moderation effect. That the direction of the relationship between the two constructs was pulled down due to the strength of audit committee moderation effect.

On the other hand, a move by one standard deviation above the mean (+SD) by the interaction effect of audit committee, the arrow at the top shows a steeper slope indicating a positive moderating effect on the relationship between communication skills and IAFE (Hair Jr. et al., 2017). It implies that the stronger the audit committee, the stronger the relationship between communication skills and IAFE, and vice versa is true. However, the moderation effect was partial since the relationship between communication skills and IAFE was significant before introduction of interaction effect (Zainudin, 2015).

#### **4.8.3.10 Audit Committee moderating effect on Professional Proficiency**

Lastly, the study sought to explore whether there was a moderating effect of audit committee on the relationship between professional proficiency and IAFE which culminated into the hypothesis below; -

H9: Audit committee moderates positively and significantly the relationship between professional proficiency and IAFE of listed companies in Tanzania,

A structural model of the path analysis from smart PLS-SEM bootstrapped at 5,000

sub-samples with path statistics is as shown in Table 4.33

**Table 4.33: Moderation Effect on Professional Proficiency Path Statistics**

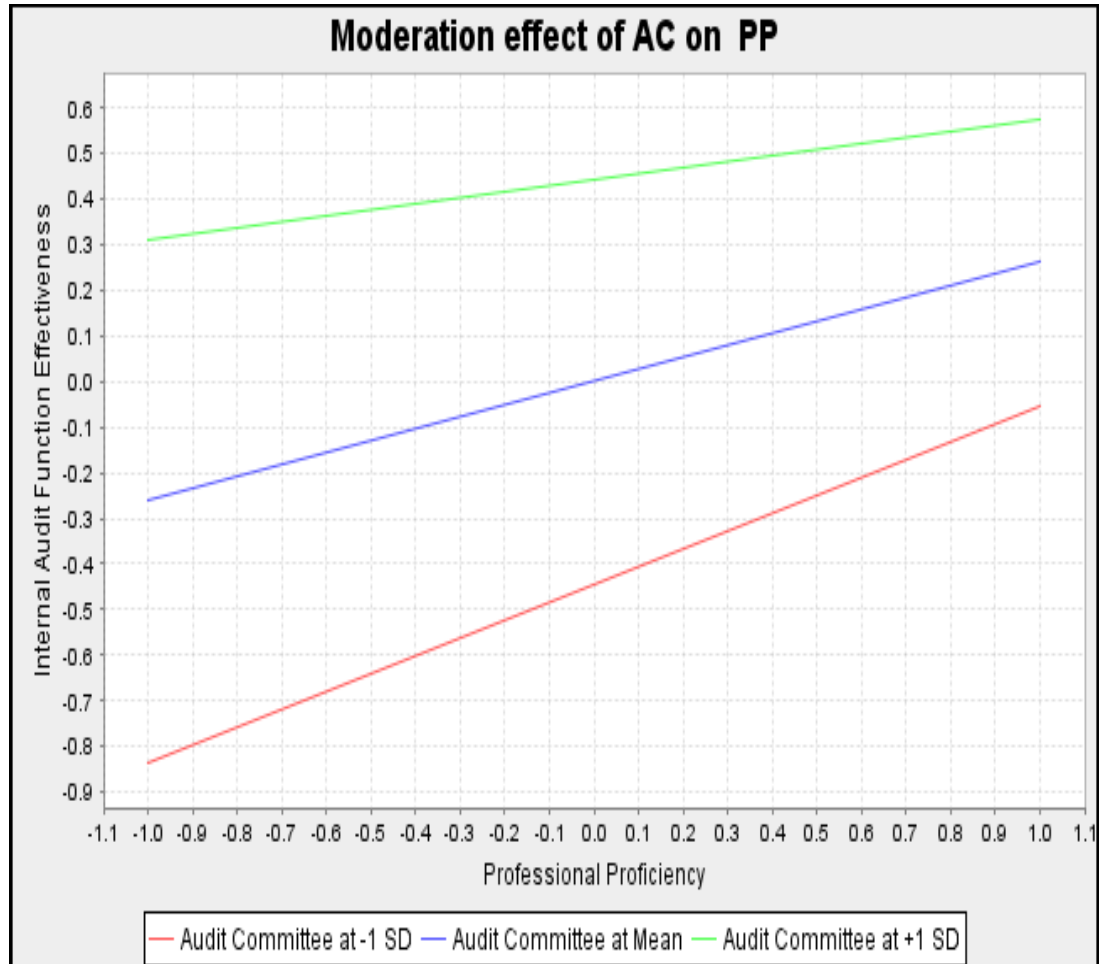
Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values	Result
Moderating effect of Audit committee on Professional Proficiency -> Internal Audit Function Effectiveness	-0.130	-0.120	0.117	1.112	0.266	Not significant

Source: Field Data 2019

The results in Table 4.33 indicate that a path coefficient of moderating effect of audit committee on the relationship between professional proficiency and internal audit function effectiveness had a negative value of -0.130 implying that there was a negative moderating effect. It is implied that the stronger the audit committee the weaker the relationship between professional proficiency and IAFE as depicted in Figure 4.7 . It is contended that the magnitude of path coefficient and its sign provide an avenue for further discussion and interpretation of the results to clearly show the effect brought out by the moderating variable in the relationship between the two constructs (Hair Jr. et al., 2017).

In addition, Table 4.33 indicates a t-statistics critical ratio of 1.112 which is below set criterion of 1.96 and p-value of 0.266 which is above set p-value of 0.05. The criterion is that for a path to be statistically significant t-statistics must be above 1.96 critical ratio and p-value must be lower than 0.05 which the current test had not

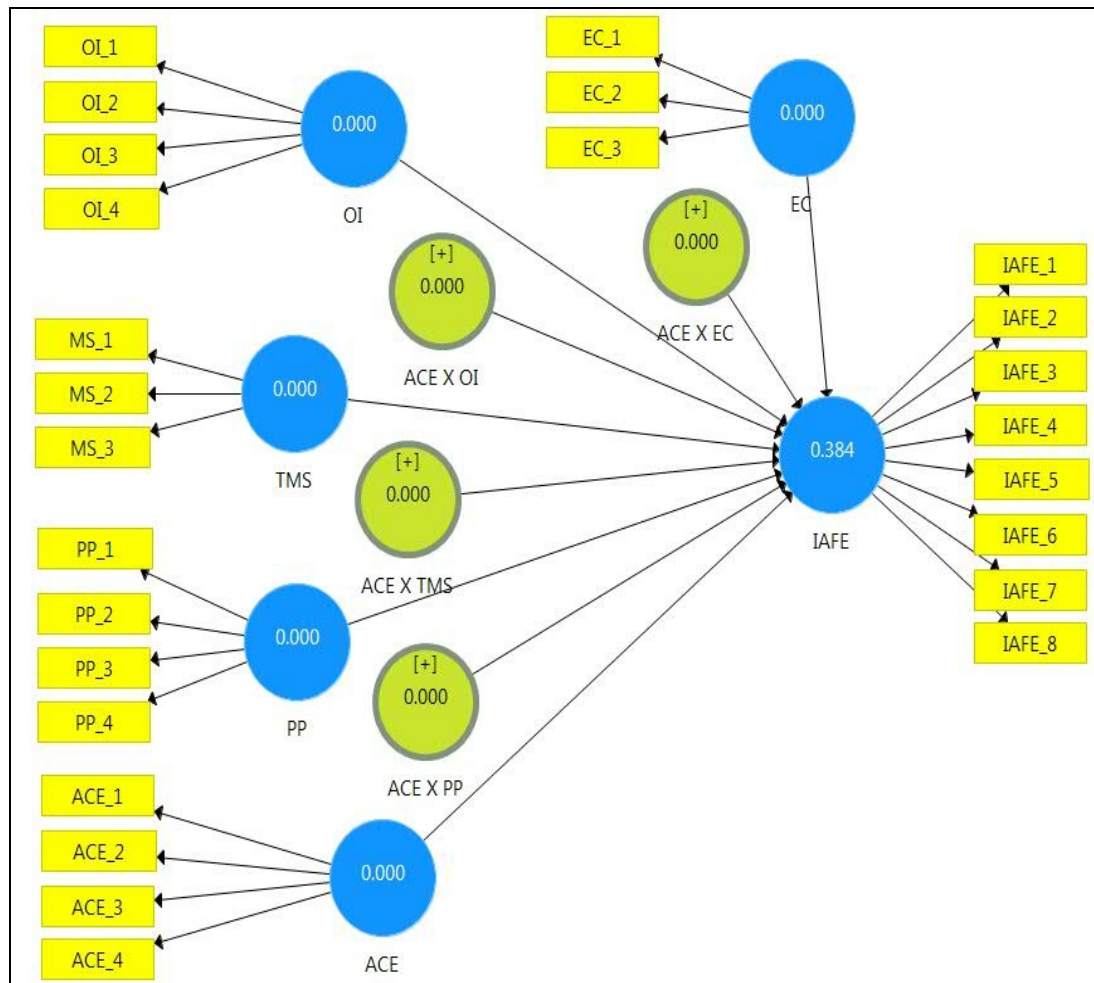
achieved. Therefore, hypothesis H9 was rejected



**Figure 4.7: Interaction term between Audit Committee (AC) and Professional Proficiency (CS) on Internal Audit Function Effectiveness**

#### 4.9 Predictive relevance of the Structural Model

Figure 4.8 test result showed a predictive relevance  $Q^2$  score of 0.384 which is above zero confirming that the exogenous variables of the path model sufficiently predicted the endogenous latent variable of the study. The model  $Q^2$  of 0.384 is considered as a medium predictive relevance as per guideline provided in section 3.14.2.8.



**Figure 4.8: Predictive relevance of the Model**

#### 4.10 Measuring the Main Effect Size ( $f^2$ )

The effect size results of the exogenous construct on endogenous construct from Smart PLS-SEM is as shown in Table 4.34. The main effects of Audit Committee and Communication Skills had moderate effect while Professional Proficiency had a weak effect as per benchmark provided in section 3.16f.2.5. This is in line with the hypothesis test that the three independent variables were statistically significant as determinants of IAFE. However, Organizational Independence and Top Management Support had no real effect on IAFE as indicated in Table 4.34 and guideline provided in section 3.16.1..



**Table 4. 34: Effect Size ( $f^2$ ) of Exogenous Variables on IAFE**

Construct/Independent Variable	Effect Size( $f^2$ )	Effect Category (Basis section 3.14.2.5)
Audit committee	0.213	Moderate
Communication skills	0.181	Moderate
Organizational Independence	0.000	No effect
Professional Proficiency	0.057	weak
Top Management Support	0.006	No effect

**Source:** Field Data 2019

#### 4.11 Measuring the Moderation Effect Size ( $f^2$ )

Interaction term (moderation) effect size was evaluated through Smart PLS-SEM as per Figure 4.5 and Table 4.35 in line with benchmark provided in section 3.16.2.6.

The moderation effect of audit committee on the relationship between communication skills and IAFE was large as per Table 4.35 which was confirmed by statistically significant of the path and acceptance of hypothesis H8 of the study.

**Table 4.35: Moderation Effect Size ( $f^2$ )**

Moderation term	Effect Size( $f^2$ )	Effect Category (Basis section 3.14.2.6)
Moderation effect of AC on CS	0.096	Larger
Moderation effect of AC on OI	0.015	Medium
Moderation effect of AC on PP	0.023	Medium
Moderation effect of AC on TMS	0.001	No effect

**Source:** Field Study 2019

**Key:** AC=Audit committee. CS=Communication skills, OI=Organizational Independence, PP=Professional Proficiency, TMS-Top Management Support

However, moderation effect of audit committee on professional proficiency and organizational independent was medium which confirmed statistically insignificant of the paths and rejection of the hypotheses H6 and H9 respectively. Lastly,

moderation effect of audit committee on the relationship between top management support and IAFE had no effect implying that no change in strength or direction of the relationship which was confirmed by non-significance of the path and rejection of hypothesis H7 of the study.

#### 4.12 Goodness-of Fit Index (GOF)

Table 4.36 reported GOF score of 0.669 which is judged as a large index as per criteria provided in section 3.16.2.4. The GOF index confirmed that the model has predictive power and that the empirical data fits the model sufficiently implying that the model was better than a baseline model.

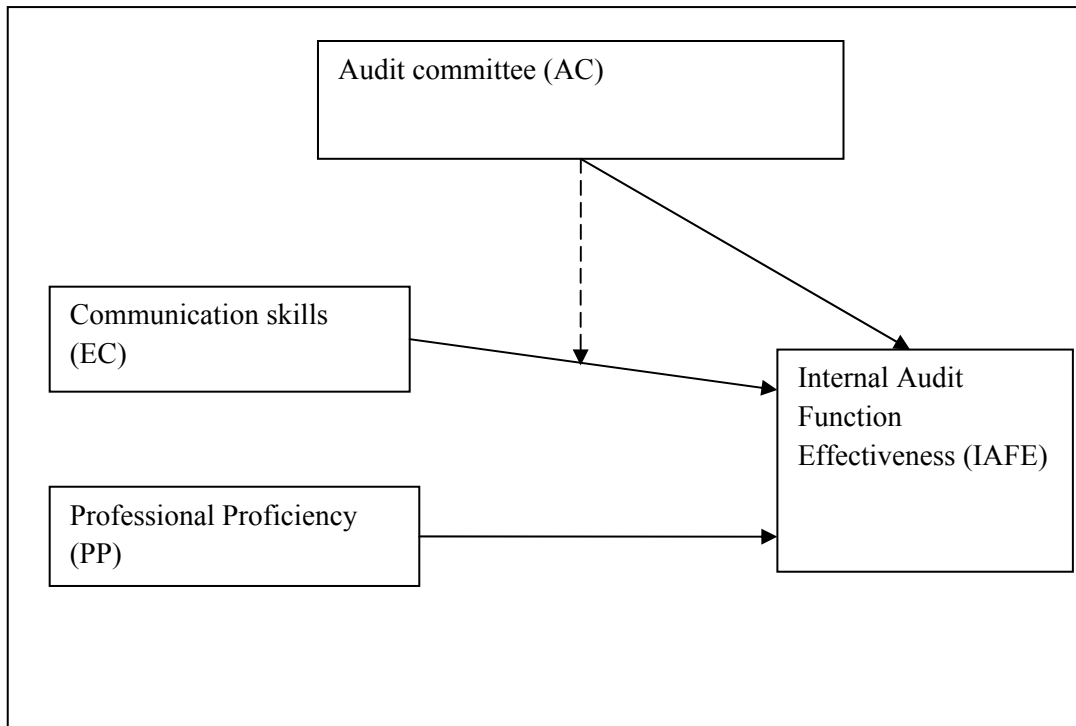
**Table 4.36: Goodness-of-Fit Index Computation**

<b>construct</b>	<b>AVE</b>	<b>R2</b>
Audit committee	0.576	
Communication skills	0.631	
Organizational Independence	0.514	
Professional Proficiency	0.668	
Top Management Support	0.599	
Internal Audit Function Effectiveness	0.587	0.753
Average Values	0.596	0.753
AVE x R2	0.417	
$GOF = \sqrt{(\text{Average AVE} * \text{Average R}^2)}$	0.669	

Source: Field Data 2019

#### 4.13 Hypothesized model of the study

Figure 4.9 showed that communication skills, audit committee and professional proficiency were major determinants of IAFE. Figure 4.9 also showed that audit committee moderates partially relationship between communication skills and IAFE. Consequently, Figure 4.9 was the final conceptual model of the study.



**Figure 4.9: Hypothesized Model of Study**

In a nutshell, measurement model and structural model were confirmed. Hypothesis results have shown that audit committee, communication skills, professional proficiency and the moderating effect of audit committee on a relationship between communication skills and IAFE were statistically significant. It was also shown that top management support and organizational independent were not statistically significant as determinants of IAFE. The test confirmed the achievement of global goodness-of-fit indices which pave way for discussion of the findings for conclusion, implication and recommendation for further study.

## **CHAPTER FIVE**

### **DISCUSSION OF FINDINGS**

#### **5.1 Introduction**

This chapter discusses the reported findings in chapter four. It compares and contrasts the results obtained with empirical results reported by other scholars around the globe pertaining to the surveyed area. The study key objective was to find out the determinants of IAFE of DSE listed companies in Tanzania. The independent variables surveyed were organizational independence, top management support, professional proficiency, communication skills and audit committee as determinants of IAF effectiveness as a dependent variable. The study also researched on moderating effect of audit committee on the relationship between the independent variables and the dependent variable. Therefore, findings are discussed in the sections that follow: -

#### **5.2 Organizational Independence**

The study hypothesized that organizational independence determines positively and significantly internal audit function effectiveness. The result of the empirical data analysis though reported positive effect did not support the hypothesized model that organizational independence was statistically significant determinant of IAF effectiveness. However, organizational independence indicators were statistically ( $p=0.000$ ) significant as a measure of the construct and influenced IAFE. Therefore qualify for further discussion.

Organizational independence indicators were; functional reporting line of the head of internal audit, free access to records, people and information systems, appointment

and removal of head of internal audit by the board of directors and autonomy of the IAF in the company. The indicator of functional reporting to the audit committee statistically ( $p=0.000$ ) showed that it strengthening organizational independence of IAF. Equally, ultimately decision by audit committee/board of directors to appoint and remove head of IAF signify organization independence of IAF as this will deter management from threatening independence of the function. Similarly, free access to records, systems and people aid IAF to execute its responsibilities effectively which gives also the functional autonomy to audit any area in the company without hindrance from top management which empirically proved by the study to strengthening organizational independence.

The study findings contradicted results of different scholars that organization independence is not the most significant determinant of IAFE (Cohen & Sayag, 2010; Fekadu, 2018; Kehinde et al., 2017; Nyaga & Kamau, 2018; Poltak, Sudarma, & Purwanti, 2019; Thi & Huong, 2018). Invariably, it proved statistically that results are context specific (Abdullah, 2014). It connotes that findings from different parts of the world cannot hold the same results in Tanzania environment. The study agreed with the claim that organizational independence is a cornerstone of internal auditing of which without it, is like a giraffe without a neck (Kehinde et al., 2017). This also agrees with the assertion that lack of organizational independence renders IAF as a mere management extension of its activities as it cannot monitor it (Abbott et al., 2016).

In addition, this study concurred with Cohen and Sayag (2010) that if IAF lacks organizational independence, auditees will not trust it hence perceived as ineffective

function in the company. The study impliedly showed that IAF in Tanzania lacks organizational independence which is a sign of ineffectiveness. However, the results were in agreement with a study conducted in Kosovo which reported an insignificant impact of internal audit independence on internal audit function effectiveness (Rudhani, Vokshi, & Hashani, 2017). The result suggested that organizational independence of IAF of listed companies in Tanzania was not statistically ( $p=0.914$ ) significant factor to determine its effectiveness.

Organizational independence is found to be crucial in every profession and particularly in auditing, lack of it renders the profession worthless as it cannot stand on its professional ethics and norms (Iswari & Kusuma, 2013). This phenomenon is attributed to an embryonic stage of corporate governance in Tanzania as transparency and accountability are lacking (Melyoki, 2005). Moreover, it implied that internal auditors of the listed companies in Tanzania were not independent as they had no free access to records, information systems and they do not report to the highest position which facilitates their independence. They were also not free to audit any area they wish and issue report without being altered to meet management wishes. The results of this study did not support the proposition of agency theory that IAF must be independent to monitor management effectively (Jensen & Meckling, 1976). Adams, (1994) amplified that for an internal audit function to be effective auditors must be independent and objective in carrying out its duties.

Organizational independence as a factor is not under the control of internal auditors rather management who makes IAF independent (Baharud\_din et al., 2014; Shahimi, Dato' Mahzan, & Zulkifli, 2016). This implied that corporate governance in the DSE

listed companies in Tanzania was not matured enough to allow IAF to have freedom of what to do and report to the audit committee. It showed that top management established IAF to comply with statutory requirements by CMSA as a symbolic function but not an effective one to add value in the companies. This is echoed by Ramachandran et al.(2012) that establishment of IAF as statutory obligations, do not add value to the organization as they do not conduct risk based auditing rather monitoring and compliance audit. It is perceived that IAF of listed companies in Tanzania was effective in compliance and monitoring audit since its establishment was to meet statutory obligations and not for risk-based audit to add value in the companies.

### **5.3 Top Management Support**

The study theorized that top management support determines internal audit function effectiveness of listed companies in Tanzania. However, the result of the findings showed that top management support was required but was statistically insignificant ( $p=0.523$ ). Surprisingly, indicators of top management support were statistically significant ( $p=0.000$ ) as a measure of the construct and influenced IAFE which pave way for this discussion.

The result was in agreement with Jiang et al., (2018) who argued that top management embraces ineffective IAF so as to avoid rigorous scrutiny so that they can continue to act opportunistically to benefit from the company resources at the expense of the shareholders, consistent with agency theory. Conversely, the study results were contrary to the assertion that management support is a prerequisite for IAF effectiveness, commitment for resources and implementation of

recommendations rests with them which leads to internal audit function effectiveness in the company as a consequence (Cohen & Sayag, 2010; Obeid & Abdelnur, 2018). The results negated the assertion that management makes IAF effective as it set it with an objective in mind to be effective (Azzali & Mazza, 2018). Surprisingly, high level of top management support was expected for IAF as most of the listed companies in Tanzania are banks and financial institutions which are associated with high risks and are highly regulated (Narayanaswamy, Raghunandan, & Rama, 2018). This adds to the fact that IAF is established as a symbolic function to meet regulatory requirements.

The study results further negated empirical findings of other researchers that top management support is a cornerstone of IAFE that facilitate other factors like organizational independence, employing sufficient competent staff and support IAF with appropriate training and development and establishing an effective audit committee which are all decisions that depend on top management commitment (Alkebsi & Aziz, 2017; Alqudah et al., 2019; Alzeban & Gwilliam, 2014a; Cohen & Sayag, 2010; Dejnaronk et al., 2015; Endaya & Hanefah, 2016; Lenz & Hahn, 2015; Thi & Huong, 2018). Chevers et al. (2016) assert that top management commitment for change as a result of visionary thinkers make internal audit function effectiveness which the current study refuted.

However, the study was in agreement with findings of Fekadu (2018) and Mustika (2015) who established that though top management support is necessary but it is not a chief factor to influence internal audit function effectiveness. Since the establishment of IAF in the DSE listed companies in Tanzania is a statutory



requirement, management put them in place as a symbolic role and not as an effective function to add value to the firm. It is also contended that IAF can be effective only if top management has interest, dedication and provide the necessary encouragement to make it effective (Carey et al., 2000; Tackie, Marfo-Yiadom, & Oduro Achina, 2016).

Ramachandran et al. (2012) confirmed that establishment of IAF in commercial banks in Tanzania was as a result of Bank of Tanzania mandatory requirement and therefore their existence was to do statutory role of compliance and monitoring mechanism and not risk based auditing to add value to the stakeholders. This also marries with Nicodemus (2010) assertion that IAF roles are not appreciated as people still hold the old notion that is company police, therefore its establishment was not as a result of top management liking. This evidenced that IAF in DSE listed companies in Tanzania are not effective as they were statutorily required by CMSA. Poltak et al.(2019) linked non-significance of top management support to internal audit function effectiveness as general support which is limited to rules and standards and not of high commitment to impact effectiveness of internal audit function.

Similarly, it is also found that management as a key stakeholder of IAF is forced to establish IAF to comply with statutory requirements which render the function ineffective as a result of lack of support from top management (AL-Shetwi Mohammed, Ramadili, Chowdury, & Sori, 2011). Cohen and Sayag (2010) likened these phenomena to an organizational-professional conflict where IAF struggles to

attain effectiveness through professionalism as a result of lack of management/organizational members support which bring tension in the company. Although top management was not a significant factor as a determinant of IAFE, it added to the IAFE in compliance and monitoring to regulations and laws governing the DSE listed companies in Tanzania.

#### **5.4 Professional Proficiency**

Professional proficiency was also hypothesized as a critical factor in the effectiveness of IAF of listed companies in Tanzania. The results of the study confirmed that professional proficiency was positively and statistically significant ( $p=0.045$ ) determinant of IAFE. This concurred with International Professional Practices Framework (IPPF), IIA (2015) which emphasizes that possession of knowledge, skills and other competencies enable internal auditors to carry out their responsibilities effectively. The result also concurred with Elmghaamez and Ntim, (2016) who claimed that without skills in key areas like professional, interpersonal and technical skills in auditing render internal audit as a mere ineffective function in the company. In addition, the results were similar to other studies done in other different parts of the world (Chevers et al., 2016; Dejnaronk et al., 2015; Endaya & Hanefah, 2016; Mustika, 2015; Vadasi et al., 2020).

Ironically, the study contrasted other empirical results which proved professional proficiency as an insignificant determinant of IAF effectiveness (Cohen & Sayag, 2010; Poltak et al., 2019). Some studies empirically proved that internal audit effectiveness does not depend on the professional qualifications of internal audit staff rather on organizational management characteristics of the company which the

current study refuted (Cohen & Sayag, 2010).

The results proved that in developing countries, professional competence is important unlike in developed nations like in the USA was not a dominant factor rather in Turkey developing economy is important (Gramling, Nuhoglu, & Wood, 2013). The reasons are that internal audit profession in the USA has a long history since its establishment in 1941, matured capital markets and corporate governance, therefore professional proficiency is not value-adding factor unlike in Turkey a developing country (Gramling et al., 2013). However, the study results signified a professional-organization conflict where internal auditors embrace their professional norms to be effective (Cohen & Sayag 2010). This showed that professional internal auditors can be effective irrespective of organizational members support which depicts infancy of the profession in the Tanzania situation (Ramachandran et al., 2012).

The results of this study impliedly prove that institutional pressures of internal audit profession norms influence IAF effectiveness hence change the way things are done in the company to attain its business objectives (Vadasi et al., 2020). Therefore, an effective internal function of listed companies in Tanzanian context should possess pertinent knowledge of the business operations, professional certification, technical competence and lastly compliance with international standards of internal auditing in the execution of its responsibilities.

### **5.5 Communication Skills**

The study also hypothesized that communication skills determine IAFE of listed

companies in Tanzania. The results of the surveyed data revealed that indeed communication skills was positive and statistically significant ( $p=0.003$ ) determinant of IAFE of listed companies in Tanzania. The findings concurred with the study of other scholars that communication skills are a significant determinant of internal audit function effectiveness (Endaya & Hanefah, 2016; Mbelwa & Lenatusi, 2019; Narkchai, Binti Fadzil, & Thungwha, 2017).

The results concurred with Mbelwa and Lenatusi (2019) that communication skills are an important ingredient of IAFE in Oil and Gas industries in Tanzania. In a similar vein, it is found that communication effectiveness makes IAF effective especially when internal auditors communicate among themselves, with auditees and other stakeholders (Farkas, Hirsch, & Kokina, 2019; Setyaningrum & Kuntadi, 2019). Besides that, communication barriers between IAF and auditees and other stakeholders can hinder internal audit function from achieving its intended objectives.

Similarly, the results concurred with IIA (2015) standard 2420 which stipulated that an effective internal audit function must use quality communication by being accurate, objective, clear, concise, constructive, complete and timely. The results were also congruent with Elmghaamez and Ntim, (2016) who found that communication skills are a cornerstone of internal audit effectiveness in Libya which is a developing country like Tanzania. However, the results contradicted findings by Dejnaronk et al. (2015) who observed that communication skills are not a determining factor for IAFE in Thailand. Theoretically, the results of this study improve the level of trust between management and shareholders which is caused by

information asymmetry, the source of the agency problem, by advocating for an effective IAF communicating effectively pertinent information to them (Drogalas et al., 2015; Liu, 2017). Therefore, the results supported that, internal auditors must be effective communicators in the company to provide an effective function.

### **5.6 Audit Committee**

The study also postulated that audit committee has a significant positive impact as a determinant of internal audit function effectiveness of listed companies in Tanzania. The findings of the questionnaire survey supported the hypothesis that audit committee was positive and statistically significant ( $P=0.000$ ) determinant of IAFE of listed companies in Tanzania. This result concurred with other scholars' findings that it is a significant factor for internal audit function effectiveness (Alzeban & Sawan, 2015; Endaya & Hanefah, 2016; Goodwin, 2003). The findings proved assertion that audit committee is a significant agent in an organization to influence other functions in the organization to be effective (Turley & Zaman, 2007).

Similarly, the results were in line with the assertion by Kontogeorgis (2018) that audit committee is an important mechanism to influence the effectiveness of internal audit in the company. The findings further were compatible with the assertion that a strong audit committee enhances the effectiveness of internal audit function (Al-Matari & Mgammal, 2020; Shamki & Alhajri, 2017). Theoretically, it is inferred that audit committee strengthening IAF effectiveness in reducing agency problem in the company (Cai et al., 2015). It is inferred that having independent members who are finance experts, meeting quarterly and knowledgeable in the company business operations make the audit committee effective hence have a cascading effect on the

effectiveness of the internal audit function of the listed companies in Tanzania.

### **5.7 Audit Committee Moderating Effect on Organizational Independence**

The study also hypothesized that audit committee has a significant positive moderating effect on the relationship between organizational independence and IAF effectiveness. The findings of the study revealed that audit committee had statistically insignificant ( $p=0.263$ ) moderating effect on the relationship between organizational independence and internal audit function effectiveness. The findings were contrary to the assertion that audit committee maintains and enhances organizational independence of IAF to do its duties freely without management interference (Al-Baidhani, 2016).

Similarly, an argument was also echoed that audit committee preserves and enhances the independence of IAF which the current study did not support (Sori, Hamid, & Nassir, 2006). The observations also contradicted the argument that an audit committee enhances the level of IAF independence which makes it more effective (Endaya & Hanefah, 2016; Kamau, 2014). Since corporate governance in Tanzania is still at an infancy stage, direct involvement of audit committee members is limited particularly to quarterly meetings as they have no regular interaction with IAF to influence its organizational independence.

### **5.8 Audit Committee Moderating effect on Top Management Support**

The results of this study indicate statistically insignificance ( $p=0.848$ ) moderating effect of audit committee on the relationship between top management support and internal audit function effectiveness. The findings invalidate assertion that audit

committee monitors internal audit plan and its execution and at the same time monitor action taken by the top management in the implementation of internal audit recommendations (Crawford, Henry, McKendrick, & Stein, 2008).

The results were inconsistent with empirical evidence by Barua, Rama, & Sharma, (2010) who observed that presence of an audit committee leads to more investment in internal auditing as a result of support from top management which ultimately makes IAF effective. In a similar vein, it is argued that audit committee intervenes/moderates senior management support to ensure internal audit function effectiveness which is refuted by the study results (Endaya & Hanefah, 2016). Therefore, the results did not support agency theory that audit committee moderate relationship between IAF effectiveness and top management support as a governance mechanism in the company.

### **5.9 Audit Committee Moderating Effect on Professional Proficiency**

The results of the moderating effect of audit committee on the relationship between professional proficiency and internal audit function effectiveness was negative and not statistically significant ( $p=0.266$ ). The results contradicted findings by (Badara & Saidin, 2014a) that an audit committee has a moderating effect on professional proficiency/ IAF rich experiences and internal audit function effectiveness. The result confirmed the inversely proportional relationship between professional skills of internal auditors and audit committee members to be effective (Hermanson, 2016). Therefore, CIA who provides professional skills to AC members allows more intervention of AC on the professionalism of the internal auditors that leads to the effectiveness of internal audit function (ibid). In a similar vein, the result concurred

with Alzeban (2018) who found negative interaction effect of audit committee on internal audit professional competence and decrease in reporting of internal control weakness reporting in the United Kingdom listed companies. The author supports moderating effect of audit committee on professional proficiency and IAFE. Therefore, the study underscored the need for audit committee interaction effect on the professionalism of IAF to attain objectives established for delivering added value services into the company. However, it did not support the agency theory of the study.

#### **5.10 Audit Committee moderating effect on Communication Skills**

The results showed partial positive statistically significant ( $p=0.036$ ) moderating effect of audit committee on the relationship between communication skills and internal audit function effectiveness. The result support study by (Khelil, Akrou, Hussainey, & Noubbigh, 2018) that the presence of an audit committee enhances communication effectiveness of IAF to courageously report managers' misconduct for IAF effectiveness.

Similarly, the result concurred with a study done in Tanzania which showed that interaction between audit committee and IAF spur effectiveness of the function which underscored communication effectiveness (Ramachandran et al., 2012). The result support agency theory that audit committee moderates a relationship between communication skills and IAFE. Therefore, audit committee adds to the strength of IAF effectiveness where they hold private meetings and make regular interaction with CIA to ensure IAF plays its corporate role effectively as enshrined in the internal audit charter.



## CHAPTER SIX

### CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

#### 6.1 Introduction

The study main objective was to find out determinants of internal audit function effectiveness of listed companies in Tanzania. It proposed whether organizational independence, top management support, communication skills, professional proficiency and audit committee have a statistically significant positive impact on effectiveness of internal audit function. The study also sought to test whether audit committee has a moderating effect on the relationship between the determinants and IAFE.

The research study stands on the bedrock of agency theory supplemented by institutional and communication theories as lenses to elicit the testable constructs. The results of the research based on 2,576 (92x28) observations obtained from survey questionnaires distributed to respondents from listed companies in Tanzania. Descriptive statistics of the study were done in IBM-SPSS-22 and inferential statistics were run through Smart PLS-SEM path modeling version 3.2.9. This chapter provides in nutshell key conclusions of the study, implications of pertinent issues, study limitations, and recommendations for further research.

Implications are provided regarding theories, practices and contributions of the study to the management of the listed companies in Tanzania, professional and regulatory bodies, policymakers, internal auditors and academia to apply the results for enhancing their IAF and broadening their knowledge regarding internal audit function effectiveness in Tanzania. Lastly, limitations and recommendations for

further study are provided.

## **6.2 Conclusion**

### **6.2.1 Organizational Independence as a Determinant of IAFE**

The study investigated organizational independence as a determinant of IAFE. Organizational independence was measured by four manifest variables of functional reporting of the head of IAF to the Audit Committee, free access of internal auditors to the employees, records and information system, board approval for appointment and removal of the head of internal audit and autonomy of IAF in the company. The manifest variables confirmed positively and a statistically significant measure of organizational independence as a latent variable and influenced on IAFE. It was vividly reported that for IAF to be independent, reporting, appointment and removal of the head of IAF must be to the board of directors especially it's audit committee which can affect the decision making of the top management as principal. It was important to note that, the autonomy of IAF with latitude to audit any area and report is vital when the function is granted free access to records, information systems and interaction with staff of the organization.

Although organizational independence reported positive path coefficient reflecting positive association with IAFE, it was not statistically significant ( $p=0.914$ ). It is inferred that, though literature premised organizational independence as a chief determinant of IAFE, the maturity of corporate governance play a part. Therefore, the context of where IAF operates determines its effectiveness in line with the well-established corporate governance. The findings did not support the agency theory of the study that organizational independence is an ingredient for IAFE of listed

companies in Tanzania.

### **6.2.2 Top Management Support as a Determinant of IAFE**

The objective number two was to examine support of top management as a determinant of IAFE. The tested hypothesis revealed that there was a positive association of top management support with IAFE but was not statistically significant (0.523). Measurement of this construct was made through observed variables of management consider IAF as a valuable unit in the organization, management ensures implementation of findings and recommendations, management provides inputs to annual internal audit plan and management support IAF with training and career development of its staff.

The indicators were found to be a statistically significant measure of top management support and also influenced IAFE. Support of top management and its commitment is very crucial for any unit in the company to achieve objectives its efficiently. It is concluded that top management support is not a factor for IAFE, management support provided is weak since IAF is seen to meet statutory requirements. There is no urge for the top management to make IAF effective. The findings reflectively support agency theory that management support IAF to please principals that their actions are monitored.

### **6.2.3 Professional Proficiency as a Determinant of IAFE**

Objective number three was to determine if professional proficiency is related to IAFE of listed companies in Tanzania. Through a review of literature and theories, the study hypothesized that professional proficiency impact positively and

significantly IAFE of listed companies in Tanzania. The result of the hypothesis test revealed positive and statistically significant ( $p=0.045$ ) effect of professional proficiency as a determinant of IAFE. The construct was measure through indicators of internal auditors' qualifications, applications of international standards, technical and professional competence and knowledge of the company business operations.

The indicators measured statistically professional proficiency as a construct and showed a strong influence on IAFE. Professional proficiency encompasses qualifications both academic credentials and professional, technical, and understanding of international standards and business of the respective company which facilitate internal auditors to add value in the company. Professional proficiency is a factor which can be determined by the internal auditors themselves, therefore they have to ameliorate this factor in order to be effective in their internal audit value adding services. It is strongly concluded that professional proficiency is a determinant of IAFE which support the institutional theory of the study.

#### **6.2.4 Communication Skills as Determinant of IAFE**

Objective number four examined whether communication skills determine IAFE of listed companies in Tanzania. The study hypothesized that communication skills impact positively and statistically significantly IAFE of listed companies in Tanzania. The results of the hypothesis test revealed positive and statistically significant (0.003) impact of communication skills on IAFE. Measurement of communication skills was done through indicator variables of timely, understandable and relevant reports, collaboration and interaction of head of IAF with top management which were found to be a statistically significant measure of the

construct and influence IAFE. It was revealed that for internal audit to be effective it must communicate effectively with the auditee, internal auditors themselves and other stakeholders like top management, the board of directors and audit committee. They have also to produce easy and understandable reports focusing on the recipient objectives and avoid professional technical jargons which obscure the meaning of the report for implementation.

The report also must be timely produced focusing on relevant strategic issues of the company. In addition, collaboration with other staff as a partner in business especially technical experts formed pertinent element for communication skills. It is imperative to note that, communication skills as soft skills must be acclimatized by all auditors as they provide supporting function where oral presentation is a norm to elaborate findings to the auditee and reporting to the audit committee. It is noted also that, communication skills depend on the effort of the internal auditors themselves therefore attaining this skill is critical for the professional career development of internal auditors. It is strongly concluded that communication skills are a key determinant of IAFE which support communication theory.

#### **6.2.5 Audit Committee as a Determinant of IAFE**

The objective number five was to examine if audit committee determines IAFE of listed companies in Tanzania. The study hypothesized that audit committee has a significant positive effect on IAFE of listed companies in Tanzania. The study observed that audit committee has a statistically significant positive (0.000) impact on IAFE. Audit committee as a latent variable was measure through indicators of independence of committee members, an expert in accounting and auditing,

frequency of meetings and familiarity with the company business operations. The indicators were found to be a statistically significant measure of the construct and influence IAFE.

It was observed that for an audit committee to be effective members should be non-executive directors, independent of the top management and at least one must be a financial expert. It was also revealed that quarterly meetings and familiarity of the members with company business operations make audit committee more effective. An audit committee plays well oversight role over management regarding risk management and internal control systems of the organization which ultimately add to the success of the company. It is concluded that audit committee is a determinant of internal audit function effectiveness ( $p=0.000$ ) which also supports agency theory of the study.

#### **6.2.6 Moderating effect of Audit Committee on the Determinants of IAFE**

Objective number six was to find out if audit committee moderates the relationship between the determinants of IAFE of listed companies in Tanzania. This objective generated four hypotheses as elaborated hereunder: -

##### **6.2.6.1 Moderating effect of Audit Committee on the Organizational Independence**

The hypothesis developed from objective number six states that audit committee moderates positively and significantly the relationship between organizational independence and internal audit function effectiveness of listed companies in Tanzania. The analysis of the hypothesis revealed lack of moderating effect. This

implies that the presence of an audit committee cannot change the direction and strength of the relationship between organizational independence and IAFE. It is therefore deduced that lack of organizational independence cannot be solved by an external part like audit committee members as they are not involved in day to day activities of IAF in the company but management does.

This corresponds with the assertion by Cohen and Sayag (2010) that an effective IAF is an internal phenomenon that is internal management organization establishes the function with an objective in mind to make it either effective or ineffective. It is concluded that audit committee is not moderating the relationship between organizational independence and IAFE. This is not consistent with the agency theory premise that audit committee strengthening organizational independence of IAF to monitor management action effectively.

#### **6.2.6.2 Audit Committee Moderating effect on Top Management Support**

The study tested whether audit committee has a moderating effect on the relationship between top management support and IAFE as derived from objective number six. The study hypothesis stated that audit committee moderates the relationship between top management support and internal audit function effectiveness of listed companies in Tanzania. The analysis of the hypothesis revealed that no moderating effect. The results revealed that though audit committee is effective and influence IAFE, it cannot change the direction and strength of the relationship between top management support and IAFE. This support that, while top management demand IAF to strengthening internal controls and providing consulting services regarding strategic projects, audit committee demands assurance services and risk management

reports to better monitor top management in the company (Eulerich, Kremin, & Wood, 2019) hence non moderation effect of audit committee confirmed conflicting interests of the two masters of IAF. It is concluded that audit committee has no moderating effect on the relationship between top management support and IAFE and hence did not support agency theory.

#### **6.2.6.3 Moderating effect of Audit Committee on Communication Skills**

The study hypothesized also that audit committee moderates the relationship between communication skills and internal audit function effectiveness of listed companies in Tanzania. The analysis of the hypothesis reported positive and significant partial moderating effect on the relationship between communication skills and IAFE. This implies that audit committee can enhance and change the direction of communication skills of IAF which ultimately make it more effective in playing its assurance, consulting and advocating the role of providing added value internal audit services in the company. Therefore, it is concluded that there was a partial moderating effect of audit committee on the relationship between communication skills and IAFE which supported also agency theory.

#### **6.2.6.4 Audit Committee Moderating effect on Professional Proficiency**

The study hypothesized as well that audit committee moderates positively and significantly the relationship between professional proficiency and internal audit function effectiveness of listed companies in Tanzania. The result of the hypothesis testing revealed that there was no moderating effect. The result signifies that though audit committee is effective and influenced IAFE, it cannot change the direction and strength of the relationship between professional proficiency and IAFE. This implies



that professional proficiency is an intrinsic factor possessed by a person through training and experience from a number of years in the field hence audit committee cannot change it to be effective. It is concluded that audit committee has no moderating effect on the relationship between professional proficiency and IAFE which did not support agency theory.

In summary, the study established that communication skills, professional proficiency and audit committee had a positive statistically significant impact as determinants of internal audit function effectiveness. Though organization independence and top management support have positive impact were not statistically significant as determinants of IAFE. It was also revealed that audit committee moderates the relationship between communication skills and IAFE, though partially. It is shown that conclusion made provide an avenue for drawing implications of the study focusing on practical, theoretical and policy aspects.

### **6.2.7 Implication of the Study**

This part provides implications of the study basing on the findings, discussions and conclusions made. Study implications are categorized into theoretical, practical and policy aspects. Practical implications focus on how the study contributes to enhancing internal audit professional of in Tanzania, particularly in DSE listed companies to be more effective. Theoretical implications relate to how the study methodology has advanced knowledge and improved theories made by the study findings. Regarding policy, the study shows how review and new enactment of policies in line with the advancement of the profession of internal audit globally improve the effectiveness of internal audit function in Tanzania.

### **6.2.8 Practical Implications of the Study**

The study revealed that an effective internal audit function is important especially at this juncture of business complexities emanating from the advancement of science and technology and also emerging risks than ever before. Therefore, having an internal audit function in the organization is of paramount importance to assist in improving internal control, risk management and governance processes. The study observed that organizational independence, top management support, communication skills, audit committee and professional proficiency affect internal audit function effectiveness.

When instituting and operationalising IAF in an organization, these variables should be carefully examined. In this study, there were no effects of top management support on the effectiveness of internal audit in the listed companies in Tanzania. This is likely to be because of auditing function is prescribed by capital markets regulators. Top management likely look at this function as regulatory requirements that must be complied with rather than a function that is expected to add value to the company. Empirically, top management decision affects organization independence of internal auditors and support like recruitment of qualified internal auditors, ensure implementation of recommendations and provision of financial resources for execution of an annual plan of IAF. Practically, top management can make IAF effective or can weaken it. Therefore, top management should exert maximum support to the IAF so as to enjoy its fruits of value adding services.

The study also has shown that organizational independence is a pertinent factor for internal audit function effectiveness. Management of companies should endeavour to

create a conducive environment for an independent IAF to issue unbiased professional judgment which can help the organization to attain its core objectives. Practically, the organizational independence of IAF can be achieved only if reporting is done to the higher echelon that affects functions of IAF especially to the chief executive officer administratively and audit committee functionally. In addition, to increase courage to the head of IAF should be recruited and terminated by the decision of the board of directors or its audit committee.

Furthermore, restrictions should not be made to the IAF to access records, employees, systems and regular interaction with senior management. Concisely, organizational independence is important for the effectiveness of IAF which increases trust as a value adding function in the company. The study again reported the importance of communication skills of IAF. Communication skills are soft skills which everyone should possess to be judged effective and IAF is not an exception. Internal auditors must master these skills of reporting timely, relevant strategic issues, applying simple language understandable to stakeholders devoid of professional jargons, avoid communication barriers and collaborate regularly with auditees and technical experts so as to deliver value adding services. Practically, internal auditors apply both written and oral communication skills; hence they should apply appropriate communication skills to be effective in the company.

The study findings as well have shown that professional proficiency is a key factor for IAFE. To do a professional work one must possess requisite qualification credentials and practical knowledge of the professional which internal audit is not an exception. It is concluded that possession of qualifications and application of

international professional standards is not enough, one must master business operations of the company and other technical skills like information communication technology (ICT) to be effective in internal audit work. In practice, management should employ professional internal auditors and give them appropriate training and development, and internal auditors too should sharpen their skills regularly in order to achieve IAFE.

Furthermore, the study findings reported that audit committee is of vital importance for IAFE. Audit committee is part of good corporate governance which plays an oversight role to supervise management and the company. In practice, audit committee ensures the company is managed well and strategic objectives of the company are achieved not only efficiently but effectively. On the other hand, for audit committee to play its role effectively it should ensure internal audit function is executing approved annual internal audit plan and management should implement promptly findings and recommendations of IAF.

Lastly, the study findings were that audit committee moderated partially the relationship between communication skills and IAFE. Practically, audit committee provides an avenue for the head of internal audit to meet with the members privately to discuss key issues of the company and ensures management support IAF by providing necessary resources and to see to it that findings and recommendations are implemented timely which lead to IAFE. Therefore, partially moderating effect of audit committee on communication skills of IAF in the organization is a sign of collaboration between the two corporate governance mechanisms; they should complement each other to attain corporate governance effectiveness. In a nutshell,

the study highlighted pertinent factors which have practical implication to stakeholders of internal audit function for it to be effective. The study found key factors for practical implications are organizational independence, top management support, communication skills, professional proficiency, audit committee and moderating effect of audit committee on the relationship between communication skills and IAFE.

### **6.2.9 Policy Implications**

This section provides policy implication of the study. The study established that instituting internal audit function solely to comply with statutory requirements cannot make it effective. When fraudulent practices discovered in a company big question is; where were the internal auditors? But no one question about the effectiveness of the IAF. This shows how important the services of IAF are. Therefore, the policy implication of this study is that government regulators, professional boards, board of directors, top management and other stakeholders should consider in policy reviews established factors by this study in order to have trustworthy and effective IAF. Factors which the study model revealed for effectiveness of IAF are organizational independent, top management support, professional proficiency, communication skills and audit committee. Policy implications regarding the factors are as follows-

#### **6.2.9.1 Organizational Independence Policy Implications**

The study model revealed that organizational independence affects internal audit effectiveness. Organizational independence was captured by the head of internal audit reporting functionally to the audit committee and administratively to the chief

executive officer of the company. It was further captured by free access to records, staff and information systems; appointment and termination of the head of IAF by audit committee or the BOD and IAF is autonomous to audit any area of the company. However, the study findings were that organizational independence was not a key factor for IAF effectiveness in the listed companies in Tanzania. Therefore, it is imperative for capital markets regulators (CMSA and DSE) and professional bodies (NBAA, IIA Tanzania chapter) to come up with policy guidelines for organizational independence of IAF in Tanzania. This will aid in improving IAF effectiveness in Tanzania, where inputs from this study may be of considerable contribution.

#### **6.2.9.2 Top Management Support Policy Implications**

The study also observed that top management support has an effect on IAF effectiveness. Top management support is seen in this study in the provision of resources both financial and sufficient professional competent staff; implementation of recommendations of IAF. The study observed that management establishes IAF as a symbolic function to comply with regulatory requirements to legitimize the company in the society. In this instance, the function cannot be able to play its active role in monitoring management and render value adding services to assist in company objectives achievement. Therefore, capital markets regulators, board of directors and professional boards should ensure IAF is effective. This can be achieved only if policy guidelines stipulate vividly that, top management must exert maximum possible support to its IAF where inputs of this study may be considered for policy improvements.

### **6.2.9.3 Communication Skills Policy Implications**

The study found out that communication skills, as soft skills, have an impact on the effectiveness of IAF. An effective IAF should master both oral and written communication skills. These skills can be learnt through formal education system and practised in the field of work. The findings showed that easily understandable report, relevant and timely issued add to the IAF effectiveness. Regular interactions with top management and collaboration with auditees and other technical experts in the company were found by the study as key for the attainment of IAFE. Therefore, this study highlights policy implications regarding review of curriculum training for the career of internal auditors to master soft skills especially report writing and presentation skills which add to communication skills and hence IAFE.

### **6.2.9.4 Professional Proficiency Policy Implications**

This section provides policy implications of the study on professional proficiency of internal audit function. The study found that possession of both formal academic education and professional certification is critical along with technical proficiency in auditing and accounting. Similarly, familiarity with the business working environment of a particular company leads to IAFE. Internal auditors should upgrade their professional knowledge through regular seminars and training and accustom themselves with business operations they are in.

Therefore, management and government regulators should craft policy guidelines to push for the employment of qualified internal auditors, with technical competence, sharpening their skills and knowledge regularly through professional workshops and orient them with business operations of the company where this study may provide

necessary insights.

#### **6.2.9.5 Audit Committee Policy Implications**

The study observed that audit committee impacts effectiveness of IAF. The study captured audit committee through independence of its members who are non-executive directors and conduct their meetings quarterly. Audit committee was also captured by at least one member is a financial expert and members are knowledgeable with the company business operations. The study policy implication is that government regulators and professional bodies should review policy guidelines which advocate for members of audit committee to be non-executive directors, independent from the top management of the company in order to play well its governance role of oversight which will make IAF effective.

The policy guidelines should also support for quarterly meetings of audit committee so as to provide effective oversight role over management and the organization at large. Since audit committee deals with financial accounting matters, the policy guidelines should also direct at least one member of the audit committee should be conversant with auditing and accounting matters. The policy guidelines should also direct that before members of the audit committee assume their roles, should be oriented with business operations of the company so as to be able to play their oversight role effectively which leads to IAFE.

Therefore, this study can provide pertinent inputs for policy guidelines by regulators and management to attain audit committee effectiveness. In summary, the study policy implementations revolve around guidelines for strengthening organizational



independence, top management support communication skills, professional proficiency and lastly audit committee.

#### **6.2.10 The Study Theoretical Contribution**

This part provides a theoretical contribution of this research study. Theoretically, the study has shown that effectiveness can be measured indirectly by stakeholders of IAF. More importantly, the implementation of internal audit findings and recommendations depict IAF effectiveness. Positive evaluation of stakeholders of IAF reflects IAFE. Likewise, the impact IAF makes to the organization on business objective achievement and improvement of unit performance define IAFE. Theoretically too, communication skills, audit committee and professional proficiency collectively determine IAFE. Simultaneously, audit committee partially moderates the relationship between communication skills and IAFE which add a new dimension of factors that theoretically determine IAFE.

The study theoretical framework was drawn from three theories of agency theory, institutional theory and communication theory in combination to develop the study validated model in Figure 4.9 which can be used as a reference point for further research in the internal audit arena. Theoretically, investigation of IAF effectiveness is a multi-theoretical framework to symbolize paradigm shift of IAF practices from the traditional audit of compliance to regulatory requirements and monitoring of management activities to risk-based auditing aimed at adding value to the organization. The notable theoretical contribution of this study is that the agency problem of information asymmetry between shareholders as principals and management as agents can be resolved by communication skills of internal audit

function as proposed in the communication theory. This study concurred with Liu, (2017) that effective communication skills of IAF can reduce information asymmetry between agents and principals by providing relevant information which improves the level of trust between the two contracting parties.

Another notable theoretical contribution is the inclusion of moderation effect of audit committee in the theoretical framework as validated by the study in Figure 4.9. The moderation was applied on the entire model on the four independent variables unlike Badara and Saidin, (2013) who moderated experience of IAF only hence the uniqueness of this study. The moderating effect has also added a new dimension in the study of IAF effectiveness, especially for Tanzania context. Equally, the moderation effect has ameliorated agency theory that effectiveness of corporate governance mechanism is contingent upon communication skills by IAF to resolve the problem of information asymmetry to reduce agency problem in the company. This has shown the linkage of testable variables drawn from the two theories, agency theory and communication theory.

The study confirmed also premises of agency theory by Jensen and Meckling, (1976) that self-interested/opportunistic managers do not support IAF to be effective in order to benefit from the company resources at owners' costs. This was evidenced as the study model negated the key importance of management support and organizational independence of IAF since these factors are the product of top management decisions. In contrast, the study revealed that an audit committee was a key determinant of IAF effectiveness. This study further revealed premises of agency theory as asserted by Adams (1994) that audit committee in unison with IAF

as a governance mechanism tools monitor opportunistic behaviour of the management to resolve information asymmetry which ultimately minimizes agency problem and agency costs as a consequence.

Similarly, there is the theoretical implication on institutional pressures of professionalization which make IAF effective as premised in the institutional theory. It confirmed assertion by Coetzee and Erasmus, (2017) in institutional theory that institutional pressures are sources of IAF effectiveness. The study revealed premises of institutional theory by DiMaggio and Powel, (1983) that institutions conform to institutional norms to make them legitimate in society. The study confirmed also institutional theory by Zucker 1987 that organization conforms to institutional pressures to gain legitimacy by abiding with standardized procedures to professional certification. Therefore, IAF effectiveness is derived from professionalism by applying professional standards and practices to deliver value adding services to the stakeholders to be appreciated as a legitimate function in the company.

This coincided also with a theoretical assertion by Najeeb (2014) that institutionalized profession brings professional norms and value into the organization which exhibit similar organizational behaviour. Similarly, the study theoretical contribution augments Vadasi et al. (2020) position that embracing professional norms especially certification by IIA as an internal auditor, adherence to IIA professional guidance and being a member of IIA, makes IAF effective. The study is consistent with Cohen and Sayag (2010) theoretical supposition of professional-organizational conflict that internal auditors show loyalties to their professional affiliation outside the organization rather than conforming to internal organizational

policies to be effective. This underscored the need for professional practitioners like IIA Tanzania Chapter to provide professional courses for certification of internal auditors to be able to drive effectiveness at their working institutions.

Lastly, the study contributes to the communication theory that communication skills by IAF make it effective. Al-Twajjry et al. (2003) contended that the practice of internal audit should be more collaborative in the future to exploit other department expertise and experience in strengthening effectiveness of internal audit function. They maintain that communication skills by IAF will create a big impact on corporate governance as a consequence. Theoretically, the study added that easily understandable and timely produced internal audit report facilitate the implementation of findings and recommendations which reflect communication effectiveness and hence IAF effectiveness.

Similarly, collaboration with other experts in the company simplifies internal auditing work as pertinent issues can be spotted out easily to impact on company objectives achievement. Lastly, theoretically, IAF communication skills with its stakeholders' especially top management, the board of directors and audit committee make the function effective.

In nutshell, the study theoretical implication was that agency theory, institutional theory and communication theory in combination were pertinent lenses to explicate effectiveness of IAF of listed companies Tanzania. It illuminates unique theoretical contributions where multiple theories were integrated into a confirmed model in Figure 4.9 with the inclusion of a moderation effect.

### **6.3 Recommendations for Future Research**

This study examined the determinants of internal audit function effectiveness in the context of listed companies in Tanzania. The research reported that professional proficiency, audit committee, communication skills and moderation of communication skills by audit committee as in the evaluated model were important for IAF effectiveness in Tanzania listed companies. The findings of the study have shown mixed results which contradicted other research done in the same area globally.

Empirical results by different scholars like Chevers et al. (2016) and Cohen and Sayag, (2010) found that organizational independence and top management support were significant factors as determinants of IAFE but paradoxically, the results of the current study refuted that in the Tanzanian context. Conversely, other factors of the study, communication skills, audit committee and professional proficiency were to be found statistically significant as determinants of IAFE. Therefore, this study sparks much interest for further research with the same variables in a different area in Tanzania and beyond to find out if the confirmed model can be replicated with the same results.

The results of the study observed that the communication skills of internal auditors are prerequisite for internal audit function effectiveness. However, a future study is recommended to examine the appropriateness of the current internal audit professional curriculum in Tanzania. The study confirmed that professional proficiency of internal auditors is important for internal auditing effectiveness. However, a future study is recommended to extend these results by examining what

skills, competencies and regular training are appropriate for IAF effectiveness in Tanzania.

Although this research study adds a body of knowledge in the internal audit arena, the area with a paucity of research studies, there were some limitations to be cautious of. The first limitation was the dominance of financial institution companies registered at DSE with close supervision of Bank of Tanzania of which are required to have in-house internal audit function. Although other companies registered at DSE are required to have internal audit function as per Capital Market and Securities Authority (CMSA) Act, 1994, guidelines of corporate governance of 2002, but no strict requirement for in-house IAF. This might be a limitation which may affect the results of this study for generalization as the establishment of IAF was required statutorily and not voluntarily. Therefore, it is not clear whether the results of this research could be different if it is done for other public limited companies not registered at DSE with the exclusion of financial companies.

The second limitation was the research was done in Tanzania only which might be affected by its level of corporate governance, political, economic or social context. A further study should be conducted in other different parts of the world to validate that the level of corporate governance, political, economic and social settings were not influenced by the results of the study. This will prove that the results of the study were not context specific as asserted by Abdullah (2014).

The third limitation was that the study employed three theories of agency, institutional and communication to derive at testable variables of which the results

might be unique to these theories. A study is recommended to be done employing other theories like economic capture theory (Adams & Tower, 1994), role theory (Kahn et al 1964) and others to develop new variable in addition to the one analysed in this study for effectiveness of IAF.

The fourth limitation was that the study employed Partial least Square Structural Equation Modeling (PLS-SEM) as a tool of analysis which sometimes provides statistically significant results in the measurement model but an insignificant relationship in the structural model (Hair et al., 2017). This might affected the results of this study as two constructs, organizational independence and top management support, had statistically significant measurement variables but an insignificant relationship in the structural model. A study is recommended to be done using the same model but employs other statistical tools of analysis.

Lastly, the study focused on companies with IAF rather than internal audit department therefore in-house, outsourced and co-sourced were not separated. Some of the companies in the sample outsourced IAF from independent audit firms; therefore, the result could be different if done on a single category only. A further study should be done for outsourced IAF as it is thought that it is more objective and have high organizational independence than in-house IAF (Adeniji, 2016; Dellai, Hella, 2016) although not effective to enforce management decision making (Mahzan, Zulkifli, & Umor, 2012)

## REFERENCES

- Abbott, L. J., Daugherty, B., Parker, S., & Peters, G. F. (2016). Internal Audit Quality and Financial Reporting Quality: The Joint Importance of Independence and Competence. *Journal of Accounting Research*, 54(1), 3–40.
- Abdullah, R. B. (2014). Redefining Internal Audit Performance: Impact on Corporate Governance. Edith Cowan University Research Online. Edith Cowan University, Joondalup, Western Australia. retrieved on 21<sup>st</sup> June, 2020 from; <https://doi.org/10.1155/2015/307381>.
- Adams, M. B., & Tower, G. D. (1994). Theories of Regulation : Some Reflections on the Statutory Supervision of Insurance Companies in Anglo-American Countries. *Palgrave Macmillan Journals*, 19(71), 156–177.
- Adams, M. B. (1994). Agency Theory and the Internal Audit. *Managerial Auditing Journal*, 9(8), 8–12.
- Adeniji, Y. A. (2016). Internal Audit Outsourcing and Quality of Audit of Small Medium Enterprises (SMEs) in Lagos State unpublished master dissertation, Obafemi Awolowo University Ile-Ife, Nigeria.
- Ahmad, H. & Halim, H. binti. (2017). Determining Sample Size for Research Activities : The Case of Organizational Research. *Selangor Business Review*, 2(1), 20–34.
- Al-Baidhani, A. M. (2016). The Nature of a Dynamic Relationship between Audit Committee and Auditors, both Internal and External. *Business and Economics Journal*, 07(04), 1-5.
- Al-Matari, E. M. & Mgamal, H. M. (2020). The Moderating Effect Of Internal



- Audit on the Relationship between Corporate Governance Mechanisms and Corporate Performance among Saudi Arabia Listed Companies. *Contaduría y Administración*, 65(1), 1–36.
- AL-Shetwi Mohammed, Ramadili, S. M., Chowdury, T. H. S., & Sori, Z. M. (2011). Impact of internal audit function (IAF) on financial reporting quality (FRQ): Evidence from Saudi Arabia. *African Journal of Business Management*, 5(27), 11189–11198.
- Al-Twajjry, A. A. M., Brierley, J. A., & Gwilliam, D. R. (2003). The development of internal audit in Saudi Arabia: An institutional theory perspective. *Critical Perspectives on Accounting*, 14(5), 507–531.
- Alarcón, D., & Sánchez, J. A. (2015). Assessing Convergent and Discriminant Validity in the ADHD-R IV Rating Scale: User-Written Commands for Average Variance Extracted (AVE), Composite Reliability (CR), and Heterotrait-Monotrait Ratio of Correlations (HTMT). *Spanish STATA Meeting 2015*, 1–39.
- Alazzabi, W. Y. E., Mustafa, H., & Karage, A. I. (2020). Risk management, top management support, internal audit activities and fraud mitigation. *Journal of Financial Crime, ahead-of-p*(ahead-of-print). <https://doi.org/10.1108/jfc-11-2019-0147>.
- Ali, I., Ali, M., Badghish, S., & Baazeem, T. A. S. (2018). Examining the role of childhood experiences in developing altruistic and knowledge sharing behaviors among children in their later life: A partial least squares (PLS) path modeling approach. *Sustainability (Switzerland)*, 10(2), 292.
- Alkebsi, M., & Aziz, K. A. (2017). Information Technology Usage, Top

- Management Support and Internal Audit Effectiveness. *Asian Journal of Accounting and Governance*, 8(1), 123–132.
- Alqudah, H. M., Amran, N. A., & Hassan, H. (2019). Extrinsic Factors Influencing Internal Auditors' Effectiveness in Jordanian Public Sector. *Review of European Studies*, 11(2), 67.
- Alzeban, A. (2018). The association between internal audit department characteristics and IFRS compliance. *Asian Review of Accounting*, 26(3), 336–358.
- Alzeban, A., & Gwilliam, D. (2014a). Factors affecting the internal audit effectiveness: A survey of the Saudi public sector. *Journal of International Accounting, Auditing and Taxation*, 23(2), 74–86.
- Alzeban, A., & Gwilliam, D. (2014b). Perceptions Of Managers And Internal Auditors As To Factors Affecting The Effectiveness University of Exeter, 1–24.
- Alzeban, A. & Sawan, N. (2015). The impact of audit committee characteristics on the implementation of internal audit recommendations. *Journal of International Accounting, Auditing and Taxation*, 24, 61–71.
- Ammar, S. H. (2015). Critical Analysis of internal audit independence : International literature. *Journal of Research in Business, Economics and Management (JRBEM)*, 3(3), 214–222.
- Anderson, J. C., & Gerbing, D. W. (1988). Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach. *Psychological Bulletin*, 103(3), 411., 103(3), 411–423.
- Arena, M., & Azzone, G. (2009). Internal audit effectiveness: Relevant drivers of

- auditees satisfaction. *International Journal of Auditing*, 13(1), 43–60.
- Atalay, D., Günal, Z., & Kuşseven, D. (2016). A Proposal for the Development of Communication Skills in Aviation Training. *Journal of Educational Research*, 1(1), 77–99.
- Awang, Z. (2014). Validating the Measurement Model : Cfa. *Structural Equation Modelling Using Amos Grafik*, 54–73.
- Awang, Z. (2015). A Handbook on SEM. In *A Handbook on SEM* (pp. 53–74).
- Awang, Z., Afthanorhan, A., & Asri, M. A. M. (2015). Parametric and Non Parametric Approach in Structural Equation Modeling (SEM): The Application of Bootstrapping. *Modern Applied Science*, 9(9), 58–67.
- Azzali, S., & Mazza, T. (2018). The Internal Audit Effectiveness Evaluated with an Organizational, Process and Relationship Perspective. *International Journal of Business and Management*, 13(6), 238.
- Badara, M. S. (2015). Empirical Evidence of Performance Measurement of Internal Audit Function on its Effectiveness. *Academic Journal of Management Science Research*, 1(1), 1–10.
- Badara, M. S., & Saidin, S. Z. (2013). The Journey so far on Internal Audit Effectiveness: a Calling for Expansion. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 3(3), 340–351.
- Badara, M. S., & Saidin, S. Z. (2014a). Empirical evidence of the moderating effect of effective audit committee on audit experience in the public sector: Perception of internal auditors. *Mediterranean Journal of Social Sciences*, 5(10), 176–184.
- Badara, M. S. & Saidin, S. Z. (2014b). Internal audit effectiveness: Data screening

- and preliminary analysis. *Asian Social Science*, 10(10), 76–85.
- Badara, M., & Saidin, S. (2013). Antecedent of Internal Audit Effectiveness, Effective Audit Committee, Local Government in Nigeria; Antecedent of Internal Audit Effectiveness, Effective Audit Committee, Local Government in Nigeria. *International Journal of Finance and Accounting*, 2(2), 82–88.
- Baharud\_din, Z., Shokiyah, A., & Ibrahim, M. S. (2014). Factors that Contribute to the Effectiveness of Internal Audit in Public Sector. *International Proceedings of Economics Development and Research 70: 126.*, 15(9), 1–5.
- Balafoutas, L., Czermak, S., Eulerich, M., & Fornwagner, H. (2017). Incentives for Dishonesty: An Experimental Study with Internal Auditors. *SSRN Electronic Journal*, 3(2), 137-148.
- Bananuka, J., Mukyala, V., & Nalukenge, I. (2017). Perceived internal audit roles and challenges in a developing economy. *Makerere Business Journal*, 13(2), 187–205.
- Bananuka, J., Nkundabanyanga, S. K., Nalukenge, I., & Kaawaase, T. (2018). Internal audit function, audit committee effectiveness and accountability in the Ugandan statutory corporations. *Journal of Financial Reporting and Accounting*, 16(1), 138–157.
- Barišić, I., & Tušek, B. (2016). The importance of the supportive control environment for internal audit effectiveness - The case of Croatian companies. *Economic Research-Ekonomska Istrazivanja* , 29(1), 1021–1037.
- Barlett, J. E., Kotrlik, J. W., & Higgins, C. C. (2001). Organizational Research: Determining Appropriate Sample Size in Survey Research. *Information Technology, Learning and Performance Journal*, 19(1), 43–50.

- Baron, R. M., & Kenny, D. A. (1986). @article{baron1986moderator, title={The moderator--mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations.}, author={Baron, Reuben M and Kenny, David A}, journal={*Journal of personality and so*, (6), 1173–1182.
- Barua, A., Rama, D. V. & Sharma, V. (2010). Audit committee characteristics and investment in internal auditing. *Journal of Accounting and Public Policy*, 29(5), 503–513.
- Battilana, J., Leca, B., & Boxenbaum, E. (2009). 2 How Actors Change Institutions: Towards a Theory of Institutional Entrepreneurship. *Academy of Management Annals*, 3(1), 65–107.
- Becker, J.-M., Ringle, C. M., & Sarstedt, M. (2018). Estimating Moderating Effects in PLS-SEM and PLSc-SEM: Interaction Term Generation\*Data Treatment. *Journal of Applied Structural Equation Modeling*, 2(2), 1–21.
- Bendickson, J., Muldoon, J., Liguori, E., & Davis, P. E. (2016). Agency theory: the times, they are a-changin'. *Management Decision*, 54(1), 174–193.
- Benitez, J., Henseler, J., Castillo, A., & Schuberth, F. (2019). How to perform and report an impactful analysis using partial least squares: Guidelines for confirmatory and explanatory IS research. *Information and Management, Information & Management* 57(2):103168.
- Bhattacharjee, A. (2012). *Social Science Research: Principles, Methods, and Practices*, test book collection, Univeristy of Florida.
- Bruwer, J. P. (2016). the Relationship(S) Between the Managerial Conduct and the Internal Control Activities of South African Fast Moving Consumer Goods

- Smmes. Unpublished PhD dissertation, University of Cape Peninsular of Technology, South Africa.
- Bryman, A. (2012). *Social Research Methods*, (4th Edition). New York: Oxford University Press Inc.
- Busee, B. J. (2013). Factors affecting the effectiveness of the Internal audit in business risk management in the Private sector in Tanzania: A case of NBC. A dissertation for award of MSC A&F degree, Mzumbe University, Tanzania.
- Cai, C. X., Hillier, D., Tian, G. & Wu, Q. (2015). Do Audit Committees Reduce the Agency Costs of Ownership Structure? *Pacific-Basin Finance Journal*, (35), 225–240.
- Carey, P., Simnett, R., & Tanewski, G. (2000). Voluntary demand for internal and external auditing by family businesses. *Auditing*, 19(SUPPL.), 36–51.
- Carpenter, S. (2018). Ten Steps in Scale Development and Reporting: A Guide for Researchers. *Communication Methods and Measures*, 12(1), 25–44.
- Chambers, A. D., & Odar, M. (2015). A new vision for internal audit. *Managerial Auditing Journal*, 30(1), 34–55.
- Chambers, R. F. & McDonald, P. (2013). 7 attributes of highly effective Internal Auditors. Robert Half International Inc. & The Institute of Internal Auditors. 12pp.
- Chevers, D., Lawrence, D., & Laidlaw, A. (2016). The effectiveness of internal audit in Jamaican commercial banks. *Journal of Accounting and Management Information Systems*, 15(3), 522–541.
- Chinn, W. W. (1998). The Partial Least Squares Approach to Structural Equation Modelling. *Modern Methods for Business Research*, 295–336.

- Christopher, J., Sarens, G., & Leung, P. (2009). A critical analysis of the independence of the internal audit function: Evidence from Australia. *Accounting, Auditing and Accountability Journal*, 22(2), 200–220.
- Coetzee, P., & Erasmus, L. J. (2017). What drives and measures public sector internal audit effectiveness? Dependent and independent variables. *International Journal of Auditing*, 21(3), 237–248.
- Cohen, A., & Sayag, G. (2010). The effectiveness of internal auditing: An empirical examination of its determinants in Israeli organisations. *Australian Accounting Review*, 54(20), 296–307.
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. (2<sup>nd</sup> Edition). Lawrence Erlbaum Associates, Publishers.
- Coram, P., Ferguson, C., & Moroney, R. (2008). Internal audit, alternative internal audit structures and the level of misappropriation of assets fraud. *Accounting and Finance*, 48(4), 543–559.
- Crawford, M., Henry, W., McKendrick, J., & Stein, W. M. (2008). Effectiveness of audit committees in local authorities: Views from key players. *Public Money and Management*, 28(4), 207–214.
- Creswell, J. W. (2009). *Research Design Qualitative, Quantitative, and Mixed Methods Approaches* (Third Edit). SAGE Publications, Inc.
- Creswell, J. W. & Creswell, D. J. (2018). *Research Designs: Qualitative, Quantitative, and Mixed Methods*. SAGE Publications, Inc (Fifth Edit), Los Angeles: Sage.
- Croasmun, J. T. & Ostrom, L. (2011). Using Likert-type scales in the social sciences. *Journal of Adult Education*, 40(1), 19–22.

- Dacin, M. T., Goodstein, J. & Scott, W. R. (2002). Institutional theory and institutional change: Introduction to the special research forum. *Academy of Management Journal*, 45(1), 45–57.
- Dejnaronk, J., Little, H. T., Mujtabaa, B. G., & McClelland, R. (2015). Factors influencing IAF Effectiveness 2015. In Proceedings of Conference: Business and Social Sciences Research Conference: Research for Development, Bangkok, Thailand.
- Dellai, Hella, O. B. A. M. (2016). Factors Affecting the Internal Audit Effectiveness in Tunisian Organizations. *Research Journal of Finance and Accounting*, 7(16), 208–221.
- Denscombe, M. (2010). *The Good Research Guide for Small Scale Social Research Projects* (Fourth Edi, Vol. 3). New York: McGraw-Hill Education.
- DiMaggio, P. J., & Powel, W. W. (1983). The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in organizational Fields. *American Sociological Review*, 48(2), 147–160.
- Drogalas, G., Arampatzis, K. & Anagnostopoulou, E. (2016). the Relationship Between Corporate Governance, Internal Audit and Audit Committee: Empirical Evidence From Greece. *Corporate Ownership and Control*, 14(1), 569–577.
- Drogalas, G., Karagiorgos, T., & Arampatzis, K. (2015). Factors associated with Internal Audit Effectiveness: Evidence from Greece. *Journal of Accounting and Taxation*, 7(7), 113–122.
- Elmghaamez, I. K., & Ntim, C. G. (2016). Assessing the effectiveness of internal governance controls: The case of internal auditors skills and challenges in



- Libya. *Corporate Ownership and Control*, 13(3), 46–59.
- Endaya, K. A., & Hanefah, M. M. (2013). Internal Audit Effectiveness: An Approach Proposition to Develop the Theoretical Framework. *Research Journal of Finance and Accounting*, 4(10), 92–103.
- Endaya, K. A., & Hanefah, M. M. (2016). Internal auditor characteristics, internal audit effectiveness, and moderating effect of senior management. *Journal of Economic and Administrative Sciences*, 32(2), 160–176.
- Erasmus, L., & Coetzee, P. (2018). Drivers of stakeholders' view of internal audit effectiveness: Management versus audit committee. *Managerial Auditing Journal*, 33(1), 90–114.
- Eulerich, M., Kremin, J. & Wood, D. A. (2019). Factors that influence the perceived use of the internal audit function's work by executive management and audit committee. *Advances in Accounting*, 45( c) 1-1.
- Fadzil, F. H., Haron, H., & Jantan, M. (2005). Internal auditing practices and internal control system. *Managerial Auditing Journal*, 20(8), 844–866.
- Farkas, M., Hirsch, R., & Kokina, J. (2019). Internal auditor communications: an experimental investigation of managerial perceptions. *Managerial Auditing Journal*, 34(4), 458–481.
- Feizizadeh, A. (2012). Strengthening internal audit effectiveness. *Indian Journal of Science and Technology*, 5(5), 2777–2778.
- Fekadu, Y. (2018). Determinants of Internal Audit Effectiveness: A Study of Ethiopian Public enterprises. unpublished master degree, St. Mary's University, Ethiopia.
- Femi, A. F. (2014). The Impact of Communication on Workers' Performance in

- Selected Organisations in Lagos State, Nigeria. *IOSR Journal of Humanities and Social Science*, 19(8), 75–82.
- Field, A. (2009). *Discovering Statistics using SPSS*. London: SAGE Publications.
- Field, A. (2018). *Discovering Statistics using IBM SPSS Statistics*. (J. Seaman & D. R. Sarah Turpie, Nina Smith, Chloe Statham, Ian Antcliff, Richard Leigh, Eds.) 0<sup>th</sup> Ed., SAGE Publications Ltd.
- Flora, D. B., LaBrish, C., & Chalmers, R. P. (2012). Old and new ideas for data screening and assumption testing for exploratory and confirmatory factor analysis. *Frontiers in Psychology*, 3, Article 55..
- Forgues, B., Greenwood, R., Marti, I., Monin, P., & Walgenbach, P. (2012). New Institutionalism: Roots and Buds Introduction to the Special Issue. *Management*, 15(5), 459–467.
- Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39.
- Garson, G. D. (2016). *Partial Least Squares: Regression & Structural Equation Models*. G. David Garson and Statistical Associates Publishing.
- Gaskin, J. (2016). SmartPls3 Running and Interpreting a Causal Model.MP4. Retrieved November 26, 2019, from <http://youtube.com/Gaskination>
- Goodwin, J. (2003). The Relationship Between the Audit Committee and the Internal Audit Function: Evidence from Australia and New Zealand. *International Journal of Auditing*, 7(3), 263–278.
- Gramling, A. A., Nuhoglu, N. I., & Wood, D. A. (2013). A Descriptive Study of Factors Associated with the Internal Audit Function Policies Having an

- Impact: Comparisons Between Organizations in a Developed and an Emerging Economy. *Turkish Studies*, 14(3), 581–606.
- Greenbaum, H. H. (1974). The Audit of Organizational Communication. *Academy of Management Proceedings*, 1974(1), 62–63.
- Groenland, E. S. (2012). Structural Equation Modeling A Verbal Approach. Nyenrode Research Paper, 12-02.
- Hahn, M. (2008). Overcoming Communication Barriers in Organizations. Retrieved October 11<sup>th</sup>, 2017 from; [http://ezinearticles.com/?Overcoming-Communication-Barriers-in-organization & id](http://ezinearticles.com/?Overcoming-Communication-Barriers-in-organization&id)
- Hair.Jr, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2013). *A Primer on Partial Least Squares Structural Equation Modeling*, 1<sup>st</sup> Ed., Sage Publications.Inc.
- Hair, J. F., Ringle, C. M. & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139–151.
- Hair, J., Hult, G. T. M., Ringle, C. M., Sarstedt, M., & Thiele, K. O. (2017). Mirror, mirror on the wall: a comparative evaluation of composite-based structural equation modeling methods. *Journal of the Academy of Marketing Science*, 45(5), 616–632.
- Hair, J., Ringle, C. M., & Sarstedt, M. (2013). Partial Least Squares Structural Equation Modeling: Rigorous Applications, Better Results and Higher Acceptance. *Long Range Planning*, 46(1–2), 1–12.
- Hair, J., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24.
- Hair Jr., J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate*

*Data Analysis* (Seventh Ed). A Global Perspective.

Hair Jr., J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM).pdf* (Second Edi). SAGE Publications.Inc.

Hair Jr, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate Data Analysis. Pearson New Internation Edition* (Seventh Ed). New York: Pearson New International Edition.

HairJr., J. F., Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using Confirmatory Composite Analysis. *Journal of Business Research*, 109, 101–110.

HairJr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106–121.

Hamid, M. R. A., Sami, W., & Sidek, M. H. M. (2017). Discriminant Validity Assessment: Use of Fornell & Larcker criterion versus HTMT Criterion. *Journal of Physics: Conference Series*, 890, 890(1).

Hany, E., Maged, A., & Ahmad, G. (2016). Enterprise Resource Planning Systems Introduction and Internal Auditing Legitimacy: An Institutional Analysis. *Information Systems Management*, 33(3), 231–247.

Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modeling in new technology research: Updated guidelines. *Industrial Management and Data Systems*, 116(1), 2–20.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2014). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal*

- of the Academy of Marketing Science*, 43(1), 115–135.
- Henseler, J., & Sarstedt, M. (2013). Goodness-of-fit indices for partial least squares path modeling. *Computational Statistics*, 28(2), 565–580.
- Hermanson, H. M. (2016). Pressure on Internal Auditors to Alter Findings. *Journal of Forensic & Investigative Accounting*, 8(3), 428–443.
- Hulland, J., Baumgartner, H., & Smith, K. M. (2018). Marketing survey research best practices: evidence and recommendations from a review of JAMS articles. *Journal of the Academy of Marketing Science*, 46(1), 92–108.
- Hussain, S., Fangwei, Z., Siddiqi, A. F., Ali, Z., & Shabbir, M. S. (2018). Structural Equation Model for evaluating factors affecting quality of social infrastructure projects. *Sustainability (Switzerland)*, 10(5), 1–25.
- IIA, (2015). The Framework for Internal Audit Effectiveness: The New IPPF, 10.
- INTOSAI, (1992). Guidance for Effectiveness of SAI Experiences. *INTOSAI Professional Standard Committee*, 20.
- Islam, M. Z., Islam, M. N., Bhattacharjee, S., & Islam, A. K. M. Z. (2010). Agency Problem and the Role of Audit Committee: Implications for Corporate Sector in Bangladesh. *International Journal of Economics and Finance*, 2(3), 177–188.
- Israel, G. D. (1992). Determining Sample Size: (pp. 2–7).
- Iswari, T. I., & Kusuma, I. (2013). The Effect of Organizational-Professional Conflict towards Professional Judgment by Public Accountant Using Personality Type, Gender, and Locus of Control as Moderating Variables. *Review of Integrative Business and Economics Research*, 2(22), 434–449.
- Jensen, M. C. (1994). Self-interest, altruism, incentives, and agency theory. *Journal*

*of Applied Corporate Finance*, 7(2), 40–45.

- Jensen, M. C., & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *The Economic Nature of the Firm: A Reader, Third Edition*, 283–303.
- Jiang, L., André, P., & Richard, C. (2018). An international study of internal audit function quality. *Accounting and Business Research*, 48(3), 264–298.
- Joe, U. U., & Emmanuel, U. I. (2016). Effective Communication In Internal Auditing: A Factor In Internal Audit Functions Effectiveness In Nigeria Universities. *International Journal for Innovative Research in Multidisciplinary Field*, 2(12), 111–121.
- Juicharern, A. (2010). A study of Communication Performance: Investigating the factors affecting the communication performance in thai Commercial banks. Unpublished PhD Dissertation. National Institute of Development Administration, Bangkok, Thailand.
- Kamau, C. G. (2014). Exploring Internal Auditor Independence Motivators: Kenyan Perspective. *International Journal of Economics, Finance and Management Sciences*, 2(2), 132.
- Kehinde, O. H., Che Ahmad, A. & Popoola, O. M. J. (2017). Internal Auditors ' Independence and Objectivity: Regulatory and Statutory Neglect. *International Journal of Economics, Commerce and Management*, V(9), 410–423.
- Kenny, D. A. (2018). Moderation Variables: Introduction. Retrieved on January 20<sup>th</sup> 2020, from; <http://davidakenny.net/CM/moderation.htm>.
- Khelil, I., Akrouf, O., Hussainey, K., & Noubbigh, H. (2018). Breaking the silence:

- An empirical analysis of the drivers of internal auditors' moral courage. *International Journal of Auditing*, 22(2), 268–284.
- Kitchenham, B., & Pfleeger, S. L. (2002). Principles of Survey Research Part 5: ACM SIGSOFT Software Engineering Notes. *Populations and Samples* 27, 17–20.
- Kline, R. B. (2015). *Principles and practice of structural equation modeling*. New York, NY: Guilford.
- Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of E-Collaboration*, 11(4), 1–10.
- Kock, N. (2017). *Common Method Bias : A Full Collinearity Assessment Method for PLS-SEM*. Springer International Publishing AG 2017. <https://doi.org/10.1007/978-3-319-64069-3>
- Kothari, C. R. (2004). *Research Methodology Methods and Techniques*. New Age International (P) Ltd., Publishers, Second Edi, Vol. 66, 4835/24, Ansari Road, Daryaganj, New Delhi: New Age International (p) Ltd. Publishers.
- Kotler, P. (2002). *Marketing Management, Millenium Edition, 10<sup>th</sup> Ed.*. Pearson Custom Publishing 75 Arlington Street, Suite 300, Boston, MA 02116 A Pearson Education Company.
- Koutoupis, A., Pazarskis, M., Lazos, G., & Ploumpis, I. (2019). Financial crisis and corporate governance: The role of internal audit in the Greek context. *Corporate Board Role Duties and Composition*, 15(2), 45–55.
- Kristina, G. L. & Sanchez, Y. (2005). Communication. *Organizational Behavior in Health Care*, 77–110.
- Kumar, R. (2011). *Research Methodology, A step-by-step guide for beginners*, (3<sup>rd</sup>

Ed.), Sage Publications Ltd.

- Kwong-Kay Wong, K. (2016). Technical Note: Mediation analysis, categorical moderation analysis, and higher-order constructs modeling in Partial Least Squares Structural Equation Modeling (PLS-SEM): A B2B Example using SmartPLS. *The Marketing Bulletin*, 26(7), 1502–1504.
- Kwong, K. & Wong, K. (2013). Partial Least Squares Structural Equation Modeling (PLS-SEM) Techniques Using SmartPLS. *Marketing Bulletin*, 24, 1–32.
- Lawrence, T. B. & Shadnam, M. (2008). Institutional Theory. *The International Encyclopedia of Communication*, 66, 37–39.
- Lenz, R. (2015). Internal Auditor as change agent: What a difference a year makes retrieved on 12<sup>th</sup> December, 2019 from; [https://www.researchgate.net/publication/281296264\\_Internal\\_Auditors\\_as\\_change](https://www.researchgate.net/publication/281296264_Internal_Auditors_as_change)
- Lenz, R., & Hahn, U. (2015). *A synthesis of empirical internal audit effectiveness literature pointing to new research opportunities*. *Managerial Auditing Journal*, 30(1), 5-33.
- Liu, B. (2017). *Shareholder Value Implications of the Internal Audit Function*. A Dissertation for award of Ph.D Degree in Management Science, The University of Texas at Dallas, the USA.
- Lotto, J. (2014). Examining the impact of information technology on internal auditing effectiveness in Tanzanian organizations. *Time Journals of Social Sciences*, 2(3), 13–23.
- Lowry, P. B., & Gaskin, J. (2014). Partial Least Squares (PLS) Structural Equation Modeling (SEM) for Building and Testing Behavioral Causal Theory: When to Choose It and How to Use It. *IEEE Transactions on Professional*



*Communication*, 57(2), 123–146.

- Ma'ayan, Y., & Carmeli, A. (2016). Internal Audits as a Source of Ethical Behavior, Efficiency, and Effectiveness in Work Units. *Journal of Business Ethics*, 137(2), 347–363.
- MacKenzie, S. B., & Podsakoff, P. M. (2012). Common Method Bias in Marketing: Causes, Mechanisms, and Procedural Remedies. *Journal of Retailing*, 88(4), 542–555.
- Mahzan, N., Zulkifli, N., & Umor, S. (2012). Role and authority: An empirical study on internal auditors in Malaysia. *Asian Journal of Business and Accounting*, 5(2), 69–98.
- Mbelwa, L. H., & Lenatusi, M. L. L. (2019). Assessment of Factors That Influence Management Reliance on Internal Audit Function : Evidence From Oil and Gas Companies Operating in Tanzania. *Business Management Review*, 22(1), 13–30.
- Mbura, O. (2013). Entrepreneurship Development and Management in Tanzania: Theoretical and Practical Reflections. DSM, Tanzania: The National Board of Accountants and Auditors (NBAA). Tanzania.
- Mellahi, K., & Harris, L. C. (2016). Response Rates in Business and Management Research: An Overview of Current Practice and Suggestions for Future Direction. *British Journal of Management*, 27(2), 426–437.
- Melyoki, L. L. (2005). *Determinants of effective corporate Governance in Tanzania*. A dissertation for award of Ph.D degree, University of Twente, The Netherlands.
- Memon, M. A., Ting, H., Ramayah, T., Chuah, F., & Cheah, J.-H. (2017). A review

of the methodological misconceptions and guidelines related to the application of structural equation modeling: A Malaysian scenario. *Journal of Applied Structural Equation Modeling*, 1(1), 1-13.

Meyer, J. W., & Rowan, B. (1977). Institutionalized Organizations: Formal Structure as Myth and Ceremony. Author(s): John W. Meyer and Brian Rowan. Source: *American Journal of Sociology*, Vol. 83, No. 2 (Sep., 1977), pp. 340-363. Published by: The University of Chicago Press. *American Journal of Sociology*, 83(2), 340-363.

Mihret, D. G. (2010). Factors Associated With Attributes Of Internal Audit Departments: A Canonical Analysis. *African Journal of Accounting, Economics, Finance and Banking Research*, 6(6), 42-62.

Mihret, D. G. (2014). How can we explain internal auditing? The inadequacy of agency theory and a labor process alternative. *Critical Perspectives on Accounting*, 25(8), 771-782.

Mihret, D. G., & Grant, B. (2017). The role of internal auditing in corporate governance: a Foucauldian analysis. *Accounting, Auditing and Accountability Journal*, 30(3), 699-719.

Mihret, D. G., James, K., & Mula, J. M. (2010). Antecedents and organisational performance implications of internal audit effectiveness: Some propositions and research agenda. *Pacific Accounting Review*, 22(3), 224-252.

Mkwe, T. V. (2013). Effectiveness of audit committees in achieving independence of internal audit: a case study of Tanzania petroleum development corporation (TPDC). A Dissertation for award of MSc A&F, Mzumbe University, Tanzania.

- Moldoveanu, M., & Martin, R. (2001). Agency theory and the design of efficient governance mechanisms. Rotman School of Management-University of Toronto, 1–57.
- Mustika, A. C. (2015). Factors Affecting the Internal Audit Effectiveness. *Jurnal Akuntansi Dan Auditing*, 12(2), 89–109.
- Najeeb, A. (2014). Institutional theory and human resource management. *Being Practical with Theory: A Window into Business Research*, 25–30.
- Narayanaswamy, R., Raghunandan, K., & Rama, D. V. (2018). Internal Auditing in India and China: Some Empirical Evidence and Issues for Research. *Journal of Accounting, Auditing and Finance*, 54, 3-40.
- Narkchai, S., Binti Fadzil, F. H., & Thungwha, S. (2017). THE communication Skill on the Performance of Internal Auditors in Thailand Public Limited Company. *Econjournals*, 6(2), 118.
- Nicodemus, S. (2010). Analysis of Factors Influencing Management Support on Internal Audit Function in Tanzania Private Firms-The case Study of Tanzania Cigarette Company Limited. A dissertation for award of MBA at the University of Dar Es Salaam.Tanzania.
- Ninsiima, J. (2019). Developing a model for effective response to internal audit findings in Ugandan government departments. North -WEST University, South Africa.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric Theory*, 3<sup>rd</sup> Ed., New York: McGRAW-HILL
- Nyaga, M., & Kamau, G. (2018). Influence of internal audit independence on internal audit effectiveness in the kirinyaga county government, Kenya.

*International Journal of Economics, Commerce and Management United Kingdom*, VI(5), 341–360.

- Nyaki, J. V. (2013). A Critical Analysis of Tanzania Corporate Governance Regulation and Its Impact on Foreign Investment. A dissertation for award of Master of Law degree, University of Western Cape, South Africa.
- Obeid, O. A., & Abdelnur, A. (2018). An Evaluation of Objectivity and Competence of Internal Audit Departments in Sudanese Government Units. *International Journal of Economics and Financial Issues*, 8(3), 9–16.
- Olya, H. (2017). Partial Least Squares Based Structural Equation Modeling ( PLS-SEM ). *Global Conference on Service Management*.
- Pallant, J. (2011). *SPSS Survival Manual; A step by step guide to data analysis using SPSS*. 4<sup>th</sup> Ed., Crows Nest: Allen & Unwin.
- Panda, B., & Leepsa, N. . (2017). Agency theory: Review of theory and evidence on problems and perspectives. *Indian Journal of Corporate Governance*, 10(1), 74–95.
- Patino, C. M., & Ferreira, J. C. (2018). Inclusion and exclusion criteria in research studies: definitions and why they matter. *Jornal Brasileiro de Pneumologia*, 44(2), 84–84.
- Pepper, A., & Gore, J. (2015). Behavioral Agency Theory: New Foundations for Theorizing About Executive Compensation. *Journal of Management*, 41(4), 1045–1068.
- Peursem, K. A. V. (2005). Conversations with internal auditors: The power of ambiguity. *Managerial Auditing Journal*, 20(5), 489–512.
- Peursem, K. Van, & Pumphrey, L. D. K. (2005). Internal auditors and independence:

- An agency lens on corporate practice. *Financial Reporting, Regulation and Governance*, 4(2), 1–33.
- Pitt, S.-A. (2014). *Internla Audit Quality:Developing a Quality Assurance and Improvement Program* (Vol. 3). New Jersey: Jon Wiley & Dons, Inc.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *Journal of Applied Psychology*, 88(5), 879–903.
- Poltak, H., Sudarma, M., & Purwanti, L. (2019). The Determinants of the Effectiveness of Internal Audits with Management Support as the Moderating Variable. *International Journal of Multicultural and Multireligious Understanding*, 6(1), 33.
- Qasim, A. (2018). Audit committee effectiveness: Reflections from the UAE. *International Journal of Economics and Business Research*, 15(1), 87–107.
- Rahman, W., Shah, F. A., & Rasli, A. (2015). Use of structural equation modeling in social science research. *Asian Social Science*, 11(4), 371–377.
- Rainer, L. (2014). Insights into the Effectiveness of Internal Audit: A Multi-Method and Multi-Perspective Study. *SSRN Electronic Journal*.
- Ramachandran, D., Subramanian, R., & Kisoka, I. ohn. (2012). Effectiveness of Internal Audit in Tanzanian Commercial Banks. *British Journal of Arts and Social Sciences*, 8(I), 2046–9578.
- Rigdon, E. E. (2016). Choosing PLS path modeling as analytical method in European management research: A realist perspective. *European Management Journal*, 34(6), 598–605.

- Ringle, C., Wende, S., & Becker, J. M. (2015). Smartpls3. Retrieved December 4, 2018, from <http://www.smartpls.com>.
- Rossiter, B. C. (2007). Top 10 Priorities for Internal Audit. *Risk Management*, 34–38.
- Rouf, M. A., & Akhtaruddin, M. (2018). Factors affecting the voluntary disclosure: a study by using smart PLS-SEM approach. *International Journal of Law and Management*, 60(6), 1498–1508.
- Rudhani, L. haliti, Vokshi, N. B., & Hashani, S. (2017). Factors Contributing to the Effectiveness of Internal Audit: Case Study of Internal Audit in the Public Sector in Kosovo. *Journal of Accounting, Finance and Auditing Studies*, 3(4), 91–108.
- Salterio, S. E., Hoang, K., & Luo, Y. (2018). Communication Is a Two-Way Street: Analyzing Approaches Undertaken to Enhance Audit Research Knowledge Transfer to Policymakers. *SSRN Electronic Journal*, 1–64.
- Sarens, G., & Abdolmohammadi, M. J. (2011). Monitoring effects of the internal audit function: Agency theory versus other explanatory variables. *International Journal of Auditing*, 15(1), 1–20.
- Sari, N., Ghozali, I., & Achmad, T. (2017). The Effect of Internal Audit and Internal Control System on Public Accountability: The Emperical Study in Indonesia State Universities. *International Journal of Civil Engineering and Technology*, 8(9), 157–166.
- Sarstedt, M., Hair, J. F., Ringle, C. M., Thiele, K. O., & Gudergan, S. P. (2016). Estimation issues with PLS and CBSEM: Where the bias lies! *Journal of Business Research*, 69(10), 3998–4010.

- Sarstedt, M., Ringle, C. M., & Hair, J. F. (2017a). *Handbook of Market Research. Handbook of Market Research*. Springer International Publishing.
- Sarstedt, M., Ringle, C. M., & Hair, J. F. (2017b). *Partial Least Squares Structural Equation Modeling. Practical Assessment, Research and Evaluation* (Vol. 21). Springer International Publishing AG 2017. <https://doi.org/10.1108/eb-10-2013-0128>
- Saunders, M., Lewis, P., & Thornhill, A. (2012). *Research Methods for Business Students* (Sixth Edit). Pearson Education Limited.
- Saunders, M., Lewis, P., & Thornhill, A. (2016). *Research Methods for Business Students* (Seventh ed). Pearson Education Limited.
- Schumacker, R. E., & Lomax, R. G. (2010). *A Beginner's Guide to Structural Equation Modeling* (Third Edit). New York: Taylor and Francis Group, LLC. USA.
- Sekaran, U., & Bougie, R. (2016). *Research Methods for Business;a skill-building approach* (Seventh Ed). Chichester,West Sussex,United Kingdom: John Wiley & Sons.
- Setyaningrum, D., & Kuntadi, C. (2019). The effects of competence , independence , audit work , and communication on the effectiveness of internal audit. *Journal of Economics,Business,and Accountancy*, 22(1), 39–47.
- Shahimi, S., Dato' Mahzan, N., & Zulkifli, N. (2016). Value Added Services of Internal Auditors: An Exploratory Study on Consulting Role in Malaysian Environment. *International Journal of Management Excellence*, 7(1), 720.
- Shaiti, H., & Al-matari, Y. (2020). Internal Audit Function Characteristics And The Quality Of Internal Control Systems : Moderating The Effect Of Enterprise

- Resource Planning System Keywords. *Asian Economic and Financial Review*, 10(9), 1012–1027.
- Shamki, D., & Alhajri, T. A. (2017). Factors Influence Internal Audit Effectiveness. *International Journal of Business and Management*, 12(10), 143.
- Shapiro, S. P. (2005). Agency Theory. *Annual Review of Sociology*, 31(2005), 263–284.
- Shbail, A. M. A.-, & Turki, T. A. A. (2017). A Theoretical Discussion of Internal Audit Effectiveness in Kuwaiti Industrial SMEs. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 7(1), 107–116.
- Shmueli, G., Ray, S., Velasquez Estrada, J. M., & Chatla, S. B. (2016). The elephant in the room: Predictive performance of PLS models. *Journal of Business Research*, 69(10), 4552–4564.
- Singh, A., & Masuku, M. (2014). Sampling Techniques & Determination of Sample Size in Applied Statistics Research: an Overview. *Ijecom.Co.Uk*, II(11), 1–22.
- Smith, G. (2005). Communication skills are critical for internal auditors. *Managerial Auditing Journal*, 20(5), 513–519.
- Smith, M. (2003). *Research Methods in Accounting*. London: SAGE Publications.
- Sorensen, D. P., & Miller, S. E. (2017). Financial accounting scandals and the reform of corporate governance in the United States and in Italy. *Corporate Governance (Bingley)*, 17(1), 77–88.
- Sori, Z. M., Hamid, M. A. A., & Nassir, M. A. (2006). Attributes of an Effective Audit Committee; Evidence from an Emerging Capital Markets. *Accounting, Auditing & Accountability Journal*, 53(9), 1–18.



- Spector, P. E., Rosen, C. C., Richardson, H. A., Williams, L. J., & Johnson, R. E. (2019). A New Perspective on Method Variance: A Measure-Centric Approach. *Journal of Management*, 45(3), 855–880.
- Spira, L. F., & Page, M. (2003). Risk management: The reinvention of internal control and the changing role of internal audit. *Accounting, Auditing & Accountability Journal*, 16(4), 640–661.
- Steinmetz, H., Davidov, E., & Schmidt, P. (2011). Three Approaches to Estimate Latent Interaction Effects: Intention and Perceived Behavioral Control in the Theory of Planned Behavior. *Methodological Innovations Online*, 6(1), 95–
- Suchman, M. C. (1995). Managing Legitimacy: Strategic and Institutional Approaches Author ( s ): Mark C . Suchman Source : The Academy of Management Review , Vol . 20 , No . 3 ( Jul . , 1995 ), pp . 571-610 Published by : Academy of Management Stable URL : <https://www.jstor.org>. *The Academy of Management Review*, 20(3), 571–610.
- Sunyoto, Y., Ghozali, I., & Purwanto, A. (2017). Analysis of auditor performance by using covariance based structural equation modeling: A study of public accounting firms in Indonesia. *European Research Studies Journal*, 20(3), 524–537.
- Swinkels, W. H. A. (2012). Exploration of a theory of internal audit: a study on the theoretical foundations of internal audit in relation to the nature and the control systems of Dutch public listed firms. *Therapeutic Drug Monitoring* (Vol. 29).
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using Multivariate Statistics* (Fifth Edit). New York: Pearson Education.Inc.

- Tackie, G., Marfo-Yiadom, E., & Achina, O. S. (2016). Determinants of Internal Audit Effectiveness in Decentralized Local Government Administrative Systems. *International Journal of Business and Management*, 11(11), 184.
- Tenenhaus, M., Vinzi, V. E., Chatelin, Y. M., & Lauro, C. (2005). PLS path modeling. *Computational Statistics and Data Analysis*, 48(1), 159–205.
- Thi, T., & Huong, L. (2018). Factors Affecting the Effectiveness of Internal Audit in the Companies : Case Study in Vietnam. *Proceedings of the International Conference on Business Management*, 1(2), 1–12.
- Tiemann, T. K. (2010). *Introductory Business Statistics*. (J. and W. L. Tiemann K Thomsa, Drexel, Marisa Sharma, Ed.) (A Global T). A Global Text, Creative Commons Attribution 3.0 License.
- Turley, S., & Zaman, M. (2007). Audit committee effectiveness: Informal processes and behavioural effects. *Accounting, Auditing and Accountability Journal*, 20(5), 765–788.
- URT, U. R. of T. The Capital Markets and securities ACT, 1994: Guidelines on Corporate Governance Practices by Public Listed Companies in Tanzania (1994).
- Vadasi, C., Bekiaris, M., & Andrikopoulos, A. (2020). Corporate governance and internal audit: an institutional theory perspective. *Corporate Governance (Bingley)*, 20(1), 175–190.
- Vinzi, V. E., Chin, W. W., Henseler, J., & Wang, H. (2010). *The handbook of Partial Least Square: Concepts, Methods and Applications (Vol 201, No.0):Germany*. (J. E. Gentle, W. K. Hardle, & Y. Mori, Eds.). Spinge.
- Voorhees, C. M., Brady, M. K., Calantone, R., & Ramirez, E. (2016). Discriminant

- validity testing in marketing: an analysis, causes for concern, and proposed remedies. *Journal of the Academy of Marketing Science*, 44(1), 119–134.
- Watts, R. L., & Zimmerman, J. L. (1983). Agency Problems, Auditing, and the Theory of the Firm: Some Evidence. *The Journal of Law and Economics*, 26(3), 613–633.
- West, R., & Turner, L. H. (2018). *Introducing Communication Theory : Analysis and Application* (Sixth Edit). McGraw-Hill Education.
- Whittington, R. O., & Pany, K. (2012). *Principles of auditing & other assurance services* (18th ED). McGraw-Hill International Edition.
- Windahl, S., Signitzer, B. H., & Olson, J. T. (2009). *Using Communication theory. An introduction to planned communication*. (2<sup>nd</sup> Editio). SAGE.
- Wolf, E. j., Harrington, K. M., Clark, S. L., & Miller, M. W. (2013). Sample Size Requirements for Structural Equation Models: An Evaluation of Power, Bias, and Solution Propriety. *Educational and Psychological Measurement*, 76(6), 913–934.
- Wooldridge, J. M. (2016). *Introductory Econometrics; A Modern Approach*. (M. C. Jack W. Calhoun, Laura Bofinger, Ed., *Zentralblatt fur Chirurgie* (Fourth Edi). Soth-Western Cengage Learning, 5191 Natorp Boulevard, Mason, OH 45040, USA.
- Yee, C. S. L., Sujana, A., James, K., & Leung, J. K. S. (2008). Perceptions of Singaporean internal audit customers regarding the role and effectiveness of internal audit. *Asian Journal of Business and Accounting*, 1(2), 147–174.
- Zainudin, A. (2015). Analyzing the moderating variable in a model. *SEM Made Simple Structural Equation Modelling*, (128–158), 134–162.

- Zhang, J., & Gao, S. (2012). How Do SMEs Build Internal Audit Capabilities? A Grounded Theory Approach. *World Review of Business Research*, 2(1), 98–108.
- Zikmund, W. G., Barry, B. J., Carr, J., & Griffin, M. (2013). *Business Research Methods* (8 Edition). Scarborough: Nelson Education.
- Zogning, F. (2017). Agency Theory: A Critical Review. *European Journal of Business and Management*, 9(2), 1–8.
- Zucker, L. G. (1987). Institutional theories of organization. *Annual Review of Sociology*. Vol. 13, 443–464.
- Zureigat, Q. M., & Al-Moshaigeh, A. (2014). Measuring the Performance of Internal Audit Function in Saudi Listed Companies: An Empirical Study. *International Business Research*, 7(7), 72–82.

## APPENDIXES

### Appendix I-Questionnaire

#### THE OPEN UNIVERSITY OF TANZANIA

Dear Respondents,

I am Antipas Massawe, a PhD candidate at the Open University of Tanzania. I have the pleasure to introduce to you this questionnaire as part of data collection for evaluation of **effectiveness of internal audit function of DSE listed companies in Tanzania** in order to fulfil requirements of my research paper for PhD at the Open University of Tanzania. Please feel free to contribute your information as everything collected here will be kept strictly confidential and the results of this study will be reported in aggregate basis, just focussing on issues. No specific details will be disclosed. If you have any query regarding the questionnaire or the entire research, feel free to contact the researcher via email: [antipas.massawe@out.ac.tz](mailto:antipas.massawe@out.ac.tz) or mobile 0782200038.

#### Part A: PROFILE OF RESPONDENT

PERSONAL ATTRIBUTES <i>(Please TICK (✓) ONE Appropriate Box only)</i>	
<b>1. Which age bracket are you in?</b> (i) Below 30 <input type="checkbox"/> (iv) Above 50 <input type="checkbox"/> (ii) 31 to 40 <input type="checkbox"/> (iii) 41 to 50 <input type="checkbox"/>	<b>2. Gender: what is your gender?</b> (i) Male <input type="checkbox"/> (ii) Female <input type="checkbox"/>
<b>3. What is your highest education level?</b> (i) Secondary school <input type="checkbox"/> (iii) Bachelor Degree <input type="checkbox"/> (v) PhD <input type="checkbox"/> (ii) Diploma <input type="checkbox"/> (iv) Masters Degree <input type="checkbox"/>	
<b>4. What is your Company sector?</b> (i) Manufacturing <input type="checkbox"/> (ii) Financial and insurance activities <input type="checkbox"/> (iii) Information and communication <input type="checkbox"/> (iv) Mining and quarrying <input type="checkbox"/> (v) Transportation and storage <input type="checkbox"/> (vi) Other/please specify.....	<b>5. What is your designation?</b> (i) CEO/MD <input type="checkbox"/> (ii) Chair-BOD <input type="checkbox"/> (iii) Chair-Audit committee <input type="checkbox"/> (iv) Director Finance <input type="checkbox"/> (v) Director-HR <input type="checkbox"/> (vi) Chief Accountant <input type="checkbox"/> (vii) Head of Internal Audit <input type="checkbox"/> (viii) Company Secretary <input type="checkbox"/>

	Other/please specify.....
<b>6. What is your Profession?</b> (i) Certified Internal Auditor <input type="checkbox"/> (ii) Certified Public Accountant <input type="checkbox"/> (iii) Lawyer/Advocate <input type="checkbox"/> (iv) Finance/Banking <input type="checkbox"/> (v) Engineer <input type="checkbox"/> (vi) HR <input type="checkbox"/> (vii) Other/please specify.....	<b>7. How long have you been in the company?</b> (i) Below 5 years <input type="checkbox"/> (ii) 6-10 years <input type="checkbox"/> (iii) Above 10 years <input type="checkbox"/>

**Part B:** Questionnaires to collect responses from respondents.

Please circle ( ) off one answer only of your choice in the appropriate box along with the statement to confirm your agreement or disagreement with the statement provided. The rating is on the following scale, 1= Strongly disagree (SD), 2=Disagree (D), 3=Neutral (N), 4=Agree (A), 5= Strongly Agree (SA)

S/no	Statement	SD	D	N	A	SA
Statements for measuring Organizational Independence of Internal Audit Function		<b>Level of agreement/ Disagreement (Please circle one number)</b>				
1.	Head of Internal audit has functional reporting to the Audit Committee.	1	2	3	4	5
2.	Internal auditors have free access to all employees, records and all information systems in the company.	1	2	3	4	5
3.	Appointment and removal of Head of Internal Audit is the ultimate approval of the Board of Directors.	1	2	3	4	5
4.	Internal audit is autonomous as it can audit any area in the company.	1	2	3	4	5
Statements for measuring top Management support to internal audit						
5.	Top management considers internal audit as a valuable unit in the organization.	1	2	3	4	5
6.	Top management ensures internal audit findings and recommendations are implemented.	1	2	3	4	5
7.	Top management provides inputs into the annual internal audit plan.	1	2	3	4	5
8.	Top management supports training and	1	2	3	4	5

	development of internal audit staff.					
Statements for measuring communication skills of internal audit		SD	D	N	A	SA
9.	Internal audit reports are easy to understand.	1	2	3	4	5
10.	Internal auditors collaborate with technical experts from other departments.	1	2	3	4	5
11.	Internal audit reports are relevant as they focus on strategic objectives of the company.	1	2	3	4	5
12.	Head of internal audit has regular interactions with top management in the company.	1	2	3	4	5
Statements for measuring professional proficiency of internal audit		SD	D	N	A	SA
13.	Internal auditors in the company have professional related qualifications in auditing (like CIA, CPA, CISA,ACCA etc)	1	2	3	4	5
14.	Internal auditors apply international internal audit professional standards.	1	2	3	4	5
15.	Internal auditors show technical competence and proficiency while in auditing activities.	1	2	3	4	5
16.	Internal auditors have adequate knowledge of the company business operations.	1	2	3	4	5
Statements for measuring Audit Committee						
17.	At least one Audit Committee member is expert in accounting and auditing.	1	2	3	4	5
18.	Audit Committee members are independent because are coming from outside the company.	1	2	3	4	5
19.	Audit Committee meetings are conducted on quarterly basis.	1	2	3	4	5
20.	Audit Committee members are familiar with the company business operations.	1	2	3	4	5
Statements for measuring internal audit recommendations implementation		SD	D	N	A	SA
21.	Internal audit recommendations are constructive and relevant.	1	2	3	4	5
22.	Internal audit recommendations are easily implementable.	1	2	3	4	5
23.	Internal auditing recommendations have improved internal controls of the company.	1	2	3	4	5
Statements for measuring auditing quality of internal audit						
24.	Internal audit provides quality reports for the company operations.	1	2	3	4	5
25.	Internal audit objectives always focus on testing high risk areas of the company.	1	2	3	4	5
Statements for measuring stakeholder satisfaction of		SD	D	N	A	SA

internal audit						
26.	Management is satisfied with internal audit contributions.	1	2	3	4	5
27.	Board of directors is satisfied with added value of internal audit.	1	2	3	4	5
28.	Internal audit contributions meet my expectations.	1	2	3	4	5

Thanks very much for your precious time and sincerity of your answers.



## Appendix-II

### Summary of Empirical literature Review

S/N	Author(s) and Title	Major Findings	Research gap identified
	(Jiang et al., 2018): “An international study of internal audit function quality”	Board monitoring incentives and Audit committee diligence are positively related to IAF quality (effectiveness) CEO power negatively related to IAF quality Industry competition and regulatory requirement are positively associated with IAF quality	An international study is not context specific as it may be affected by level of corporate governance in different countries hence a need of this study in Tanzania to fill this contextual gap. In addition, agency theory and contingency theory cannot show the role of internal audit paradigm shift from traditional audit to value addition audit hence the necessity of the current study to fill this theoretical gap by applying combination of agency, institutional and communication theories to derive at tested variables. They did not consider again the role of communication skills and audit committee which the current study included. Lastly, the study did not take into account moderation effect of audit committee which the study incorporated to fill the methodological gap.
	(Chevers et al., 2016) “The effectiveness of Internal Audit in Jamaican Commercial Banks”	Quality of audit investigation, organizational independence, professional proficiency and management support have positive significant impact on IAFE	The study skewed towards financial institutions; commercial banks single industry sector which has stringent monitoring mechanism which the current study tried to fill this methodological gap by incorporating respondents from 5 industrial sectors of all listed companies in Tanzania. The study as well did not

S/N	Author(s) and Title	Major Findings	Research gap identified
			recognize the role of communication skills and audit committee which this study included. The uniqueness of the current study was also inclusion of moderation term which was not considered in their study.
	(Mustika, 2015) “Factors Affecting the Internal Audit Effectiveness in Indonesia”	IAF competence, IAF independence and relationship between external and internal audit have significant and positive influence on IAFE Auditee support has no influence on IAFE	The study applied contingency theory which is not sufficient to showcase change of internal audit from traditional to value adding auditing which the current study attempted to fill this theoretical gap by using three theories of agency, institutional and communication. The study as well use small sample size of 33 respondents and biased assessment of internal auditors themselves were methodological gaps which was filled by the current study by involving 92 respondents which included internal auditors, senior management, audit committee members and board members. Furthermore, the study did not consider top management support, communication skills, audit committee and moderation term which the current study brought in.
	(A. Cohen & Sayag, 2010) “The Effectiveness of Internal Auditing: An Empirical Examination of its Determinants in	Top management support as dominant factor as other factors like hiring professional proficient internal audit staff, career and advancement	The study did not consider the role of communication skills and audit committee which the current study included. In addition, the study did not include moderation term of audit committee which the current study employed.

S/N	Author(s) and Title	Major Findings	Research gap identified
	Israeli Organizations”	and providing organizational independence of IAF all depends on the top management support. Lack of relationship between professional proficiency and career and advancement with IAFE.	Similarly, the study use institutional theory which is not sufficient to clearly explain the genesis of IAF to link traditional audits practices with current risk based auditing to add value which the current study tried to fill this theoretical lacuna by applying three theories of agency, institutional and communication. However, the authors encourage replication of their study in other different parts of the world which the current study did with inclusion of new variables.
	(Coetzee & Erasmus, 2017) “What drives and measures public sector internal audit effectiveness? Dependent and independent variables” In South Africa public Sector.	Six (independent) variables confirmed as drivers of IAFE; Chief Audit executive profile (leadership), IAF independence, Internal audit competence, IAF services and role, IAF status and functioning of IAF. Derived three (dependent) factors as measures of IAFE; implementation of IAF recommendations which are practical and cost effective, reliance by external auditor on IAF and satisfaction by stakeholders on IAF work.	The study applied neo-institutional theory which is not sufficient to provide the genesis of why internal auditing and linking with the current phenomena of the profession to add value. The current study tried to resolve this theoretical gap by applying three theories of agency, institutional and communication in unison to show evolution of internal auditing from traditional role to contemporary practices of value addition. The study did not also put into account the role of audit committee and communication skills which the current study considered. The study as well did not consider moderation term which the current study applied.
	(Endaya & Hanefah, 2016).	Internal auditors’ characteristics and	The study confused audit committee as part of senior

S/N	Author(s) and Title	Major Findings	Research gap identified
	"Internal auditor characteristics, internal audit effectiveness, and moderating effect of senior management",	internal audit department impact positively and significantly IAFE Organization members support moderate the relationship between internal auditors' characteristics and IAFE	management which the current study separated as the role of audit committee is to monitor management action while senior management are employees of the company which manage resources for benefit to the shareholders. Again the study use external auditors evaluation of IAF by relying on members of Libyan Association of accountant and auditors as respondents which is biased as self assessment of auditors which the current study resolve by including different respondents from different profession. Though the study applied moderation term was not clear as audit committee members were treated as part of senior management which moderation effect may be spurious hence resolution of the methodological gap by the current study by using moderation effect of audit committee only. Lastly the study measured IAFE relying on financial and compliance audit which the current study tried to fill this conceptual gap by using value addition metrics.
	(Ramachandran et al., 2012) "Effectiveness of Internal Audit in Tanzanian Commercial Banks"	Positive and significant association between internal audit resource, independence and competence with IAFE in Tanzania. Interaction between IAF and audit	The study rests on agency and stakeholder theories which impliedly are one theory as stakeholder theory is an extension of agency theory which could not highlight evolution of internal audit over time. The current study tried to fill this theoretical gap by applying three theories in

S/N	Author(s) and Title	Major Findings	Research gap identified
		<p>committee has positive and significant association with IAFE</p> <p>Lack of association between internal audit activities and IAFE</p>	<p>unison of agency, institutional and communication to arrive at testable variables of the study. The study also centered on one industry only, financial sector, which results may be tilted towards uniqueness of the sector hence the purpose of the current study to fill this methodological gap by involving more sectors of listed companies in Tanzania.</p>
	<p>(Mbelwa &amp; Lenatusi, 2019; “Assessment of factors influence management reliance on IAF: Evidence from oil and gas companies operating in Tanzania”</p>	<p>competence of internal auditors, IAF independence and objectivity, role and scope of IAF, work performance of IAF and communication skills of IAF have significant and positive relationship with reliance (effectiveness) of IAF work.</p>	<p>The study use three theories of agency, resource dependence and grounded theory of manipulating legitimacy though showed the genesis of IAF did not explain clearly paradigm shift of the role of internal auditor from traditional audit of monitoring and compliance to risk based audit to add value. The current study tried to fill this theoretical gap by employing three theories of agency, institutional and communication to arrive at the testable variables.</p> <p>The study also considered audit committee as part of senior management. To fill this conceptual gap the current study separate audit committee from top management and applied them as a separate factors as determinant of IAFE.</p> <p>The study as well dwelt on two sectors only of oil and gas which results may be influenced by the peculiarity of the sectors. To fill this methodological gap, the current study involved many (5) sectors of the companies</p>

S/N	Author(s) and Title	Major Findings	Research gap identified
			<p>listed in Tanzania.            Lastly, the study did not take into account moderation term which the current study did by incorporating audit committee as a new variable to add to the body of knowledge and to fill the methodological gap.</p>

Source: Literature review 2019

### Appendix III:

#### Descriptive Statistics for mean, standard deviation, skewness and Kurtosis

Indicator	N	Min	Max	Mean	Std. Dev	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
OI_1	92	1	5	4.52	.895	-2.461	.251	6.545	.498
OI_2	92	2	5	4.58	.683	-1.550	.251	1.839	.498
OI_3	92	1	5	4.41	.985	-1.973	.251	3.634	.498
OI_4	92	1	5	4.47	.777	-1.903	.251	4.736	.498
MS_1	92	2	5	4.37	.658	-1.038	.251	1.958	.498
MS_2	92	3	5	4.32	.645	-.405	.251	-.678	.498
MS_3	92	1	5	3.98	.914	-1.017	.251	1.309	.498
MS_4	92	1	5	3.99	.845	-.984	.251	1.931	.498
EC_1	92	2	5	4.04	.824	-.683	.251	.134	.498
EC_2	92	1	5	3.95	.843	-1.132	.251	2.251	.498
EC_3	92	1	5	4.20	.774	-1.083	.251	2.280	.498
EC_4	92	3	5	4.35	.686	-.577	.251	-.741	.498
PP_1	92	1	5	4.34	1.019	-1.613	.251	1.904	.498
PP_2	92	1	5	4.29	.908	-1.251	.251	1.200	.498
PP_3	92	1	5	4.22	.753	-1.172	.251	2.872	.498
PP_4	92	1	5	4.23	.743	-1.219	.251	3.210	.498
ACE_1	92	1	5	4.52	.703	-1.923	.251	5.834	.498
ACE_2	92	1	5	4.27	1.100	-1.574	.251	1.753	.498
ACE_3.	92	1	5	4.40	.771	-1.427	.251	2.867	.498
ACE_4	92	1	5	4.15	.838	-1.098	.251	1.666	.498
IAFE_1	92	1	5	4.33	.713	-1.316	.251	3.851	.498
IAFE_2	92	1	5	3.93	.738	-.566	.251	1.458	.498
IAFE_3	92	3	5	4.33	.631	-.386	.251	-.649	.498
IAFE_4	92	1	5	4.12	.754	-.832	.251	1.837	.498
IAFE_5	92	1	5	4.07	.782	-.962	.251	1.967	.498
IAFE_6	92	3	5	4.02	.679	-.026	.251	-.785	.498
IAFE_7	92	1	5	4.14	.720	-.941	.251	2.710	.498
IAFE_8	92	3	5	4.09	.674	-.104	.251	-.759	.498
Valid N (list wise)	92								

Source: Field data 2019

**Appendix-IV:****List of Collected Questionnaires from DSE listed companies in Tanzania**

<b>S/no</b>	<b>Company name</b>	<b>Questionnaire Collected</b>	<b>Region</b>
1	CRDB BANK Plc	5	Dar Es Salaam
2	DAR ES SALAAM COMMERCIAL BANK	7	Dar Es Salaam
3	DAR ES SALAAM STOCK EXCHANGE	7	Dar Es Salaam
4	MAENDELEO BANK Plc	7	Dar Es Salaam
5	MWALIMU COMMERCIAL BANK Plc	4	Dar Es Salaam
6	MKOMBOZI COMMERCIAL BANK	6	Dar Es Salaam
7	NATIONAL MICROFINANCE BANK	7	Dar Es Salaam
8	PRECISION AIR	1	Dar Es Salaam
9	SWALA OIL AND GAS (TANZANIA) Plc	3	Dar Es Salaam
10	SWISSPORT TANZANIA Plc	6	Dar Es Salaam
11	TANGA CEMENT COMPANY Plc	4	Tanga
12	TOL GASES LTD	8	Dar Es Salaam
13	TANZANIA PORTLAND CEMENT CO.LTD	6	Dar Es Salaam
14	VODACOM TANZANIA LIMITED	4	Dar Es Salaam
15	YETU MICROFINANCE BANK Plc	6	Dar Es Salaam
16	TCCIA Investment PLC	4	Dar Es Salaam
17	JUBILEE HOLDINGS LTD	2	Dar Es Salaam
18	NATIONAL MEDIA GROUP- Mwananchi	4	Dar Es Salaam
19	National Investment Company Limited(NICOL)	2	Dar Es Salaam
	<b>Total</b>	<b>93</b>	Dar Es Salaam

Source: Fieldwork 2019



## Appendix V:

### Code book of questionnaire responses

Variable	SPSS Variable name	Coding instructions
Identification number	ID	Number assigned to collected survey questionnaire
Gender	Gender	1=Males 2=Females
Age	Age	1=Below 30 years 2=31-40 years 3=41-50 years 4=Above 50years
Education	Education	1=Secondary School 2=Diploma level 3=Bachelor degree 4=Masters degree 5=PhD
Sector	Sector	1=Manufacturing 2=Financial and Banking 3=Information and Communication 4=Mining and Quarrying 5=Transport and Storage 6=Others
Designation	Designation	1=CEO/MD 2=BOD 3=Audit Committee 4=Finance Director 5=HR Director 6=Chief Accountant 7=Head Internal Audit 8=Company Secretary 9=Head ICT 10=Head PMU 11=Others
Profession	Profession	1=Certified Internal Auditor 2=Certified Public Accountant 3=Lawyer/Advocate 4=Finance/Banking 5=Engineer 6=HR 7=ICT 8=CSP 9=Others
Work experience	Work experience	1=1-5 years 2=6-10 years 3=11 years
Indicator variables from 9 to 36	Rating statements from 9-36	Enter circled number. 1=Strongly disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly agree

## Appendix VI: Research clearance letter

**THE OPEN UNIVERSITY OF TANZANIA**  
**DIRECTORATE OF POSTGRADUATE STUDIES**

P.O. Box 23409  
 Dar es Salaam, Tanzania  
<http://www.openuniversity.ac.tz>



Tel: 255-22-2668992/2668445  
 ext.2101  
 Fax: 255-22-2668759  
 E-mail: [dpgs@out.ac.tz](mailto:dpgs@out.ac.tz)

**Our Ref: PG201610921**

**Date: 29<sup>th</sup> October 2018**

Dar es salaam Stock Exchange (DSE),

**RE: RESEARCH CLEARANCE**

The Open University of Tanzania was established by an act of Parliament No. 17 of 1992, which became operational on the 1st March 1993 by public notice No. 55 in the official Gazette. The act was however replaced by the Open University of Tanzania charter of 2005, which became operational on 1st January 2007. In line with the later, the Open University mission is to generate and apply knowledge through research.

To facilitate and to simplify research process therefore, the act empowers the Vice Chancellor of the Open University of Tanzania to issue research clearance, on behalf of the Government of Tanzania and Tanzania Commission for Science and Technology, to both its staff and students who are doing research in Tanzania. With this brief background, the purpose of this letter is to introduce to you **Mr. MASSAWE, Antipas D. Reg No: PG201610921** pursuing Doctor of Philosophy in Business (**PhD.Business**). We here by grant this clearance to conduct a research titled "*Determinants of Internal Audit Function Effectiveness of DSE Listed Public Companies in Tanzania Application of Structural Equation Modeling*". He will collect his data in Dar es salaam region from 01<sup>st</sup> October 2018 to 31<sup>st</sup> March 2019.

In case you need any further information, kindly do not hesitate to contact the Deputy Vice Chancellor (Academic) of the Open University of Tanzania, P.O. Box 23409, Dar es Salaam. Tel: 022-2-2668820. We lastly thanks you in advance for your assumed cooperation and facilitation of this research academic activity.

Yours sincerely,

Prof. Hossea Rwegoshora  
**For: VICE CHANCELLOR**  
**THE OPEN UNIVERSITY OF TANZANIA**

**International Journal of Business Management and  
Economic Review**

**ISSN: 2581-4664**

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**Certificate of Publication**

This is to certify paper titled **"FACTORS DETERMINING INTERNAL AUDIT FUNCTION EFFECTIVENESS OF LISTED COMPANIES IN TANZANIA: AN INSTITUTIONAL THEORY PERSPECTIVE"** submitted by Author's **Antipas Deogratias Francis Massawe ,Abdiel Abayo and Salvio Macha** has been published for Nov-Dec 2020, Volume 3, Issue 6 online publication under ISSN 2581-4664

With Regards

*gwasishman*

Editor-In-Chief  
International Journal of Business Management and Economic Review

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**Certificate of Publication**

This is to certify paper titled “**AUDIT COMMITTEE AS DETERMINANT OF INTERNAL AUDIT FUNCTION EFFECTIVENESS: EMPIRICAL EVIDENCE OF LISTED COMPANIES IN TANZANIA**” submitted by Author’s **Antipas Deogratias Francis Massawe, Abdiel Abayo and Salvio Macha** has been published for Nov-Dec 2020, Volume 3, Issue 6 online publication under ISSN 2581-4664

With Regards

*gvaishman*

Editor-In-Chief  
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