



Full Length Research

Internal audit function and its challenges in public sector governance: Empirical evidence from Amhara National Regional State, Ethiopia

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The purpose of this study is to examine the role of internal audit function in public sector governance and challenges that have an effect on this function in the case of Amhara National Regional State public sector, Ethiopia. Based on structured questionnaire survey of all internal audit directors and staff from 35 public sector bureau of Amhara National Regional State, a total of 61 internal auditors was used. To analyzed the data, OLS multiple regression statistical method was employed. OLS regression analysis results show that risk management role of internal audit function is positively related to compliance with professional audit standards, unrestricted access, formal mandate, top management support and competent leadership, and negatively related to organizational independence, competent staff and sufficient funding. The finding reveals that competent staff, compliance with professional audit standards and sufficient funding is positively related with the control function of internal audit. The regression results also suggest that governance process role of internal audit function is positively related to competent staff and compliance with professional audit standards and negatively related to top management support, formal mandate and unrestricted access. The regional level results provided by this study cannot be regarded as generally applicable or generalizable throughout the country or in different economic situations. This study attempts to contribute firstly, empirically testing the extent of association of role of internal audit function in public sector(that is risk management, control and governance processes) with its factors (that is organizational independence, formal mandate, unrestricted access, sufficient funding, competent leadership, competent staff, management support and compliance with professional audit standards). Role of internal audit function in public sector and its factors that have an effect mentioned in this study apparently thus far, have been rarely empirically examined.

Key words: Internal auditing, role of internal audit function, public sector governance, Ethiopia.

INTRODUCTION

There is a widespread characteristics of public sector governance cry for an effective internal auditing function to meet the demanding responsibilities required by stakeholders. A healthy constructed internal audit function can play a vital role in the governance and accountability process of public sector institutions through their assessments on the effectiveness of key organizational controls, governance and

risk management processes (Asare, 2009). This healthy internal audit function of risk management, control and governance process requires organizational independence, formal mandate, unrestricted access, sufficient funding, competent leadership, competent staff, management support and professional audit standards (IIA, 2006). To what extent the existence of these elements associated with the risk management, control and

and governance roles of internal audit function in public sector governance is rarely empirically investigated. Although most scholars agree that the role of internal auditing function in the public sector governance is compulsory, still there is inadequate prior empirical studies on this issues in Ethiopian case in general and in Amhara National Regional State case in particular. Hence, the intent of this study is to examine empirically the role of internal audit function in public sector governance and factors that have an effect on this function in the case of Amhara National Regional State public sector.

The paper is structured as follows. The next section reviews the literature and develops hypotheses. The third Section outlines data collection procedures and the research methods employed. The fourth section provides empirical analysis and discussion of the study and finally, section five presents recommendations and conclusions.

LITERATURE REVIEW AND HYPOTHESIS

Role of internal audit function in the public sector

The existing literature (Asare, 2009; MOFED, 2004) state that the role of internal audit function can be identified as involving three main elements, namely the evaluation and improvement of risk management, control and governance processes in the public sector. Risk management, control and governance encompasses the policies and procedures established to ensure the achievement of objectives and include the appropriate assessment of risk, the reliability of internal and external reporting and accountability processes, compliance with applicable laws and regulations and compliance with the behavioral and ethical standards set for public organizations and employees. Others argue oversight, insight and foresight as an essential element of a strong public sector governance structure (IIA, 2006). This study however, covers risk management, control and governance process role of internal audit function in the public sector.

Risk management role of internal auditing function

The demand for proper risk management strategies in the public sector emanates from the complexity and dynamism of the operating environment, ever-increasing needs of society coupled with general unpredictability pattern and dwindling (decreasing) of resources for national development (Asare, 2009). The author further noted the internal auditor's role in risk management involving assessing and monitoring the risks that the organization faces, recommending the controls required to mitigate those risks and evaluating the trade-offs necessary for the organization to accomplish its strategic and operational objectives.

The institute (IIA, 2010) states that internal audit activity must 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. In the context of governance, the key activity of internal auditing with respect to risk is to monitor all the subsidiary steps of identifying risk, assessing the potential effect of the risk on the organization, determining a strategy to address the risk and then monitoring the environment for new risks as well as monitoring the existing risk strategy and attendant controls (Hermanson et al., 2003).

Hass et al. (2006), on their American literature review of internal auditing noted that internal auditors must not only be able to assess risks in their large organizations, but they must also be able to complete complex risk analyses in their own IAF. The authors in addition included, accomplishing this, internal auditors need to possess increasing levels of critical thinking, analysis, decision making and logic.

Control role of internal audit function

Asare (2009) states that internal auditing as a control measure does not only minimize the opportunities for corruption through the verification of procurement processes but also ensures effective physical monitoring of capital items procured and actual utilization to avoid fraud and abuse. In addition to these, internal audit has played an active role in implementing effective governance and controls while being asked to assess the effectiveness of management's control practices. In the context of governance, the key activities of internal auditing with respect to control is that to ensure controls in place to address key organizational risks (Hermanson et al., 2003).

Standard 2130 of IIA (2010) noted that the internal audit activity must assist the organization in maintaining effective controls by evaluating their effectiveness and efficiency and by promoting continuous improvement. Similar to this, an internal audit function typically evaluates the system of internal control of the whole management process of planning, organizing and directing to determine whether reasonable assurance exists so that objectives and goals of the company will be achieved (Haron et al., 2009). To achieve these roles internal auditors must incorporate knowledge of controls gained from consulting engagements into evaluation of the organization's control processes (IIA, 2010).

Governance process role of internal audit function

The institute of internal auditor's professional guidelines (IIA, 2006) stated that the public sector governance encompasses the policies and procedures used to direct an organization's activities to provide reasonable assurance that objectives met and that operations carried out in an ethical and accountable

manner. The institute in addition, states public sector governance as it relates to the means by which goals are established and accomplished.

Internal audit can help to improve governance processes by focusing on how values are established to ensure effective and efficient control and management of public sector entities. Such a value system requires an open government that is transparent in its dealings with a high sense of ethical behavior and fairness (Asare, 2009). Similarly, standard 2130 (IIA, 2010) stated that internal audit activity should assess and make appropriate recommendations for improving the governance process to accomplish the following objectives: promoting appropriate ethics and values within the organization, ensuring effective organizational performance management and accountability, and effectively coordinating the activities of and communicating information among the Board's external and internal auditors and management. The above-stated functions of internal audit are considered as dependent variables of the study.

CHALLENGES ASSOCIATED WITH THE ROLE OF INTERNAL AUDIT FUNCTION

To achieve the risk management, control and governance functions as stated under (IIA, 2006) all government audit functions require the existence of organizational independence, formal mandate, unrestricted access, sufficient funding, competent leadership, competent staff, management support and professional audit standards. This study considered these elements as challenges which determine the existence of effective internal audit function in public sector governance. As a result, the following section reviews previous literatures related to these elements which are considered as independent variables of the study.

Organizational independence

MOFED (2004), Ethiopian Government Auditing Standards (EGAS, 2006) and IIA (2006) states that organizational independence allows the audit function to conduct work without interference by the entity under audit. EGAS (2006) placed emphasis that in all matters related to their audit work, audit offices and individual auditors must have independence from the legislature, executive and the management of the audited entities.

Just as independence is a major issue for external auditors, independence is also an important issue for internal auditors. However, because the company they are auditing directly employs them, it is impossible for internal auditors to be independent in the same manner as external auditors (Hock and Burch, 2011). The authors additionally affirmed that a crucial issue of organization independence is for the chief audit executives (CAE) to have a reporting line in the organization

that will allow the internal audit activities (IAA) to fulfill its tasks.

Van Gansberghe (2005) affirmed that, the agreement and active involvement of the head of internal audit, senior managers, audit staff, accounting officers and senior operational management must be secured in a climate that fosters independence, but valued evaluation of the effectiveness of risk management, control, and governance processes. To foster independence, Wobschall (2011) on his internal Audit Quality Assessment Framework paper similarly stated that internal auditors sufficiently maintain independence and objectivity by not auditing operational areas for which they have previously had executive or management responsibility within the last year and not undertake subsequent audits of a system, which they have previously been involved in consultancy on systems design.

Management support

Dessalegn and Aderajew (2007), 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 institute in relation to support stated that the legitimacy of the audit function and its mission should be understood and supported by a broad range of elected and appointed government officials, as well as the media and involved citizens (IIA, 2006).

MOFED (2004), states that heads of internal audit should coordinate internal audit plans and activities with the management, other internal auditors, external auditors, and other review agencies to ensure the most effective audit coverage is achieved and duplication of the effort is minimized. In line with this thought, Van Gansberghe (2005) noted that the IA function should work closely together with operational managers to improve the organization's evaluation of risks and determine its risk appetite to improve its systems, regulations, procedures and the ethical environment.

Formal mandate/existence of audit charter

The interpretation of attribute standard 1000 states that the internal audit charter is a formal document that defines the internal audit activity's purpose, authority and responsibility. In line with this notion, Commonwealth of Australia (2007), in its better practice guide states that the charter should define the scope of internal audit, that is, the programmes, activities, processes, systems and organizations that are subject to internal audit review. In addition it states that the charter should also specify the requirement for an internal audit strategic business plan and annual work plan. In a similar manner, Hock and Burch

(2011) stated that the internal audit charter provides the Internal Audit Activity (IAA) with a formal mandate to do its work.

Unrestricted access

Audits should be conducted with complete and unrestricted access to employees, property and records (IIA, 2006). In relation to this, encyclopedia of business indicates that internal auditors have unrestricted access to whatever they might need to make an objective assessment. It includes unrestricted access to plans, forecasts, people, data, products, facilities and records necessary to perform their independent evaluations (<http://www.referenceforbusiness.com/index.html>.)

Sufficient funding

The audit function must have sufficient funding relative to the size of its audit responsibilities. This important element should not be left under the control of the organization under audit, because the budget affects the audit function's capacity to carry out its duties (IIA, 2006).

Competent leadership

The head of the audit function must be able to effectively recruit, retain and manage highly skilled staff. Moreover, the chief audit executive should be an articulate public spokesperson for the audit function (IIA, 2006). The Ministry of Finance and Economic Development of Ethiopia defines the minimum level of skill, knowledge and experience required of the internal auditor and the Head of the Internal Audit. It also states the Head of Internal Audit should be qualified and have a wide experience of management.

Competent staff

EGAS (2006) states that the audit staff who have line responsibility for ensuring the quality of audits should supervise and review audit activities and the audit report by using the auditing standards. In line with this notion, the audit function needs a professional staff that collectively has the necessary qualifications and competence to conduct the full range of audits required by its mandate. Auditors must comply with minimum continuing education requirements established by their relevant professional organizations and standards (IIA, 2006).

Professional audit standards

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).

Over all, it can be seen from the literature that there is inadequate empirical prior studies which examine to what extent risk management, control and governance process role of internal audit function relates to organizational independence, formal mandate, unrestricted access, sufficient funding, competent leadership, competent staff, management support and professional audit standards in developing nations and in Ethiopia case in general and also in Amhara National Regional State in particular. Hence, to fill this gap, the current study attempts to test the following hypotheses:

H1: Better risk management role of internal audit function relates to the better existence of organizational independence, formal mandate, unrestricted access, sufficient funding, competent leadership, competent staff, management support and Compliance with Professional audit standards in the organization.

Model specification

$$RiskM = \beta_0 + \beta_1 (\text{Independence}) + \beta_2 (\text{Support}) + \beta_3 (\text{Mandate}) + \beta_4 (\text{Access}) + \beta_5 (\text{Funding}) + \beta_6 (\text{leader}) + \beta_7 (\text{staff}) + \beta_8 (\text{compliance}) + \varepsilon$$

Where;

RiskM = Risk management role of internal audit function measured by total items scored.

β_0 = Intercept of the regression line.

β_1 to β_8 = Slope coefficient of the regression line.

Independence = Existence of organizational independence measured by total items scored.

Support = Existence of top management support measured by total items scored.

Mandate = Existence of formal mandate/audit charter measured by total items scored.

Access = Existence of unrestricted access measured by total items scored.

Funding = Existence of sufficient funding measured by total items scored.

Leader = Existence of competent leadership measured by total items scored.

Staff = Existence of competent staff measured by total items score.

Compliance = Existence of compliance with professional audit standards measured by total items score

ε = is the error term associated with the i^{th} observation.

H2: Better control function of internal audit relates to the better existence of organizational independence, formal mandate, unrestricted access, sufficient funding, competent leadership, competent staff, management support and Compliance with Professional audit standards in the organization.

Model Specification

$$\text{Control} = \beta_0 + \beta_1 (\text{Independence}) + \beta_2 (\text{Support}) + \beta_3 (\text{Mandate}) + \beta_4 (\text{Access}) + \beta_5 (\text{Funding}) + \beta_6 (\text{leader}) + \beta_7 (\text{staff}) + \beta_8 (\text{compliance}) + \epsilon$$

Where;

Control = control function role of internal audit measured by total items scored.

H3: Better governance process role of internal audit function relates to the better existence of organizational independence, formal mandate, unrestricted access, sufficient funding, competent leadership, competent staff, management support and Compliance with Professional audit standards in the organization.

Model specification

$$\text{Governance} = \beta_0 + \beta_1 (\text{Independence}) + \beta_2 (\text{Support}) + \beta_3 (\text{Mandate}) + \beta_4 (\text{Access}) + \beta_5 (\text{Funding}) + \beta_6 (\text{leader}) + \beta_7 (\text{staff}) + \beta_8 (\text{compliance}) + \epsilon$$

Where;

Governance = Governance process role of internal audit function measured by total items scored

DATA AND METHODOLOGY

The data and measurement

This study empirically analyzes how the factors (independent variables) predict the role of internal audit function (dependent variables) in public sector governance by distributing structured closed-ended questionnaires to the internal audit directors and staff of the selected Amhara National Regional State office and the questionnaire results were supported by open-ended interview. 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) (Appendix1). The collected data are analyzed by using OLS multiple regressions statistical analysis method by means of statistical package for social sciences (SPSS) (version16) and stata (version 11) application software.

To ensure internal validity of the data, the questionnaire was pretested at two stages. In 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 regional Bureau of Finance and Economic

Development (BOFED). 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 (the internal audit manual, 2004). Global Audit Information Network (IIA, 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.

The sample

According to regional Bureau of Finance and Economic Development (BOFED) 2003E.C, Amhara National Regional State (ANRS) has 42 government budgetary public sectors at regional level. Due to the new organizational arrangement i.e. BPR (business re-engineering process), two or more similar function offices are categorized under one office and thereby using single pool internal audit system. In addition, other offices at the time of data collection haven't yet employed internal auditors and others employed recently but not fully known to the organization. For that reason, from 42 offices 35 offices are available at the time of data collection and become appropriate participants of the study. Hence, to get large number of participants, this study covers all internal audit directors and staff of 35 offices at regional level. A total of 69 questionnaires were distributed, of which 61 usable (88.41% response rate) were received. Majority of internal auditors were first degree graduates 45(73.8%) followed by college diploma, second degree and certified internal auditors (CIA), 14 (23.0%), 1 (1.60%) and 1 (1.60%), respectively. Most of them are Accounting graduates followed by management. Work experience of internal auditors ranges from 1 to 35 years and the mean work experience is 12.81 years.

EMPIRICAL RESULTS AND DISCUSSION

Test of assumptions

Data reliability and normality tests

The most commonly used statistic measures of reliability test is Cronbach's coefficient of alpha (Pallant, 2001). Most researchers agreed that the alphas were considered high enough to take the data as reliable at a minimum acceptable level of 0.70 (Pallant, 2001) and others argue 0.60 and 0.50 as sufficient (Dessalegn, 2010). The current study, computed alphas as summative scale were 0.655, 0.676, 0.673, 0.691, 0.726, 0.661, 0.669, 0.656, 0.757, 0.687 and 0.752

Table 1. K-S Tests of normality.

Variables	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Significance	Statistic	Df	Significance
Risk management	0.073	61	0.200*	0.977	61	0.318
Control function	0.067	61	0.200*	0.978	61	0.333
Governance process	0.080	61	0.200*	0.968	61	0.110

^aLilliefors Significance Correctio n. *This is a lower bound of the true significance. Source: Author’s own computation.

Table 2. Linearity test.

Parameter	Coef.	Std. Err.	T	P> t	[95% Conf. Interval]
Risk management	-0.2117037	0.0296012	-7.15	0.000	-0.2711029-0.1523045
Control	0.481589	0.0726901	6.63	0.000	0.3357256-0.6274523
Governance	-0.190609	0.0755199	-2.52	0.015	-0.3421507-0.0390672

organizational independence, top management support, formal mandate, unrestricted access, sufficient funding, competent leadership, competent staff, compliance with professional audit standards, risk management, control function and governance process respectively. Hence, the alphas results of this study were considered sufficient.

Normality of distribution test

This study used Kolmogorov-Smirnov and Shapiro-Wilk (K-S) normality test analysis. As Greasley (2008), states the insignificance values of K-S normality test shows normal distribution of error terms. Results of K-S normality test were presented in Table 1. Table 1 shows risk management D(61) = 0.073, P > 0.05, control function D(61) = 0.067, p > 0.05 and governance process D(61) = 0.080, P > 0.05, all showing evidence of normal distribution.

Linearity test

As Baum (2006), pointed out the best method to test linearity of hypotheses is using Walde test by linear combination method of stata syntax command. Wald test hypothesis the coefficients for independence, support, mandate, access, fund, leader, staff and compliance are simultaneously equal to zero. All three null hypotheses are rejects because the current study combined sums of estimated coefficient are -0.2117037, 0.481589, and -.190609 for H1, H2 and H3 presented in Table 2, respectively rather than zero. Therefore, according to Baum (2006), linearity assumption is maintained, that is the coefficient of each or combination of predictor variables differs from zero.

H0: independence + support + mandate + access + fund + leader + staff + compliance = 0.

Risk management = β1 (Independence) +β2 (Support) +β3 (Mandate) +β4 (Access)+β5 (Funding) +β6 (leader) +β7 (staff) +β8 (compliance) = 0

H0: independence + support + mandate + access + fund + leader + staff + compliance = 0.

Control =β1 (Independence) +β2 (Support) +β3 (Mandate) +β4 (Access) +β5 (Funding) +β6 (leader) +β7 (staff) +β8 (compliance) = 0.

H0: independence + support + mandate + access + fund + leader + staff + compliance = 0

Governance =β1 (Independence) +β2 (Support) +β3 (Mandate) + (Access) +β5 (Funding) +β6 (leader) +β7 (staff) +β8 (compliance) = 0

Test of multicollinearity

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 ranging from 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 regressors are high, say excess of .80 (Gujarati, 2004, pp.359). In the current study, the highest correlation result is .5612 that is the correlation between competent leadership and competent staff. This indicates that problem of multicollinearity is not the threat. The following table presented this result (Table 3).

Table 3. Pearson product moment pair-wise correlation.

	Independence	Support	Mandate	Access	Fund	Leader	Staff	Compliance	RiskM	Control	Governance
Independence	1.0000	-	-	-	-	-	-	-	-	-	-
Support	0.4717**	1.0000	-	-	-	-	-	-	-	-	-
Mandate	0.3586**	0.2740*	1.0000	-	-	-	-	-	-	-	-
Access	0.4519**	0.4157**	0.1996	1.0000	-	-	-	-	-	-	-
Fund	0.0807	0.3126*	0.1850	-0.0448	1.0000	-	-	-	-	-	-
Leader	0.3705**	0.3238*	0.5212**	0.2149	0.3133*	1.0000	-	-	-	-	-
Staff	0.4659**	0.2804*	0.4856**	0.2741*	0.1167	0.5612**	1.0000	-	-	-	-
Compliance	0.5402**	0.2799*	0.3854**	0.3266*	0.1669	0.2278	0.2565*	1.0000	-	-	-
RiskM	-0.4043**	-0.1306	-0.0597	0.1177	-0.4520**	-0.2643*	-0.5614**	0.1869	1.0000	-	-
Control	0.4312**	0.4892**	0.3237*	0.3306**	0.3936**	0.3400*	0.4686**	0.4708**	-0.4214*	1.0000	-
Governance	0.0325	-0.4971*	-0.2724*	-0.2735*	-0.0176	-0.1080	-0.0188	0.3844*	0.1106	-0.3663*	1.0000

Test 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; Malhotra, 2006). The current study computed Durbin-Watson *d* test is 1.843. 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* = 61. Table 4 shows 1.298 and 1.894, respectively. This indicates that $dL < d < dU$, that is $1.298 < 1.843 < 1.894$. In this situation Gujarati (2004), suggests no positive autocorrelation. Therefore, autocorrelation problem is not the hazard of this study.

Test of homoscedastisty/heteroscedasticity

The best method of homoscedastisty/heteroscedasticity test as Cameron and Trivedi (2009) and Gujarati (2004), recommended was Breusch–Pagan–Godfrey (BPG) Test. The results of (BPG) test indicate the assumption that equal (constant) variance of residuals is maintained and implies that there is no problem of heteroscedasticity.

HYPOTHESIS TEST

H1: Better risk management role of internal audit function relates to the better existence of organizational independence, formal mandate, unrestricted access, sufficient funding, competent leadership, competent staff, management support and Compliance with Professional audit standards in the organization. The extent of association of risk management role of internal audit function with organizational independence, formal mandate, unrestricted access, sufficient funding, competent leadership, competent staff, management support and Compliance with Professional audit standards in the organization was measured by using OLS multiple regression. Table 5 presents OLS regression results.

Table 5 shows the model is significant ($F=109.127$; $Sig.F=0.000$) and explained 94.38 percent of the variation in risk management. The table also demonstrate risk management role of internal audit function is significantly related with organizational independence (beta=0.413, $p=0.000$), compliance with professional audit standards (beta=0.350, $p=0.000$), competent staff (beta=0.329, $p=0.000$), sufficient

funding (beta = 0.257, $p = 0.000$), unrestricted access(beta = 0.122, $p = 0.000$), formal mandate(beta = 0.118, $p = 0.000$), top management support (beta = 0.105; $p = 0.000$) and competent leadership (beta = 0.093, $p = 0.000$) in their order of relationship.

H2: Better control function of internal audit relates to the better existence of organizational independence, formal mandate, unrestricted access, sufficient funding, competent leadership, competent staff, management support and Compliance with Professional audit standards in the organization. OLS regression analysis was utilized to test this hypothesis. The following table presented the OLS regression results.

Table 6 Shows the model is significant ($F=6.47$, $Sig.F=0.000$) and explained 49.9 percent of the variation in controlling function of internal audit in the public sector. The result proposes not surprisingly, the control function of internal audit is significantly related with competent staff (beta=0.147, $p=0.012$), compliance with professional audit standards (beta=0.140, $p=0.026$) and sufficient funding (beta=0.102, $p=0.020$) in their order of relationship.

Table 4. Test for heteroscedasticity.

Hypothesis	Type of test	Parameters
H1	Breusch-Pagan / Cook-Weisberg test for heteroscedasticity	Ho: Constant variance Variables: fitted values of risk management $\chi^2(1) = 0.03$ Prob > $\chi^2 = 0.6115$
H2	Breusch-Pagan / Cook-Weisberg test for heteroscedasticity	Ho: Constant variance Variables: fitted values of control $\chi^2(1) = 0.03$ Prob > $\chi^2 = 0.8574$
H3	Breusch-Pagan / Cook-Weisberg test for heteroscedasticity	Ho: Constant variance Variables: fitted values of governance $\chi^2(1) = 0.01$ Prob > $\chi^2 = 0.9238$

Table 5. OLS result of risk management (hypothesis 1).

RiskM	Coefficient	t	P**
Independence	-0.4132392	-15.19	0.000
Support	0.1048558	4.33	0.000
Mandate	0.1176807	4.36	0.000
Access	0.1224209	6.22	0.000
Fund	-0.2566005	-14.89	0.000
Leader	0.0930857	4.18	0.000
Staff	-0.3294688	-14.34	0.000
Compliance	0.3495616	14.07	0.000
Constant	4.102363	39.88	0.000

**significant at the 0.05 level (2-tailed). Number of obs = 61, F (8, 52) = 109.13, sig. F = 0.0000; R-squared = 0.9438; Adj. R-squared = 0.935; Durbin-Watson = 1.843. Root MSE = 0.08862.

Table 6. OLS result of control function (hypothesis 2).

Control	Coefficient	t	P
Independence	-0.0050268	-0.08	0.940
Support	0.1120112	1.89	0.065
Mandate	-0.0220967	-0.33	0.740
Access	0.036271	0.75	0.456
Fund	0.1015646	2.40	0.020**
Leader	-0.027403	-0.50	0.619
Staff	0.1467025	2.60	0.012**
Compliance	0.1395662	2.29	0.026**
Constant	1.093269	4.33	0.000**

**significant at the 0.05 level (2-tailed). Number of obs = 61; F (8, 52) = 6.47; Sig. F = 0.0000; R-squared = 0.4990; Adj. R-squared = 0.4219; Root MSE = 0.21761.

H3: Better governance process role of internal audit function relates to the better existence of organizational independence,

formal mandate, unrestricted access, sufficient funding, competent leadership, competent staff, management support

Table 7. OLS Result of Governance process (Hypothesis 3).

Governance	Coefficient	t	P
Independence	0.0922073	1.33	0.190
Support	-0.4394102	-7.12	0.000**
Mandate	-0.4108293	-5.96	0.000**
Access	-0.1675093	-3.34	0.002**
Fund	0.0470163	1.07	0.290
Leader	0.0492953	0.87	0.390
Staff	0.1194188	2.04	0.047**
Compliance	0.5192021	8.19	0.000**
Constant	3.045318	11.60	0.000**

**significant at the 0.05 level (2-tailed). Number of obs = 61; F (8, 52) = 21.35; Sig.F = 0.0000; R-squared = 0.7666; Adj.R-squared = 0.7307; Root MSE = 0.22609.

and Compliance with Professional audit standards in the organization. Table 7 summarizes the results of OLS regression analysis of this hypothesis. The OLS regressions in Table 7 results shows the model is significant (F=21.35; Sig.F = 0.0000) and explained 76.66 percent variation of governance process role of internal audit function. The results also show that governance process role of internal audit function is significantly related with compliance with professional audit standards (beta=.519, p=.000), top management support (beta=_.439, p=.000), formal mandate (beta=0.411, p=0.000), unrestricted access (beta=0.167, p=0.002), and competent staff (beta=0.119, p=0.047) in their order of relationship.

DISCUSSION

This study has attempted to examine the prevailing role of internal audit function in public sector governance and factors that have an effect on this function in the case of Amhara National Regional State public sector. Data were collected by distributing structured questionnaires measured at five-point likert-type scale and analyzed using multiple OLS regression statistical method. Given inadequate empirical research on this issue, this study designed empirical model for measuring the role of internal audit function of risk management, control and governance process in the public sector. One of the major findings here is that the theoretical aspects of internal audit function in public sector and its challenges suggested in IIA (2006) and Asare (2009) were empirically tested by developing OLS multiple regression models.

The model here explains 94.38% of variation of risk management role, 49.90% of variation of control function and 76.66% of variation of governance processes. This shows that the combined effect of organizational independence, formal mandate, unrestricted access, sufficient funding, competent leadership, competent staff, management support and compliance with professional audit standards explains 94.38%

of the role of internal audit function on risk management in the public sector and the remaining portion of 5.62% explained by other factors which were not mentioned in this study represented as error term (e). The joint effect of competent staff, compliance with professional audit standards and sufficient funding explain 49.90% of control function of internal audit in the public sector and the remaining 50.10% explained by other factors which were not mentioned in this study represented as error term (e). The combined effect of competent staff, compliance with professional audit standards, top management support, formal mandate and unrestricted access explains 76.66% governance process role of internal audit function in the public sector and remaining 23.34% explained by other factors which were not mentioned in this study represented as error term (e).

Risk management role of internal audit function

One of the objectives of this study is to examine and analyze factors that affect the risk management role of internal audit function. The regression result confirms that risk management role of internal audit function is positively related with the existence of compliance with professional audit standards, unrestricted access, formal mandate, top management support and competent leadership. This provides evidence for the relationships predicted in the first hypothesis.

The implication here is that the better internal auditors compliance with professional audit standards in their day to day activities, the better improvements in risk management performance in the sector. As stated under IIA (2010), as internal auditors comply 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.

Unrestricted access is positively related with risk management role of internal audit function. This result reveals that the existence of unrestricted access to information (internal auditors get free access to information) of plans, forecasts, people, data, products, facilities and records as Hass et al. (2006), noted internal auditors not only be able to assess risks in their large organizations, but they also be able to complete complex risk analysis in their risk management function. Formal mandate is positively related with risk management role of internal audit function. This implies the existence of formal mandate in the organization improves risk management role of internal audit function. Dessalegn (2010), in his "Factors Associated with the Attributes of Internal Audit Departments" study supports this result. His study suggests internal audit charter (or similar organizational policy) is important to strengthen internal audit.

The other result of the study advocates top management support is positively related with risk management role of internal audit function. Previous study findings support this result. For example, top management support is crucial to the operation and success of internal audit function (Cohen, et al. 2010 and Soh et. al, 2011), management support to IA is considered as one of the determinants of IA's attributes (Dessalegn, et al., 2007) and the degree of collaboration of internal auditors with managers in addressing problems and threats is a key point (Arena et al. 2006). Furthermore, the study shows, competent leadership positively related with risk management role of internal audit function. This result is consistent with Arena et.al (2006), study of internal audit in Italian organization. Their study concludes that the leadership of internal auditors emerged as a very important element for the effectiveness and acceptance of the internal audit activities. In addition, they suggest that leadership of internal auditors is necessary to demonstrate that internal audit is actually useful for the whole company and the auditors can improve processes and activities.

The regression results indicate that the lower existence of organizational independence, competent staff and sufficient funding results in internal auditors activities facing a big challenge for the risk management role of internal audit function in the sector. This result supported by Ahmad et al. (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 Malaysia is curtailed (*shortened*) by understaffing and negative perception accorded to internal audit leading 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.

Control function of internal audit

Another objective of this study is to examine and analyze the control function of internal audit and factors that have an effect on this function. The regression result indicates that control function of internal audit is positively and significantly related to the existence of competent staff, compliance with professional audit standards and availability of funding. The results confirms the researcher's expectations in the second hypothesis. This reveals that the better existence of competent staff, compliance with professional audit standards and availability of funding, the better control function of internal audit in the public sector. Even if these variables are statistically significant, it predicts only 49.90 % of control function of internal audit in the public sector as compared to other variables. The interview result supports this conclusion. In the interview, the respondent said that "even though internal auditors have an involvement in the controlling activities of the organization, they do not have any power to see judgmental and non financial documents." Another interview result shows that due to the current reporting line (i.e. directly reports to the

manager who employed them, that is low level of organizational independence), does not encourage the discharge of audit findings regarding the weakness of controlling system of the organization. By this case almost half of theoretically important factors become insignificant and more than 50% is explained by other factors, which were not mentioned in this study.

Governance process role of internal audit function

One more objective of this study is to examine and analyze factors that have an effect on the governance process role of internal audit function in the public sector. The result of the study proposes that governance process role of internal audit function is positively related with the existence of competent staff and compliance with professional audit standards. This result confirms expectations. This indicates that with the better existence of competent staff and compliance with professional audit standards in the public sector, the better improvements in the governance process role of internal audit function. Theoretically the IIA (2006), supports this result. Through the better existence of competent staff and compliance with professional audit standard, internal auditors can provide independent, objective assessments on the appropriateness of the organization's governance structure and the operating effectiveness of specific governance activities. In addition, they act as catalysts for change, advising or advocating improvements to enhance the organization's governance structure and practices (IIA, 2006).

The findings suggest that the governance role of internal audit function faces a big challenge when there is lower existence of formal mandate, top management support, and unrestricted access. As stated under IIA (2006), with the lower existence of top management support, formal mandate and unrestricted access, internal auditors cannot ensure a government's credibility, establish equitable provision of services and assure appropriate behavior of government officials whilst reducing the risk of public corruption.

Interview result

Interviewed participants feel that most internal audit departments in this sector are not staffed with well-trained internal auditors. The sector appears not to be sufficiently competitive to attract and/or retain highly qualified internal audit staff. As a result, there were shortages of internal audit staff in most organizations studied. Most participants believe that there is low level of top management support to implement audit findings and recommendations, low level of organizational independence to discharge their audit findings and low level of unrestricted access to information.

CONCLUSION

A healthy constructed internal audit function can play a vital

role in the governance and accountability process of public sector institutions through their assessments on the effectiveness of key organizational risk management, controls and governance processes. This study has examined the extent of relationship between the role of internal audit function and its challenges. Structured questionnaire survey of all internal audit directors and staff from 35 public sector bureau of Amhara National Regional State was used. To analyze the data, OLS multiple regression statistical analysis method was employed.

RECOMMENDATIONS

The study results revealed that the potential challenges of effective role of internal audit function to support public sector governance differ from function to function. It implies that the prevailing challenges of risk management role differ from control function and governance process role of internal audit function. The OLS regression results shows that the potential challenges of risk management role were low level of organizational independence, low level of competent staff and low level of sufficient funding. For governance process role, low level of formal mandates, low level of top management support and low level of unrestricted access were the major challenges. The interview result also shows the same potential challenges. It is therefore, recommended that, to undertake the full functions of internal audit as required by the public at large: organizational independence should exist through maintaining appropriate reporting line. Internal audit staff should be competent and sufficient through taking continuous professional training and qualified audit personnel, especially accounting and related graduates should be hired. Organizations should provide sufficient funding related to the scope of audit activities and allow free access to information at the time of audit activity. Top managements should support and appreciate internal auditors through accepting the value adding role of their functions and through timely implementation of audit findings and recommendations. Internal audit departments should have clearly stated audit charters (similar organizational polices).

With the fulfillment of assumptions expected, OLS multiple regression analysis results showed that the risk management role of internal audit function is better improved when there is better existence of compliance with professional audit standards, unrestricted access, formal mandate, top management support and competent leadership. The regression results indicates that the lower existence of organizational independence, competent staff and sufficient funding results in internal auditors activities facing big challenges for the risk management role of internal audit function in the sector. The findings suggest that the control function of internal audit becomes better with improved existence of competent staff, compliance with professional audit standards and sufficient funding in the public sector. The results also reveal that the

higher the extent of compliance with professional audit standards and existence of competent staff the better improvement in the governance process role of internal audit function. The findings suggest that the activities of internal auditors for governance role of internal audit function faces a big challenge when there is lack of formal mandate, lack of top management support and lack of unrestricted access.

According to the interview result, internal audit function does not have full support from top management to implement audit findings and recommendations. There is lack of independence to discharge audit findings regarding the weakness of the organization since they directly report to the audited department (that is the managers who employed them) and lack of sufficient audit staff in number as well as in qualification to perform their duties have been identified as prevailing challenges of internal audit function which are in line with the empirical findings.

The results of the study are expected to contribute insights for empirical model to examine the role of internal audit function and its challenges in public sector governance. Potential limitations inherent in the sampling technique employed should be granted. That is (for instance), selection of only internal audit directors and staff as respondents rather than including management groups. Nonetheless, this will have little influence on the validity of the results. Since most of executive manager's professions were not accounting and related professions rather they take the position by nomination and in that case, have lack of understanding of auditing terms itself. So their exclusion has little impact on the validity of the results. For the reason that internal auditing functions in the public sector has a multifaceted role in the public sector like insight, oversight and foresight role, further research could be done to examine which challenges mentioned in this study highly affects these roles in potential avenue.

Conflict of interest

Author have none to declare.

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