**Full Length Research Paper****Assessment of Associations between the risk Management Role of Internal Audit Function and Its Determinants: a Case Study in south Gondar Zone****Dawud Ali Hassen**

Lecturer, College of Business and Economics, Department of Accounting and Finance, Bule Hora University P.O. box 144, Bule Hora, Oromia Regional State, Ethiopia.

**ARTICLE INFORMATION****ABSTRACT**Corresponding Author:  
Dawud Ali Hassen

## Article history:

Received: 24-07-2020

Accepted: 12-08-2020

Published: 22-08-2020

## Key words:

Internal audit function,  
risk management role,  
challenges of risk  
management role;

The main purpose of this study is to examine the magnitude of relationships between the risk management process role of internal audit function and its challenges in public sectors in south Gondar Zone selected public enterprises. This investigation focuses on 12 purposely selected public sector offices that are expected to represent all other sectors. The management teams, the chief executive officers and internal auditors of the selected public sector office are the source for the required data to the researcher through the questionnaires administered. Researcher was collecting data in a quantitative method study to address the main and specific objectives that he was achieved. The collected data was analyzed by using OLS multiple regressions statistical analysis method by means of SPSS (version20) application software. In addition, the main aim of this study is to empirically examine the degree of association between organizational independence, top management support, formal mandate, competent leadership, compliance with professional audit standards with the risk management role of internal audit function in different settings. As the regression result shows the better risk management process role of internal audit function was positively associated with the top management support, formal mandate/existence of audit charter, competent leadership, and compliance with professional audit standards. The better risk management process role of internal audit function was positively associated with the remaining one variable that is organizational independence but it was statistically insignificant.

**Introduction**

The concept of internal audit has automatically changed from a system of checking the arithmetical accuracy of accounting data as in early days to a system of appraisal of the effectiveness of accounting, resource utilization, compliance with management policies, procedures and other operations and controls as an aid toward management goals and objectives achievement (Yule, 2010; Jerome, 2009). This means the internal audit function provide constant review and appraisal of the systems and procedures introduced by the management, with the aim of enabling the management to control and utilize their resources properly and effectively. Because internal audits act as an eyes and ears of management in implementing their plans and decisions properly (Hermanson & Rittenberg, 2003). Meanwhile, the internal audit could also add value by helping organizations to achieve economy, efficiency and effectiveness (Al-Twaijry, Brierley & Gwilliam, 2003). Internal auditors are in a special position in terms of their respective status as employees of an organization with responsibilities to act as internal assurance providers of the organization they serve (Fordham, Koch & Tucker, 2008; Stewart & Subramanian, 2009). Furthermore, the internal audit could also add value by helping organizations to achieve

*International Journal of Research in Engineering and Management*

economy, efficiency and effectiveness (Al-Twaijry, Brierley & Gwilliam, 2003). Internal auditors are in a special position in terms of their respective status as employees of an organization with responsibilities to act as internal assurance providers of the organization they serve (Fordham, Koch & Tucker, 2008; Stewart & Subramanian, 2009). Therefore, internal auditors shall provide an effective examination or review of financial transactions in order to ensure that; all collection is acknowledged with receipt, expenditure of all funds and other resources of the organization are in conformity with the policies and procedures of the organization.

Institute of Internal Audit (2009) defined internal audit “as an independent, objective assurance and consulting activities designed with the intention to add value and improve an organization’s operations. It then helps an organization to accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control and governance processes”. From the definition, it’s clear that internal audit should be designed in such a way to be independent and objective in order to evaluate and improve the effectiveness of risk management, control and governance processes at the same time, the internal audit are

expect to provide assurance and consulting service. However, the internal audit should evaluate the extent to which results are consistent with established objectives so as to determine whether operations and programs are being implemented properly.

However, currently the issue of the risk management role of internal audit functions requires organizational independence, a formal mandate, competent staff, stakeholder or management support, and compliance with professional audit standards. (Mebratu, 2012). Perhaps, to what extent the existence of organizational independence, formal mandate, competent staff, stakeholder or management support, compliance with professional audit standards associated with the risk management role of internal audit function in public sector is rarely empirically investigated. Even if most scholars agree that the role of internal audit function with respect to the risk management in the public sector is necessary there is no adequate prior empirical studies on this issue in Ethiopian case in general and in south Gondar Zone in particular. For this reason, the purpose of this study is to examine empirically the risk management role of internal audit function in public sectors and its challenges that have an effect on this function in the case of south Gondar Zone public sectors.

Several studies are undertaken across the globe by so many scholars including (Mebratu, 2012) who conducts his research on the challenges of internal audit function in public sector governance, but, as per knowledge of the researcher very little empirical research on the risk management role of internal audit function and its challenges in selected public sectors has been conducted within an Ethiopian context.

The role of internal auditing in assisting management and board of directors to manage risk (Institute of Internal Auditors, 2004; Sarens & Beelde, 2006; Spira & Page, 2003) and enable them to accomplish corporate objectives (Gramling, Maletta, Schneider, & Church, 2004; Institute of Internal Auditors, 2004; Spira & Page, 2003) has been increasingly recognized. Risk management is an important mechanism for effective handling of uncertainty related to business. Enterprise risk management coordinates risk across the various levels of the organization with a focus on managing threats and opportunities.

The risk management role is sometimes recognizing as the central part of internal auditing function in the public sector. To achieve this function as stated under (IIA, 2012) all government audit functions including South Gondar Zone public sectors require organizational independence, stakeholder or top management support, formal mandate/existence of audit charter, competent leadership, compliance with professional audit standards.

To what extent the existence of these elements associated with the risk management role of internal audit function in public sectors of South Gondar Zone is rarely empirically investigated. Hence, the main aim of this study is to empirically examine the degree of association between organizational independence, formal mandate/existence of audit charter, competent staff, stakeholder or top management support, compliance with professional audit standards with the risk management role of internal audit function in different settings.

## Research hypothesis

After reviewing the related literatures (Mihret and Yismaw, 2007; Cohen & Sayag, 2010; Arena and Azzone) and also (Mebratu, 2015, Hailemariam, 2014) specifically the relations of organizational independence, top management support, formal mandate/existence of audit charter, competent leadership, compliance with professional audit standards with risk management role of internal audit function the study are designed the following guiding hypothesis.

**H1:** the better risk management process role of internal audit function is positively associated with the better existence of organizational independence in the public sectors

**H2:** the better risk management process role of internal audit function is positively associated with the better existence of top management support in the public sectors

**H3:** the better risk management process role of internal audit function is positively associated with the better existence of existence of formal mandate/ audit charter in the public sectors

**H4:** the better risk management process role of internal audit function is positively associated with the better existence of competent leadership in the public sectors

**H5:** the better risk management process role of internal audit function is positively associated with the better existence of compliance with professional audit standards in the public sectors

## Research methodology

The researcher adopts a quantitative method of research. Quantitative research is one in which the investigator primarily uses positivist claims for developing knowledge (Creswell 2003, p. 18). Quantitative research employs a review of the existing literature to deductively develop theories and hypotheses to be tested i.e., in this approach, the research problem is translated to specific variables and hypotheses.

Quantitative data was collected by following a method of inquiry called survey. Reasons for employing survey are based on the strengths of the method that it has. Surveys are relatively inexpensive (especially self-administered surveys), useful in describing the characteristics of a large population, no other method of observation can provide this general capability, they can be administered from remote locations using mail, email or telephone, many questions can be asked about a given topic giving considerable flexibility to the analysis, there is flexibility at the creation phase in deciding how the questions will be administered: as face-to-face interviews, by telephone, as group administered written or oral survey, or by electronic means. Data collections methods include a questionnaire which contains closed ended questions that is prepared by the researcher to undertake the research.

To address a research questions the researcher should decides which people and research sites can best provide information, and puts a sampling procedure in place, and determines the number of individuals( i.e. sample ) that was needed to provide data. In quantitative research, the intent of sampling individuals is to choose individuals that are representative of a population so that the results can be generalized to a population. According to the data from Trade and Industry Bureau there are around 12 public enterprises in south Gondar zone. The researcher selected 12 purposively selected public enterprises which are considered as a representative for all the population which is found in the zone. This study empirically analyzes how the challenges (independent variables) predict the risk management role of internal audit function (dependent

variables) in public sector governance by distributing structured closed-ended questionnaires to the internal audit directors and staffs of the selected south Gondar Zone public sectors. Both dependent and independent variables measured at five - point likert-type scales with response options ranging from strongly disagree (SDA, 1) to strongly agree (SA, 5). The questionnaire was having cover pages which contains the general information about respondents and instructions.

The collected data was analyzed by using OLS multiple regressions statistical analysis method by means of SPSS (version20) application software. To ensure internal validity of the data, the questionnaire was pretested at two stages. The first stage, it was subjected to review by advisors and other colleagues, and in the second stage, to insure clarity and understandability of items to actual respondents, the questionnaire was pilot tested with internal auditors of those public sectors. The questionnaire was revised based on the comments and suggestions received at each stage before the actual data collection obtained. To assist the external validity of data, there are commonalities in policies, procedures and organizational contexts of most public sector entities in Ethiopia and the same internal audit manual is used by all public bodies in Ethiopia (MOFED, 2004). Global Audit Information Network (IAA, 2009), Premier Benchmarking program framework of questionnaire type was adopted and

revised as appropriate to the study. This broad domain of attributes ensures high –construct validity of measurement items identified in the questionnaire. Extent literatures suggest a number of challenges which might be important in determining the role of internal audit function in the public sector. Thus, let us outline the functional relationship.

$$\text{Model1: } RMR = \beta_0 + \beta_1 (OI) + \beta_2 (FM) + \beta_3 (CS) + \beta_4 (MS) + \beta_5 (CPAS) + \beta_6 \epsilon$$

Where;

*RM* = Risk management role of internal audit function measured by total items scored

$\beta_0$  =intercept of the regression line

$\beta_1$  to  $\beta_5$  =slope coefficient of the regression line

*OI*= existence of organizational independence measured by total item scored

*FM*= existence of formal mandate/ audit charter measured by total item scored

*CS*= existence of competent staff measured by total item scored

*MS*= existence of management support measured by total item scored

*CPAS*= existence of compliance with professional audit standards measured by total item scored

$\epsilon$ = is the error term associated with the  $i^{th}$  observation.

**Research findings: Analysis and Discussion**

**Table 1.** Participants general Profile

		Participants / Internal Auditors	
		Frequency	Percentage
Gender	Male	46	65.7
	Female	24	34.3
	<b>Total</b>	<b>70</b>	<b>100</b>
Age	20-29	39	55.7
	30-39	20	28.6
	40-49	8	11
	50-59	3	4.3
	<b>Total</b>	<b>70</b>	<b>100</b>
Field of study	Accounting	28	54.3
	Management	24	34.3
	Economics	8	11.4
	Other	-	-
	<b>Total</b>	<b>70</b>	<b>100</b>
Educational Level	Diploma	-	-
	Bachelor’s degree	57	81.4
	Masters degree	13	18.6
	Others	-	-
	<b>Total</b>	<b>70</b>	<b>100</b>

Source: Questionnaire Results, 2016

In the case of field of study majority of the participants constitutes from accounting and management 28, 54.3% and 24, 34.3% respectively which indicates the good assignment of professionals to their appropriate jobs and the rest are from economics which is 8, 11.4%.

In terms of the level of educational background most of the participants have bachelor’s degree 57, 81.4% followed by master’s degree 13, 18.6%. These shows the majorities of the participants were educated/or professional.

**Table 2** Internal Auditors Responses

Questions		Responses Frequencies	Percentage
Experiences working as IA	Below five years	-	-
	5 years	18	25.70
	6 years	13	18.60
	7 years	8	11.40
	8 years	14	20.00

	9 years	4	5.70
	10 years	13	18.60
	Total	70	100
The presence of audit committee	Yes	21	30.00
	No	49	70.00
	Total	70	100

Source: Questionnaire Results, 2016

The internal auditors work experience span is from one year up to 10 years, but the majority of the participants are in the span of 5 years (18, 25.70%) and 8 years (14, 20.00). But the 6 years and 10 years of experiences of the participants were the same that is (13, 18.60%) years of work experience followed by participants having 7 years and 9 years of experience (8, 11.40%) and (4, 5.70%) respectively. Here the majority of the IA are under 5 years of experience this restricts them to perform their auditing activities by using their past audit experiences.

In terms of the present of Audit Committee, about (21, 30%) participants of the public sector offices had audit committees and (49, 70%) participants of the public sector offices had no audit committees in their office. The availability of audit committee in the public sector have the aid of monitoring and

controlling the internal audit activities and objectives, ensuring the independence, reviewing the internal audit program, ensuring the adequacy of the scope of internal audit activities and monitoring managements actions in terms of financial , risk management and internal control (MOFED, 2004).

**Reliability Analysis**

To measure the consistency of the questionnaire particularly the Likert-type scale the reliability analysis is essential in reflecting the overall reliability of constructs that it is measuring. Cronbach's Alpha is a popular method to determine reliability when dealing with a likert scale. To carry out the reliability analysis, Cronbach's Alpha ( $\alpha$ ) is the most common measure of scale reliability and a value greater than 0.700 is very acceptable (Field, 2009; Cohen and Sayag, 2010).

**Table3** Reliability Statistics

Cronbach's Alpha Standardized Items	Cronbach's Alpha Based on	N of Item
.823	.827	6

Source: survey data, 2016 SPSS output

From table 3 above, the value for Cronbach's Alpha ( $\alpha$ ) was 0.823 for all variables. When these calculated reliability values are greater than 0.7000 it is very acceptable and then the responses generated for all of the variables' used in this research were reliable enough for data analysis.

In order to test the normality of data, Kolmogorov-Smirnov and Shapiro-Wilk tests of normality were used and conducted on SPSS 20. According to Field (2009), when the test is non-significant ( $p > 0.05$ ) it shows that the distribution of the sample is not significantly different from a normal distribution. Accordingly, the result of test showed in table no 4 below and Appendix 3 that all variables were found to be normal and the presence of normality was accepted at  $p > 0.05$ .

**Assessment of Ordinary Least Square (OLS) Assumptions**  
**Assessment of Normality**

**Table 4.** Test of Normality

Variables	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Risk Management Role of Internal Audit Function	.077	70	.200*	.975	70	.177

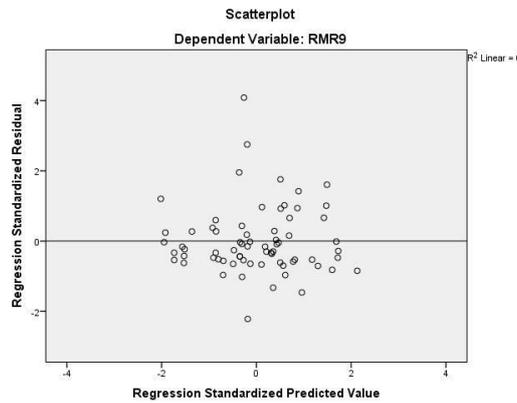
Source: survey data, 2016 SPSS output

**Assessment of Heteroskedasticity**

This scatter plot shows the relationship between the residual or the error term and the predicted value that is the variable Risk Management Role. At this time we have homoskedasticity if there is a consistent relationship and we have hetroskedasticity if the relationship is not consistent. So the regression result shows it's highly consistent and flat which means we have homoskedasticity not hetroskedasticity. In general the error variance is consistent with the regression values in the predicted variable which is the Risk Management role.

**Assessment of Multicollinearity**

Multicollinearity exists when there are strong correlations among the predictors and the existence of  $r$  value greater than 0.80, tolerance value below 0.10 and Variance Inflation factor (VIF) greater than 10 in the correlation matrix are the causes for the multicollinearity existence (Field, 2009; Myers, 1990; Pallant, 2007). Tolerance is a statistics used to indicate the variability of the specified independent variable that is not explained by the other independent variables in the model.



**Table 5** Collinearity Statistics

Variables	Collinearity Statistics	
	Tolerance	VIF
Organizational Independence	.640	1.562
Top Management Support	.584	1.713
Existence of Formal Mandate	.716	1.397
Competent Leadership	.632	1.583
Compliance with Professional Audit Standards	.559	1.788

Source: survey data, 2016 SPSS output

As indicated in the Collinearity table, the tolerance levels for all variables are greater than 0.10 and the VIF value are less than 10 (see table no 5 above), and also the correlation matrix of all the variables have the paired values among the predictors are less than 0.80 (see table no 6 below) indicates that there were no multicollinearity problems that alters the analysis of the findings, rather it leads to the acceptance of r value, tolerance and VIF values.

**Pearson Correlations Matrixes**

Correlation analysis was applied to determine the interrelationships among independent variables and to examine the possibility of Collinearity or

multicollinearity. Since all independent variables were measured using approximately interval scales, with the response rang strongly disagree (SDA, 1) to strongly agree (SA, 5), Pearson product moment pair-wise correlation was used. Multicollinearity is a serious problem when the pair-wise correlation coefficients between two repressors' are high, say excess of .80 (Gujarati, 2004, pp. 359). The current study, the highest correlation result is .620 that is the correlation between competent leadership and the risk management role of internal audit function. This indicates that problem of multicollinearity is not the threat. The following table presented this result.

**Table 6.** Pearson Correlations Matrix

Variables	RMR	OI	TMS	FM	CL	CPAS
Risk Management Role of Internal Audit Function	1.000					
Organizational Independence	.471**	1.000				
Top Management Support	.618**	.326**	1.000			
Formal Mandate	.577**	.493**	.185	1.000		
Competent Leadership	.620**	.287*	.525**	.304*	1.000	
Compliance with Professional Audit Standards	.565**	.420**	.581**	.186	.497**	1.000

\*\* Correlation is significant at the 0.01 level (1-tailed). \* Correlation is significant at the 0.05 level (1-tailed). Source: survey data, 2016 SPSS output

Table no 6 above depicts the correlation between the independent variables and also with the dependent variables. The result shows the acceptable reliability of the research variables in which, the correlation among predictors were not high indicates there are no Multicollinearity problems among variables. As of the relationships between the dependent variables (IAE) and

independent variables (OI, TMS, FM, CL and CPAS), some findings are significant. The correlation analysis was utilized to reject or accept research hypothesis in previous audit research in addition to the regression analysis (Cohen and Sayag, 2010).

**Assessment of Autocorrelation**

The most celebrated test for detecting serial correlation and more formal procedure for examining the correlations between the error terms is Durbin-Watson *d* test (Gujarati, 2004, pp.467 and Malhotra, 2006, pp.588). The current study, computed Durbin-Watson *d* test is 1.786. The lower bound (dL) and upper bound (dU) from Durbin-Watson *d* statistic: Significance point of dL and dU at 0.05 level of significance, n =70 and number of explanatory variable K=5. Then the Durbin Watson statistic table shows 1.464 and 1.768 respectively. At this time if the computed *d* value is less than 1.464 there is evidence of positive correlation and if the computed *d* value is greater than 1.768 there is no evidence of positive autocorrelation. In this situation Gujarati (2004) suggests no positive autocorrelation. Therefore, autocorrelation problem is not the hazard of this study.

**The Regression Results and Hypothesis Testing**

The regression result that are obtained by regressing the risk management role of internal audit function to determine the degree of association with organizational independence (OI), top management support (TMS), existence of formal mandate (FM), competent leadership (CL), and compliance

with professional audit standards (CPAS).

**Regression Results for Risk Management Role of Internal Audit Function**

The regression result explores the necessary indicators of the risk management role of internal audit function by using the variables identified in the model. As indicated in the model summary (table no 7) the appropriate indicators of the variable used to identify the risk management role of internal audit function were explored. That is, the value of R square used to identify how much of the variance in the dependent variable (RMR) identify by the model. The larger the value of R square, the better the model is.

The overall contribution of organizational independence, top management support, existence of formal mandate/audit charter, competent leadership, and compliance with professional audit standards to the risk management role of internal audit function accounted for more than half of the results which is 68.4% ( $R^2 = 0.684$ ) of the variation in the risk management role of internal audit function, the rest 31.6% are other variables not included in this study.

**Table 7** Regression result for Risk Management Role of Internal Audit Function Model summary<sup>b</sup>

Model	R	R square	Adjusted square	R Std. Error of the Estimate	Durbin-Watson
1	.827 <sup>a</sup>	.659	.559	.24227	1.786

a. Predictors: (Constant), CPAS26, CL21, FM16, TMS11, OI6

b. Dependent variable: RMR9 F=27.656 P=.000

Model	Un standardized Coefficients		Standardize Coefficients	t	Sig. p**	Collinearity Statistic	
	B	Std. Error	Beta			Tolerance	VIF
1 constant	-.003	.286		-.012	.991		
OI6	.029	.086	.030	.337	.737	.640	1.562
TMS11	.300	.092	.301	3.270	.002**	.584	1.713
FM16	.349	.073	.399	4.803	.000**	.716	1.397
CL21	.214	.079	.241	2.722	.008**	.632	1.583
CPAS26	.150	.077	.184	1.958	.055**	.559	1.788

\*\*p<.05 significant at the 0.05level (2-tailed)

Source: survey data, 2016 SPSS output

Moreover, the model summary also shows the significance of the model by the value of F statistics (P =.000) and F = 27.656 which implies that there were strong relationship between the predictors and the outcomes of the regression variables and are at best fit the model to examine the magnitude of relationship between the risk management role of internal audit function and its challenges in the public sector.

The beta (β) sign also shows the +ve or -ve effect of the independent variables coefficient over the dependent variable. And as shown in table no 7 above, beta sign of all the independent variables shows the positive effect of the predicting dependent variable. That means, any increase in the independent variables lead to increase in the dependent variable the risk management role of internal audit function. The above table also shows that the model is significant (F=27.656; Sig. F=.000) and explained 65.9% percent of the variation in risk management. The above table also

demonstrates risk management role of internal audit function is significantly related with organizational independence (beta=.030, p=.000). For example (Zulkifli Baharud-din, Alagan Shokiyah, and Mohd Serjana Ibrahim, 2014) found that the need of organizational independence and objectivity which can allow the audit activity to conduct work without interference by any party for the audit task contributes positively to the better existence of risk management role of internal audit function.

Additionally, they have thought that this is very crucial element in conducting audit because the auditors can access to any document relating to the audit work without favour and fear. This will make the auditors provide the objective report and reliable professional judgment on the auditing work to achieve the mandate given to them with integrity. So, this research finding is consistent with the beta sign of

organizational independence has a positive effect of the predicting dependent variable RMR.

Therefore, based on the coefficients of the dependent variable ( $\beta$  sign) the first research question proposed by the researcher is acceptable because it states that the better risk management process role of internal audit function is related to the better existence of organizational independence (OI). But based on the statistical significances of the independent variable over the dependent variable at 5% level of significance, only one independent variables that is organizational independence (OI) insignificantly contributed for the risk management process role of internal audit function at ( $P < 0.05$ ) level of significance.

However, due to an often strong direct or indirect relationship between IA and the Chief Executive Officer (CEO) and/or chief Finance Officer (CFO), it is reasonable to expect that senior management is in a position to exert a significance influence over IA (Sarens and Beelde, 2006; Van Peurse, 2005). This finding also supports the statistical insignificance of the organizational independence.

The above table also demonstrates risk management role of internal audit function is significantly related with top management support ( $\beta = 0.301$ ;  $p = 0.000$ ). This is also supported by (Hailemariam, 2014) Internal auditors have a close relationship with organization's management in their day to day activities. They need good support and perception from their management to be more effective and to achieve the audit objectives. Management support is expressed in terms of supporting the auditing process by fulfilling the necessary resources, finance, transport if required, providing training, introducing auditors with new technology and procedures, budgeting funds for certification and other facilities that facilitate the internal auditing works.

Management support has a far-reaching consequence on IA effectiveness in organizations. For example, Mihret and Yismaw (2007) in their case study of IA effectiveness on public sector shows that the component of management support consists of the response to audit finding and the commitment to strength internal audit which has significance influence on IA effectiveness in risk management.

The above table also tries to show risk management role of internal audit function is significantly related with formal mandate/existence of audit charter ( $\beta = 0.399$ ,  $p = 0.000$ ) this result is supported by O. Regan (2002). He concludes that a well drafted charter is an important ingredient for the IA effectiveness. It helps to direct the efforts of audit staff and defines what the board can expect on the assurance it required on internal control from an IA. Van Peurse (2005) added that the presence of a strong charter adds an official and respected layer of authority to the position of IA in the company. It is also an important feature of insuring success in achieving the independent status of an IA. Furthermore, the existence of audit charter in organization influences senior management to flow the recommendations of the internal auditor (Van Peurse, 2005) which in turn affects IA effectiveness in the risk management process.

The above table again proves that risk management role of internal audit function is significantly related with competent

leadership ( $\beta = 0.241$ ,  $p = 0.000$ ) this is also supported by (Zulkifli Baharud-din, Alagan Shokiyah, and Mohd Serjana Ibrahim, 2014) Competency can be relate to the ability of an individual to perform a job or task properly base on the educational level, professional experience and the effort of the staffs for continuing professional development. Auditors' competency determines the effective auditing in the organization. It contributes to the ability of the auditors to perform the systematic and discipline audit approach to improve the effectiveness of IA.

Mihret & Yismaw (2007) concluded in their study that IA office constantly face the problem of low technical staff proficiency and high staff turnover, which would limit its capacity to provide effective service to management. Whereby Angus Okechukwa Unegbu, Mohamad Isa Kida (2011) found in their study that, IA can effectively carry out their duty in the public sector if there are enough IA personnel with required competencies. Competency of auditors determines the quality of the audit work performed in an organization. Competency is measured in terms of academic level, experience, skill and the effort of the staffs for continuing professional development. Competency determines the efficiency of the auditor in setting a systematic and disciplined approach to evaluate and improve the effectiveness of the organizations activities and financial management as well as governance processes.

The above table also finds that risk management role of internal audit function is significantly related with compliance with professional audit standards ( $\beta = 0.184$ ,  $p = 0.000$ ) this result is supported by the institute stated that professional audit standards support the implementation of the previous (above) elements and provide a framework to promote quality audit work that is systematic, objective and based on evidence (IIA, 2006). Internal auditing is conducted in diverse legal and cultural environments; within organizations that vary in purpose, size, complexity and structure and by persons within or outside the organization. While differences may affect the practice of internal auditing in each environment, conformance with the IIA's International Standards for the Professional Practice of Internal Auditing (Standards) is essential in meeting the responsibilities of internal auditors and the internal audit activity (IIA, 2010).

Therefore, based on the coefficients of the dependent variable ( $\beta$  sign) all the research questions proposed by the researcher are acceptable because of all the five research questions stated the better risk management process role of internal audit function related to the better existence of organizational independence (OI), top management support (TMS), existence of formal mandate (FM), competent leadership (CL), compliance with professional audit standards (CPAS). In other words there exist a positive relationship with the dependent variable and the independent variable. But based on the statistical significances of the independent variable over the dependent variable at 5% level of significance, only one independent variables that is organizational independence (OI) insignificantly contributed for the risk management process role of internal audit function at ( $P < 0.05$ ) level of significance.

Thus, this implies the TMS, FM, CL, and CPAS are most importantly related with the risk management role of internal audit function in which the public sector office should give

more weight in their internal audit function. Besides this, even if its relationship is positive the remaining independent variable (OI) has not significant contribution for the predicted dependent variable (RMR) because it has a sig. value of greater than 5%. The variable with the level of significance (sig) value less than 5% could make a significance unique contribution to the predicted value of the dependent variable, beyond this level of sig. the variable are not making a significance contribution for the prediction of the dependent variable (Pallant, 2007; Somekh and Lewinn, 2005).

### Hypothesis Test

The regression analysis whose results are presented in table no 7 above provides a more comprehensive and accurate examination of the research hypothesis. Therefore, the regression results obtained from the model were utilized to test these hypotheses. The hypotheses needed to test for a significant influence of better risk management role of internal audit function relates to the better existence of organizational independence (OI), top management support (TMS), existence of formal mandate (FM), competent leadership (CL), and the compliance with professional audit standards (CPAS). As can be seen in table no 7 above the p value for the TMS, FM, CL and CPAS are statistically significant at ( $p < 0.05$ ) which suggests a strong support for hypothesis 2, 3, 4 and 5; whereas, OI is not supported the developed hypothesis (hypothesis 1) because it was statistically insignificant at ( $p < 0.05$ ).

The following hypotheses test were conducted based on the regression results of the risk management role of internal audit function obtained from the regression output.

#### **H1: the better risk management role of internal audit function is positively related with the better existence of organizational independence in the public sector office.**

While the internal audit typically the whole management process, to maintain objectivity, to increase the reliability of information, to be free from unacceptable risk of material bias, and to issue reasonable and credible audit opinion, it is required to be independent (IIA,2001).

However, due to an often strong direct or indirect relationship between IA and the Chief Executive Officer (CEO) and/or chief Finance Officer (CFO), it is reasonable to expect that senior management is in a position to exert a significance influence over IA (Sarens and Beelde, 2006; Van Peurse, 2005).

The first hypothesis of this research which is assumed to be have positive association with the risk management process role of internal audit function is the independence of the organization in which internal audit work were conducted. As shown in table no 4.7 above the coefficient of OI ( $\beta = .029$ ,  $t = .337$ ) were positively related with the better RMR. But, because of its statistical result ( $P > 0.05$ ) .777 the regression output result haven't statistically significant association between the organizational independence and the risk management process role of internal audit function which reveals that not to support or accept the first hypothesis. In addition, the lower existence of organizational independence results internal auditors faces a big challenge for the risk management process role of internal audit function in the sector. This result supported by Ahmad, Othman and Jusoff (2009) on their study of "The effectiveness of internal audit in Malaysian public sector". They concluded that internal audit

function in the public sector in Malaysian is curtailed (*shortened*) by understaffing and negative perception accorded to internal audit led to inaction by management on recommended remedies which only serve to nullify the positive contribution internal audit potentially hold to elevate (*make higher*) the service delivery quality of the public sector. Whereas, it is inconsistent with the previous studies conducted by (Cohen, & Sayag, 2010; Van Peurse, 2005) they find that, the more organizational independence to the internal auditors plays the crucial role in assurance of better risk management process role of internal audit function by freely access of necessary documents, information and data about the organization for audit work, and can provide audit finding /report/ freely and directly to the responsible body, and this all supports the better risk management process role of internal audit function.

This may be occurred due to the organizations support to the risk management process role of internal audit function and accordingly, the level of independence, reporting level, direct contact to the board and senior management, conflict of interest, interference, the unrestricted access to all departments and employees, appointment and removal of the head of internal audit, and performing non-audit activity may not be equally perceived. But, without the relevant senior management support simply the independence of the organization to the internal auditors may not be enough to add value and to identify the noncompliance activities performed in their office.

#### **H2: the better risk management process role of internal audit function is positively associated with the top management support**

The second hypothesis of this research posted that the better risk management process role of internal audit function is directly associated with the extent of the management support it receives. Showing the strongly correlated relationship between the RMR and the management support, the positive beta sign and a statistically significant result of management support related with the better risk management process role of internal audit function ( $\beta = .300$ ,  $t = 3.270$ ,  $P < 0.05$ ) support the proposed hypothesis acceptable. The management support in terms of providing resources, giving trainings, introducing with new technologies, providing enough facilities and encourages the internal audit process with commitments to promote and communicate their added value for the better risk management process role of internal audit function.

Dessalegn and Aderajew (2007), in their Ethiopian higher education case study result shows that management support to IA is considered as one of the determinants of IA's attributes. They also indicate that audit findings and recommendations would not serve much purpose unless management is committed to implement.

The result were consistent with the previous auditing research works of (Mihret and Yismaw, 2007; Cohen and Sayag, 2010) they find that the top management support was the critical determinants of better risk management process role of internal audit function in audit finding and the commitment to strength internal audit through hiring proficient internal audit staff, developing career channels for internal audit staff, and providing internal audit work independence. And also it is

consistent with (Al-Twaijry et al., 2003; Allegrini & D'Onza, 2003) within the context of organizational policies and procedures that serve as control parameters, internal auditing helps the board and management in managing risk. The assurance aspect of internal audit helps prevent and detect irregularities that result from mistakes or fraud while the consulting dimension helps enhance economy, efficiency and effectiveness. Similarly, in this research finding the managements support in terms of trainings, resources and through other necessary facilities to the internal auditors the top management can contribute to the effectiveness of internal audit works for their office. Therefore, the management can contribute for the effective result of the better risk management process role of internal audit function through their support in terms of continuous training for their IA staff, fulfilling the necessary materials and facilities that the IA staff needs; and this in turn strongly supports the second proposed hypothesis (H2).

**H3: the better risk management process role of internal audit function is positively associated with the better existence formal mandate/ audit charter**

The third hypothesis which is proposed to support the better risk management process role of internal audit function is the existence of formal mandate / approved internal audit charter in the public sector office. A well drafted IA charter is a crucial ingredient for the successful internal auditing functions. The regression output result also supports this hypothesis with significantly correlated variables with the level of significance ( $p < .01$ ) and the positively related coefficients ( $\beta = .349$  and  $t = 4.803$ ) contributes for the RMR of internal audit function. This indicates the significant impacts of FM to increase the ability of internal auditors to identify the noncompliance activities and the more contribution to the public sector. In addition, the result of this hypothesis was consistent with the prior audit researches conducted by (Peurseem, 2005; O'Regan, 2002). According to the authors a well drafted IA charter helps the internal audit function to perform its roles of management influence objectively and used as a way of getting access to the information (documents, records, systems, and personnel) that are necessary to perform and reach conclusions on the work. The MoFED (2004) also directs all the public sectors to have approved IA charters that are used as a working manual. Van Peurseem (2005) added that the presence of a strong charter adds an official and respected layer of authority to the position of IA in the company. It is also an important feature of insuring success in achieving the independent status of an IA. Furthermore, the existence of audit charter in organization influences senior management to flow the recommendations of the internal auditor (Van Peurseem, 2005) which in turn affects risk management effectiveness.

Therefore, the existence of formal mandate / approved internal audit charter in the public sector office contributes for the better RMR of internal audit works by facilitating the activities of internal auditors and to make their purpose and authority in line with the standards for the professional practices formulated by the institute of internal auditors in accordance to the rules and regulations of the organization. This strongly supports the proposed hypothesis of the positively related relationship between the availability of FM and its significant impact for the better RMR of internal audit function (H3).

**H4: the better risk management process role of internal audit function is positively associated with the better existence of competent leadership**

The existence of competent leadership is also supposed to be positively associated with the RMR of internal audit function and is the fourth hypothesis of this research. The regression result highly supports this hypothesis at ( $P < 0.05$ ) level of significant and with the positive signs of beta and t-statistics ( $\beta = .214$  and  $t = 2.722$ ). But, this result was inconsistency with some previous auditing researches (Arena and Azzone, 2009; Cohen and Sayag, 2010) they argued that there were no correlation between professional proficiency and adequacy with the better risk management process role of internal audit function. But the previous research was conducted in terms of the number of internal auditors, professional certification and level of education, whereas this research was conducted the better risk management process role of internal audit function by considering the overall abilities of the internal auditor staffs and the availability of adequate and certified internal auditors in terms of their performance to proceed the required auditing activities by matching with the audit standards and organizational objectives by using modern technologies when compared to those previous studies. Appropriate staffing of an internal audit department and good management of that staff are keys to the effective operation of an internal audit. An audit requires a professional staff that collectively has the necessary education, training, experience and professional qualifications to conduct the full range of audits required by its mandate (Al-Twaijry et al, 2004). Auditors must comply with minimum continuing education requirements and professional standards published by their relevant professional organizations (IIA, 2001).

Therefore, the existence of competent leadership in the public sector office results with positively relationship with better RMR of internal audit function and with high contribution for the RMR by performing their activities on time, cover the planned scope of auditing activities by using the computerized data tools and specific IA software. This results with the overall contribution of RMR of internal audit function and its positive relationship with RMR leads to highly support the proposed hypothesis (H4).

**H5: the better risk management process role of internal audit function is positively associated with the better existence of compliance with professional audit standards**

Compliance with professional audit standards is supposed to have a positive association with the RMR of internal audit function and is the last hypothesis of this research. The regression result highly supports this hypothesis at ( $P < 0.05$ ) level of significant and with the positive signs of beta and t-statistics ( $\beta = .150$  and  $t = 1.958$ ). The implication here is that the better internal auditors' compliance with professional audit standards in their day to day activities, the better improvements risk management performance in the sector. As stated under IIA (2010) as internal auditors compliance with professional audit standards in their activities, they can evaluate risk exposures relating to the organization's governance, operations, and information systems regarding the: reliability and integrity of financial and operational information, effectiveness and efficiency of operations and programs, safeguarding of assets; and compliance with laws, regulations, policies, procedures, and contracts.

## Conclusion and recommendation

### Summary of Major Finding

According to the regression result all these predictors were positively contributed for the better risk management process role of internal audit function in south Gondar Zone public sector offices. Therefore, the public sector office should give due attention to use these determinant variables to make their risk management role effective, efficient and economical throughout their offices. Moreover the top management support, formal mandate/existence of audit charter, competent leadership, and compliance with professional audit standards were the major contributors for RMR in the public sector. However, the organizational independence was not significantly important for the RMR of public sectors as of the above four variables.

This study finds that the combined measure of organizational independence, top management support, formal mandate/existence of audit charter, competent leadership, and compliance with professional audit standards accounts for 65.9% ( $R^2 = 0.659$ ) variance for the better RMR in identifying nonconformity activities and added contributions to the public sector offices. That means, the impact of these five independent variables contributed for the dependent variable RMR were 65.9%, and the remaining 34.1% were other variables that are not included in this study.

The end results of this research aims to conclude the finding of the study focusing on the main determinants that have significant impacts to the better risk management role of internal audit function and to provide recommendations based on the research findings of the study. These conclusions and recommendations are drawn from the findings of the study specifically related to the organizational independence, top management support, formal mandate/existence of audit charter, competent leadership, and compliance with professional audit standards in the public sector offices.

### Conclusion

Due to its important role it plays for the overall management system internal audit is the major mechanism to ensure sound corporate governance. The existences of effective internal audit in the office links with internal control risk management system, improves organizational efficiency and effectiveness, reduce information asymmetry during decision making, and ensures internal reliability of financial reporting process. By taking this aspect into consideration, this study was investigated the magnitude of relationship between the risk management role and those independent variables in the public sector offices. And also by testing of the proposed hypotheses showed relations of these independent variables with the RMR the following conclusions were drawn.

- The risk management role (RMR) of the public sector office increases, when there were more supports from the management, have formal mandate/existence of audit charter, competent internal auditors staff in the office combined with the compliance with professional audit standards. The regression analysis (shown on table no 7) shows very strong contributions of these variables for the RMR. Therefore, the overall effect of the top management support, the existence of formal mandate/audit charter, competent leadership, and compliance with professional audit standards in the public

sector is very important for the RMR in the public sector offices without neglecting the other statistically insignificance variables (OI), because they have a positive sign of beta and contribute for the 65.9% of the variances for the RMR. Thus, neglecting this variable may cause to decrease the value of RMR variance that was obtained from collective contribution of the five independent variables.

- In addition, the correlation analysis (shown on table no 6) shows all the independent variables have the direct effect of the risk management role of internal audit function (RMR) and the regression result also depicts all the independent variables have a positive sign of coefficients (shown on table no 7) with RMR in the public sector offices. However, the organizational independence was statistically not significant enough at 5% sig. level to contribute for the RMR in the public sector offices, therefore this conclusion requires future research should consider for obtaining the impact of these variables on the better risk management role of internal audit function.

- With the fulfillment of assumptions expected, OLS multiple regression analysis results show that the risk management role of internal audit function is better improved, when there is better existence of top management support, formal mandate, competent leadership, and compliance with professional audit standards.

- The regression results indicate that the lower existence of organizational independence results internal auditor's activities faces the big challenge for the risk management role of internal audit function in the sector.

Furthermore, the correlation analysis (see table no 6) showed the contributions of the independent variables to the RMR. For instance, the organizational independence of internal auditors was not significantly correlated with risk management role to the public sector offices. This conclusion requires future research should consider the impact of these determinants on the better risk management role of internal audit function.

### Recommendations

After observing the research findings and achieved results with respect to the main objective of this study to statistically test the magnitude of relationship between the risk management process role of internal audit function and its challenges in the public sector offices and also to prove the hypotheses, the researcher provides the following recommendations to the public sector offices.

- The finding of this research proved that the top management support, the existence of formal mandate/existence of audit charter, competent leadership, and compliance with professional audit standards were statistically significant and positively related with the risk management role (RMR) in the public sector offices. Thus, the public sector office should support more for the internal audit functions by facilitating the internal audit works, should recruited more adequate and competent internal audit staff and give sufficient training and professional certification for the existing internal audit staffs, and should maintain the approved internal audit charter and workable manuals for their office because it directs the overall activities of the internal auditors in line with IIA standards and the office policies and guidelines.

- The internal auditors of the public sector office should recommended to maintain and improve their effective contribution for the risk management role (RMR) in their office, by using the supports from their offices management team appropriately, by improving their professional

certification in line with the institute of internal audit standards and organizational guidelines and by introducing themselves with modern technologies that improve their IA function for their office.

- The public sectors should seek opportunities to perform more risk management consulting services in support of whoever is managing the risk management program, and formally communicate the results of those consulting services to the audit committee and management.

- The public sectors should devote the time, resources, and leadership to developing internal audit teams so that they have the right level of skills and experience related to risk management. Use third-party and other internal resources to supplement the risk management skills of the internal audit activity.

- But, the need for further research on the risk management role of internal audit function in the public sector has become imperative in view of the scarcity of research on Risk Management and the fact that risk management is still at its rudimentary stage in Ethiopia.

## References

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 Perspective on Accounting*, 14, 507-531. doi:10.1016/S1045-2354(02)00158-2.

Al-Twajjry, A. A.M., Brierley, J. A, & Gwilliam, D. R. (2004). An examination of the relationship between internal and external audit in the Saudi Arabian corporate sector. *Managerial Auditing Journal*, 19(7), 929 –944. doi.org/10.1108/02686900410549448

Agumas Alamirew Mebratu (2015), “internal audit function and its challenges in public sector governance: empirical evidence from Amhara National Regional State, Ethiopia”, *AshEse Journal of Economics* Vol 1(1), pp. 001-012, March 2015.

Allegrini, M. and D'Onza, G. (2003), "Internal Auditing and Risk Assessment in Large Italian Companies: an Empirical Survey ", *International Journal of Auditing*, Vol. 7 No. 3, pp. 191-208.

Allegrini, M., Paape, L., Meville, R. and Sarens, G. (2006), "The European literature review on internal auditing", *Managerial Auditing Journal*, Vol. 21 No. 8, pp. 845-853.

Arena, M., Arnaboldi, M. and Azzone, G. (2006), “Internal Audit in Italian Organizations-A multiple case study,” *Managerial Auditing Journal*, vol.21, No.3, pp.275-292

Asare, T. (2009), “Internal Auditing in the Public Sector: Promoting Good Governance and Performance Improvement,” *International Journal on Governmental Financial Management*, vol. IX, No.1.

Beasley, M. S., Carcello, J. V., Hermanson, D. R. and Lapides, P. D. (2000), "Fraudulent Financial Reporting: Consideration of Industry Traits and Corporate Governance Mechanisms", *Accounting Horizons*, Vol. 14 No. 4, pp. 411-454.

Beasley, M. S., Cluneb, R. and Hermanson, D. R. (2005), "Enterprise risk management: An empirical analysis of factors associated with the extent of implementation", *Journal of Accounting and Public Policy*, Vol. 24 No. 6, pp. 521-531.

Beck, U. (1992), *Risk Society: Towards a New Modernity*, Sage, London.

Boehm, B. W. (1991), "Software Risk Management: Principles and Practices", *Software, IEEE*, Vol. 8 No. 1, pp. 32-41.

Bou-Raad, G. (2000), "Internal auditors and the value added approach: the new business regime", *Managerial Auditing Journal*, Vol. 15 No. 4 pp. 183-186.

Bryer, R. A. (1999), "Marx and Accounting", *Critical Perspectives on Accounting*, Vol. 10 No. 5, pp. 683-709.

Bryer, R. A. (1999), "A MARXIST CRITIQUE OF THE FASB'S CONCEPTUAL FRAMEWORK", *Critical Perspectives on Accounting*, Vol. 10 No. 5, pp. 551-589.

Bryer, R. A. (2005), "A Marxist accounting history of the British industrial revolution: a review of evidence and suggestions for research", *Accounting, Organizations and Society*, Vol. 30 No. 1, pp. 25-65.

Bryer, R. A. (2006a), "Accounting and control of the labor process", *Critical Perspectives on Accounting* Vol. 17 No. 5, pp. 551-598.

Bryer, R. A. (2006b), "Capitalist accountability and the British Industrial Revolution: The Carron Company, 1759–circa. 1850", *Accounting, Organizations and Society*, Vol. 31 No. 8, pp. 687-734.

Carcello, J. V., Hermanson, D. R. and Raghunandan, K. (2005a), "Changes in Internal Auditing During the Time of the Major US Accounting Scandals", *International Journal of Auditing*, Vol. 9 No. 2, pp. 117-127.

Carcello, J. V., Hermanson, D. R. and Raghunandan, K. (2005b), "Factors Associated With U.S. Public Companies' Investment in Internal Audit", *Accounting Horizons*, Vol. 19 No. 2, pp. 69-84.

Carrington, T. and Catasús, B. (2007), "Auditing stories about discomfort: becoming comfortable with comfort theory", *European Accounting Review*, Vol. 16 No. 1, pp. 35-58.

Christopher, J. (2010), "Corporate governance—A multi-theoretical approach to recognizing the wider influencing forces impacting on organizations", *Critical Perspectives on Accounting*, Vol. 21, pp. 283-295.

Christopher, J., Sarens, G. and Leung, P. (2009), "A critical analysis of the independence of the internal audit function: evidence from Australia", *Accounting, Auditing & Accountability Journal*, Vol. 22 No. 2, pp. 200-220.

Cohen, J., Krishnamoorthy, G. and Wright, A. (2004), "The Corporate Governance Mosaic and Financial Reporting Quality ", *Journal of Accounting Literature*, Vol. 23 No. 1, pp. 87-155.

Committee of Sponsoring Organisations. (1992), *Internal Control -- Integrated Framework*, AICPA, New York.

Committee of Sponsoring Organisations. (2004), *Enterprise Risk Management – An Integrated Framework*, COSO, New York.

Cooper, B. J., Leung, P. and Wong, G. (2006), "The Asia Pacific literature review on internal auditing", *Managerial Auditing Journal*, Vol. 21 No. 8, pp. 822-834.

Covaleski, M. A., Dirsmith, M. W. and Rittenberg, L. (2003), "Jurisdictional disputes over professional work: the institutionalization of the global knowledge expert", *Accounting, Organizations and Society*, Vol. 28 No. 4, pp. 323-355.

Commonwealth of Australia (2007), “Public Sector Internal Audit, Better Practice Guide, Australian National Audit Office,”

<[http://www.finance.gov.au/comcover/docs/Better\\_Practice\\_Guide.pdf](http://www.finance.gov.au/comcover/docs/Better_Practice_Guide.pdf)> Accessed 5 August 2011

Demidenko, E. and McNutt, P. (2010), "The ethics of enterprise risk management as a keycomponent of corporate governance", *International Journal of Social Economics*, Vol. 37 No. 10, pp. 802 - 815.

- DeZoort, F. T., Hermanson, D. R. and Houston, R. W. (2003), "Audit committee support for auditors: The effects of materiality justification and accounting precision", *Journal of Accounting and Public Policy*, Vol. 22 No. 2, pp. 175-199.
- Diprose, R., Stephenson, N., Mills, C., Race, K. and Hawkins, G. (2008), "Governing the Future: The Paradigm of Prudence in Political Technologies of Risk Management", *Security Dialogue*, Vol. 39 No. 3-2, pp. 267-288.
- Fordham, A.S., Koch, B., & Tucker, R. (2008). Enterprise Resource Planning (ERP) systems and internal audit. Vol IX, No. 2. Retrieve on 12/09/2012 from [http://iacis.org/iis/2008/S2008\\_1128.pdf](http://iacis.org/iis/2008/S2008_1128.pdf)
- Goodwin-Stewart, G. and Kent, P. (2006), "The use of internal audit by Australian companies," *Managerial Auditing Journal*, vol.21, No.1, pp, 81-101
- Gordon, D. M., Edwards, R. and Riech, M. (1982), *Segmented work, divided workers: The historical transformation of labor in the United States*, Cambridge University Press, London.
- Gordon, L. A., Loeb, M. P. and Tseng, C.-Y. (2009), "Enterprise risk management and firm performance: A contingency perspective", *Journal of Accounting and Public Policy*, Vol. 28 No. 4, pp. 301-327.
- Gramling, A. A., Maletta, M., Schneider, A. and Church, B. (2004), "The role of the internal audit function in corporate governance: a synthesis of the extant internal auditing literature and directions for future research", *Journal of Accounting Literature*, Vol. 23 No. 1, pp. 194-244.
- Hass, S., Abdolmohammadi, M. J. and Burnaby, P. (2006), "The Americas literature review on internal auditing," *Managerial Auditing Review*, vol.21, No.8, pp.835-844.
- Hermanson, D. R., Rittenberg, L. E. (2003), "Internal audit and organizational governance," The Institute of Internal Auditors Research Foundation
- Hock, B. and Burch, C. (2011), "The Internal Audit Activity's Role In Governance, Risk and Control," Third Edition CIA Preparatory Program, HOCK international, LLC. < <http://www.referenceforbusiness.com/index.html>.), "Encyclopedia of Business," 2nd ed. >> Inc-Int >> Internal Auditing />. Institute of Internal Auditors. (2004), "Definition of Internal Auditing", available at: <http://www.theiia.org/guidance/standards-and-guidance/ippf/definition-of-internalauditing/?Search=definition> (accessed 08 August 2009).
- International Federation of Accountants. (2010), "International Standard on Auditing (ISA) 315, "Identifying and Assessing the Risks of Material Misstatement through Understanding the Entity and Its Environment"", in.
- Institute of Internal Auditors (2006), "The Role of Auditing in Public Sector Governance", Available at: <<http://www.theiia.org/guidance/>>.
- Institute of Internal Auditors (2008), "Standards and Guidance" Available at: <<http://www.theiia.org/guidance/>>.
- Institute of Internal Auditors (2012), "Global Standards and Guidance" Available at: <<http://www.theiia.org/guidance/>>.
- Jerome, W. J. (2009). Internal auditing as an aid to management. *Harvard Business Review*, 127 – 132.
- McNamee, D. and McNamee, T. (1995), "The transformation of internal auditing", *Managerial Auditing Journal*, Vol. 10 No. 2, pp. 34-37.
- Mihret D.G., James, K. and Mula, J. M. (2010), "Antecedents and organizational performance implications of internal audit effectiveness," Some propositions and research agenda
- Mihret, D.G. (2010), "Factors Associated with attributes of internal audit departments: A canonical analysis," *African Journal of Accounting, Economics, Finance and Banking Research*, vol.6, No.6
- Mihret, D.G. and Woldeyohannis, G.Z. (2008), "Value –Added Role of Internal Audit." an Ethiopian case study, *Managerial Auditing Journal*, vol.23, No.6, pp.567-595
- Mihret, D.G., and Yismaw, A.W.(2007), "Internal audit effectiveness," an Ethiopian public sector case study, *Managerial Auditing Journal*, 22(5).
- Ministry of Finance and Economic Development (2004), "Internal audit standards and code of ethics for internal auditors and internal audit procedural manual"
- Ramamoorti, S. (2003), "Internal Auditing: History, Evolution, and Prospects", in *Research Opportunities In Internal Auditing*. The Institute of Internal Auditors, Altamonte Springs, Florida, pp. 1-23.
- Rasmussen, J. (1997), "Risk management in a dynamic society: A modelling problem", *Safety Science*, Vol. 27 No. 2/3, pp. 183-213.
- Ritchie, B. and Brindley, C. (2007), "Supply chain risk management and performance: A guiding framework for future development", *International Journal of Operations & Production Management*, Vol. 27 No. 3, pp. 303-322.
- Rittenberg, L. and Covaleski, M. A. (2001), "Internalization versus externalization of internal audit function: an examination of professional and organizational imperatives", *Accounting, Organizations and Society*, Vol. 26 No. 7-8, pp. 617-641.
- Shewamene Hailemariam (2014), "Determinants of internal audit effectiveness in the public sector, case study in selected Ethiopian public sector offices".
- San Miguel, J. G. and Govindarajan, V. (1984), "The contingent relationship between the controller and internal audit functions in large organizations", *Accounting, Organizations and Society*, Vol. 9 No. 2, pp. 179-188.
- Sarens, G. and Beelde, I. D. (2006), "Internal auditors' perception about their role in risk management: A comparison between US and Belgian companies", *Managerial Auditing Journal*, Vol. 21 No. 1, pp. 61-80.
- Sarens, G. and Christopher, J. (2010), "The association between corporate governance guidelines and risk management and internal control practices: Evidence from a comparative study", *Managerial Auditing Journal*, Vol. 25 No. 4, pp. 288-208.
- Sarens, G., De Beelde, I. and Everaert, P. (2009), "Internal audit: A comfort provider to the audit committee", *The British Accounting Review*, Vol. 41 No. 2, pp. 90-106.
- Selim, G. and McNamee, D. (1999), "Risk management and Internal auditing: What are the essential building blocks for successful paradigm change", *International Journal of Auditing* Vol. 3 No. 2, pp. 147-155.
- Sitkin, S. B. and Amy, L. (1992), "Reconceptualizing the Determinants of Risk Behavior", *The Academy of Management Review*, Vol. 17 No. 1, pp. 9-38.
- Spira, L. F. and Page, M. (2003), "Risk management: The reinvention of internal control and the changing role of internal audit", *Accounting, Auditing & Accountability Journal*, Vol. 16 No. 4, pp. 640 - 661.
- Subramaniam, N., McManus, L. and Zhang, J. (2009), "Corporate governance, firm characteristics and risk management committee formation in Australian companies", *Managerial Auditing Journal*, Vol. 24 No. 4, pp. 316 - 339.

- Stewart, J, & Subramaniam, N. (2009) . Internal audit independence and objectivity: A review of current literature and opportunities for future research. *Griffith Business School, Discussion paper accounting*.
- Taylor, F. W. (1947), *The Principles of Scientific Management*, New York.
- The Institute of Internal Auditors. (2008), "International Standards for the Professional Practice of Internal Auditing", (accessed 3 August 2008 2008).
- The Institute of Internal Auditors. (2010), "Definition of internal auditing", available at: <http://www.theiia.org/guidance/standards-and-guidance/ippf/definition-of-internalauditing/> (accessed 1 August 2011).
- The Institute of Internal Auditors (2009), "Global Audit Information Network," the IIA's premier Benchmarking program <http://www.iiap.org/www/uploads/publication/4th%20network.pdf>>
- The Institute of Internal Auditors Research Foundation (IIARF, 2009), "Internal Audit Capability Model (IA-CM) for the Public Sector," [www.theiia.org/download.cfm?file=31976](http://www.theiia.org/download.cfm?file=31976)>.
- Thompson, J. D. (1967), *Organizations in Action*, McGraw-Hill Book Company, New York.
- Van Gansberghe, C. N. (2005), "Internal Audit: Finding its Place in Public Finance Management," World Bank Institute. [www.gsdr.org/go/display/document/legacyid/1463/](http://www.gsdr.org/go/display/document/legacyid/1463/)>
- Wobschall, C. (2011), "Internal Audit Quality Assessment Framework", HM Treasury
- Wollela Abehodie Yesegat (2009), "Value Added Tax in Ethiopia: A Study of Operating costs and compliance".
- Yule, A. (2010). *Internal Audit Manual*. Private & Confidential for Internal Circulation Only.
- Zahran, M. M., Chulkov, N. V, & Inomata, T. (2010). *The Audit Function in the United Nations System*. United Nations, Geneva. JIU/REP