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Internal Audit Effectiveness in Public Sector Offices in Ethiopia

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Abstract:

Problem: The importance of internal audit has seen fast growth in public sectors to promote good governance by providing an objective assessment of whether the public resources are adequately utilized in order to achieve constructive results (Abdulaziz Alzeban and David Gwilliam. (2014)). Ethiopian studies are not addressed internal audit effectiveness in local government administration, for example, (Mihret and Yismaw, 2007) study about public sectors, particularly higher educational institutions, and (Belay, 2007) study about effective implementation of internal audit function to promote good governance in the public sector, (Mihret, 2010) studied the factors associated with attributes of internal audit departments.

Methodology: The overall objective of the study is to examine the determinant factors of internal audit effectiveness (IAE) in public sector offices in Ethiopia with references to South Gonder Administrative zone Ethiopia. The study focused on all South Gonder Administrative zone 18 woredas internal auditor's staffs. Explanatory research design has been used with primary and secondary data by using mixed research method by employing quantitative and qualitative research methods. The quantitative research method used through 83 usable self-administered questionnaires. These questionnaires were constructed in 5-point likert scale, distributed to internal auditors and analyzed using SPSS version 23 statistical software. The qualitative research method used through documents review. The Ordinary Least Square (OLS) linear regression model was used to analysis the collected data and examines the association between IAE and five study's variables.

Findings: According to the results of the study independency of IA (Internal Audit) teams, quality of IA, scope of internal audit work and management support were strong and significant effect on the effectiveness of internal audit regarding on value adding, enhance department performance, and enhance organizational performance. However, competency of IA is the sole insignificant factors that do not affect effectiveness of internal audit in South Gonder Administrative zone Ethiopia.

The regression result show that the overall contribution of independency of auditors, internal audit quality, competency of internal auditors, scope of internal audit work and management support to the IAE accounted for 51.6% ($R^2 = 0.516$) of the variation in the internal audit effectiveness, the rest 48% are other variables not included in this study. Furthermore, the model summary also shows the significance of the model by the value of F-statistics ($P=0.000$) and $F=16.429$ 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 predict the effectiveness of internal audits in the public sector.

Conclusion: The Internal Audit effectiveness of the organization improves, when there were the existences of Audit quality, independence of internal audit, scope of internal audit work and more supports from the management.

The regression analysis shows very strong contributions of existence of Audit quality, management support, have independence of internal audit combined with the scope of internal audit work for the IAE. Therefore, the overall effect of this variable is very important for the internal audit effectiveness of the South Gonder administrative zone public sector offices.

Key words: Internal Audit in Ethiopia, South Gonder Administrative Zone Offices Audit, Effectiveness of Internal Audit in

Background of the Study

Internal Auditing is one of the globe's fastest-growing but most misunderstood professions. There are several definitions of the profession. For the (IIA, 2002) "Internal Auditing is integrity, independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes. The objective of Internal Auditing is to assist members of the organization in the effective discharge of their responsibilities. In order to fulfill these obligations, internal auditors review the reliability and integrity of financial and operating information; the systems established to ensure compliance with these policies, plans, procedures, laws, and regulations; the means of safeguarding assets; the economy and efficiency with which resources are employed, and ascertain whether results of operations or programs are carried out as planned. Since, the definition equally serves both the private and the public sectors (Stern, 1994) ; (Nagy& Cenker, 2002) ;(Goodwin, 2004).

Literature Review

Internal auditing can be defined in many ways. (IIA, 2001), for example, defined internal audit as an independent, objective assurance and consulting activity designed to add and improve an organization's operations and accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes. In this definition, the major scope of the internal auditors is making assurance to the organization and giving consultant services to the overall managements of the corporate governance. Again, (Mofed, 2004) defined internal audit as the mechanism through which information about the effectiveness of the quality system is gathered by auditors selected from within the company but, who are independence of the area, function or procedures being audited or the Internal Audit Function (IAF) is the mechanism through which the operation of the quality management system is formally monitored and in accordance with the documented quality system is assured.

Objectives of the study

The general objective of this study is to examine the determinants factors of internal audit effectiveness in public sector offices in SouthGondar Administrative zone.

Specific Objectives

The specific objectives of this study are:

- ▶ To examine the relationship between the independence of internal auditors and internal audit effectiveness
- ▶ To examine the relationship between the competences of internal auditors on internal audit effectiveness.
- ▶ To examine the relationship between contributions of management support on internal audit effectiveness.

- ▶ To examine the relationship between the scope of internal audit work on internal audit effectiveness
- ▶ To examine the relationship between the effect of internal audit quality on internal audit effectiveness

Research Methodology

Conceptual Frame work of the study

From the empirical literature studied it can be noted that effectiveness of internal audit function is determined by different variables. According to (George et al., 2015);(Endaya and Hanefah, 2013) and (Abu-Azza, 2012) study on IA; the researcher tries to attempt its own conceptual framework on the factors determining effectiveness of IA. The Conceptual framework of the study also developed by using the works of (Zulkifli and Mohd, 2014) with some modification. The framework of the study showing the interdependence between the variables is depicted below as follows.

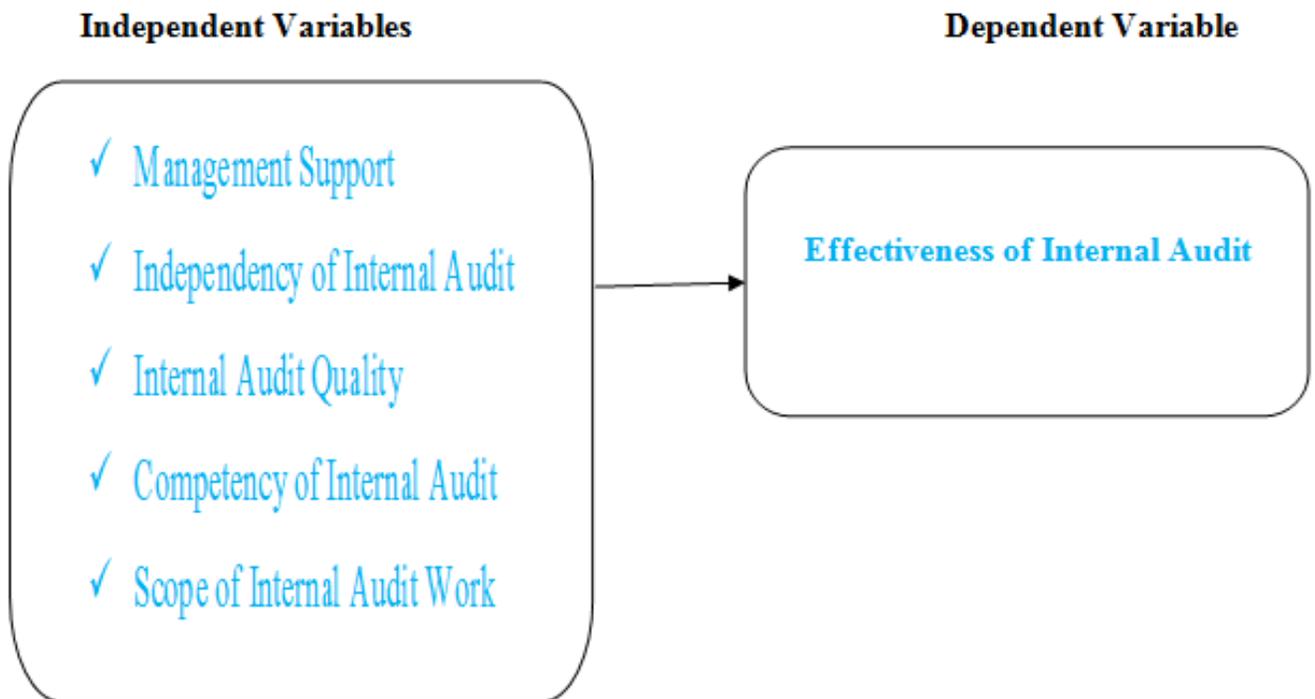


Figure 2.1: Conceptual Frame work of the study

Source: adopted and modified from Zulkifli and Mohd, 2014

Research Hypothesis

After reviewing the related literature (Mihret and Yismaw, 2007); (Cohen, A. and Sayag, G, 2010); (Arena, M and Azzone, G., 2010); (Barzan, 2018); (Ayitenew & Lakech, 2019) specifically the relationship of management perception, management support, the organizational independence of internal auditors, adequate and competent internal audit staff, and the presence of an internal audit charter with internal audit effectiveness, size of internal audit the department, relationship between internal audit and external audit, the existence of audit committee, Organization setting with internal audit effectiveness. This study was designed the following directional hypothesis.

- H1: There is a significant relationship between internal auditor independence and internal audit effectiveness
- H2: There is a significant relationship between the internal audit quality and internal audit effectiveness
- H3: There is a significant relationship between competency of internal auditors and internal audit effectiveness
- H4: There is a significant relationship between the scope of internal audit work and internal audit effectiveness
- H5 There is a significant relationship between the contribution of management support and internal audit effectiveness

Sources of Data

To obtain abundant data that enable to accomplish successfully this study, the researcher used both primary and secondary data sources. The primary data were obtained from internal auditor's staffs of governmental organizations through questionnaires and document reviews. In addition to primary data secondary data also used to obtain relevant data from the published and unpublished source.

Data Collection methods

Population

South Gondar Zone is a very large administrative zone that has a relatively large number of woredas (18 Woreda) each of which has its own employees. The study covers all south Gonder administrative woreda internal auditors that are found in 13 Woredas and five Town administrations. Each woreda and Town administration has 104 internal audit staffs. The total target populations of a study are found to be 104.

Sampling Techniques

The target populations for this research are located in south Gondar zone public sector offices which are found in different woredas. In South Gondar zone there are 18 woredas, those have internal audit staff which are selected by simple random sampling techniques.

Sample Size Determination

To achieve the study objective the researcher was employed sample respondents. So, in the process of data collection, from each woreda total 83 samples were selected from 18 woredas by using simple random sampling technique, believing that they have good academic background and experience from each woreda of the South Gondar administrative zones woreda on the basis of probability proportional to size. Therefore, the number of the sample sizes is the summation of samples of each stratum.

i.e., $n = n_1 + n_2 + n_3 + \dots + n_{18}$

But, n has been drawn from the total population, the sample size was determined at 5 % margin of error and 95% confidence level using the following sample size determination formula.

$$n = \frac{N}{1+N(e)^2}, \text{ (Yamane, 1967).}$$

Where, n = the sample size.

N = the total population of the study

e = margin of error = 0.05

$$n = \frac{104}{1+104(0.05)^2} = 83$$

$$1+104(0.05)^2$$

Hence, the sample size of the study is 83

To determine the sample size of each stratum, the following formula was deployed.

$$n_i = \frac{N_i}{N} * n, \text{ (Cochran, 1977)}$$

Where,

n_i = sample size from each stratum

N_i = Total population of each stratum

N = Total population

n = the required sample size.

Therefore, the sample of each stratum is described as follows.

Table - 1 distribution of population and sample size			
No.	Woreda	Internal auditor Staffs(Ni)	Proportional sample size (ni)
1	Debertabor city administration	4	3
2	Fartaworda	7	6
3	Gunabegimederworda	7	6
4	Lay gayintworda	7	6
5	Tachegayintworda	7	6
6	Nefasemewucha city administration	2	2

7	Semdaworda	7	6
8	Muja worda	7	6
9	Ebinateworda	7	6
10	Meketewuaworda	7	6
11	Worta city administration	3	2
12	Fogeraworda	7	6
13	Deraworda	7	6
14	Adisszemene city administration	2	2
15	Libokemekemworda	7	6
16	Estiworda	7	6
17	Mekaneyssuse city administration	2	2
18	Andabitworda	7	6
	Total	104	83

Source: Statistics, South Gondar Zone Finance Administration 2019 1st quarter report

Model Specification

In order to carry out a multiple regression analysis, some assumptions need to be made and some tests need to be run such as the linearity test, the reliability test, the homoscedasticity assumption, and the normality test. These are called the ordinary least square assumptions of linear regression. If all these tests are meeting, then a multiple regression can take place. Multiple regression analysis determines the relationship between the independent variables and their dependent variable and how they correlate (Osborne, Jason & Waters, 2002). The normality test was carried out to test the normal distributions of variables.

In order to test the research questions theorized, the following model is developed. Most of the independent variables in this research have been tested in other studies (Mihret and Yismaw, 2007); (Cohen, A. and Sayag, G, 2010); (Arena, M and Azzone, G., 2010). Therefore, the reliability and validity of the model were identified and used in this study to evaluate and elucidate the findings of this research.

$$IAE = \alpha + \beta_1 AI + \beta_2 AC + \beta_3 IS + \beta_4 MS + \beta_5 IAQ + e_i$$

Where:

IAE: the effectiveness of internal auditors to the public sector offices

AI: Internal Auditor Independence

AC: Internal Auditor Competence

IS: Internal Audit Scope

MS: Management Support

IAQ: Internal audit quality

α : The constant that represents the effectiveness of internal audit when every independent variable is zero

$\beta_1-\beta_5$:The coefficient in which every marginal change in variables on internal audit effectiveness gets affected correspondingly

e_i : The error term

Measurement of Dependent and Independent Variables

Table 2- Variable description and expectation			
Variables	Description of variables	Measurement	Expected sign
Dependent variable			
IAE	Internal Audit Effectiveness	Scale	
Independent Variable			
IND	Independency of internal auditor	Scale	±
IAQ	Internal audit quality	Scale	±
CIA	Competency of internal audit	Scale	±
SIAW	Scope of internal audit work	Scale	±
MS	Management support	Scale	±

Table 2: Means score description

Mean score	Description
<3.75	Low
From 3.75 to 3.86	Moderate
Above 3.87	High

Source: (Ayitenew & Lakech, 2019)

Results and Discussions

Econometric Data Analysis

This section presents the results of econometric data analysis. This section begins with questionnaires response rate and demographic characteristics. This followed by presentation of reliability analysis for data collected using questionnaire. Tests of normality distributions and inter-item correlations are then reported. The questionnaires were distributed to IA staffs of South Gonder Administrative zone. For these, 83 questionnaires were distributed to internal audit staffs and the whole questionnaires were collected. The response rate was 100%. This showed very good response rate of internal auditor.

Demographic Characteristics

Demographic characteristics of the respondents to this regard consist of educational level (academic qualification), field of study and working experience in finance sector and specifically in Internal Audit Department. In terms of educational background, the respondents indicated their highest level of education. According to their response, 89.20% of the respondents obtained a bachelor degree as their highest educational level, in other way, 1.2% of the respondents obtained a post graduate degree or masters as their highest level of education. In other way, 8.40% of the respondents are obtained diploma the remaining 1.2 % of the respondent obtained in tvt certify their highest educational level. Descriptive statistics of the data are presented in table 4. Based on this result, most of IA team members were well educated. They held a bachelor degree in different field of study. This result is consistent with prior IA standards (IIA, 2011) and studies (Mihret,& Woldeyohannis, 2008); (Mihret,etl, 2010); (George et al., 2015). (Abu-Azza, 2012).

Table 3 Academic Qualification of the Respondents			
Education level	Freq.	Percent	Cum.
Tvt	1	1.2	1.2
Diploma	7	8.4	8.4
Degree	74	89.2	89.2
Others	1	1.2	1.2
Total	83	100.0	100.0

Source: Field Survey data, 2020

Descriptive Statistics

A total of 83 copies of questionnaires were sent to internal auditor respondents. From the auditor respondents, 83 usable questionnaires were obtained (100 percent response rate).

Table 4 - Descriptive measures of responses			
	Mean	Std.Deviation	N
Internal Audit Effectiveness	4.1943	.31582	83
Independency of internal auditors	4.0513	.43794	83
Internal audit quality	3.9729	.50446	83
Competency of internal audit	4.1370	.35544	83

Scope of internal audit work	4.1061	.37299	83
Management support	4.2110	.30481	83
Valid N (list wise)	83		

Source: Field Survey data, 2020

Reliability Analysis

Pilot study (preliminary test) was carried out using convenient sampling method in South Gonder zone administrative office having the same characteristics with the participants of the main study. The advantage of doing a pilot study include; it helps to detect potential defects in the measurement procedures, it assists in identifying uncertain items, and it allows the researcher to become aware of non verbal behavior that may occur due to the wording question. Therefore, the researcher tried to insures the reliability of the questionnaire. To measure the reliability of the questionnaire, the researcher applied a preliminary reliability test from 8 internal auditors to measure the consistency of the questionnaire mainly the Likert-type scale the reliability analysis is essential in reflecting the overall reliability measuring. To carry out the reliability analysis, Cronbach’s Alpha (α) is the most common measure of scale reliability and a value greater than 0.700 is very acceptable (Field, 2009); (Cohen, A. and Sayag, G, 2010) and according to Cronbach’s (1951), a reliability value (α) greater than 0.600 is also acceptable.

		Cronbach's Alpha	N of Items
1	Internal audit effectiveness	.788	3
2	Competency of auditors	.646	4
3	Independency of internal auditor	.714	4
4	Internal audit quality	.834	6
5	Management support	.810	3
6	Scope of internal audit	.896	10

Source: Field Survey data, 2020

From table 5 above, the value for Cronbach’s Alpha (α) was for all variables were highly reliable compared with Cronbach’s Alpha (α) minimum value. Therefore, the responses generated for all of the variables’ used

in this research were reliable for data analysis.

Assessment of Normality

In order to test the normality of data, Skewness and Kurtosis test of normality distribution were used and conducted on SPSS. The Skewness and Kurtosis tests are showing normality when the result is within the range of +3 and -3 (Aczel, 2008). The results of normality distribution test before transformation is presented below in Table 6. According to the table, the result of normality distribution test shows all variables have normal distributions.

Table 6- Assessment of Normality

		N	Skewness	Kurtosis
1	Internal Audit Effectiveness	83	.022	.078
2	Independency of internal auditor	83	-.501	1.562
3	Internal audit quality	83	-1.315	1.495
4	Competency of internal audit	83	-.923	-.669
5	Scope of internal audit	83	-.273	-.637
6	Management support	83	-.497	.078

Source: Field Survey data, 2020

Multicollinearity:

Multicollinearity is a statistical problem which occurs when the explanatory variables (independent variables) are much correlated with each other (Hair, etl, 1998). It means when the strong correlation among 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 (Field, 2009).

Tolerance in this case defined as a statistical tool which used to indicate the variability of the specified independent variables from other independent variables in the model (Pallant, 2007). Based on Table 6 the tolerance levels for all variables were greater than 0.10. According to Table 6 which shows the correlation between dependent and independent variables, the correlation matrix of all variables among the predictor was also less than 0.80. Therefore, correlation value, tolerance level, and VIF value indicates that there were no Multicollinearity problem in this study. In the relationship between dependent variable (effectiveness of IA) and independent variables (competence of IA team, independence of IA, quality of IA, management support and Scope of internal audit) some variables are significant.

Table 7- Co linearity Statistics

Variable	VIF	Tolerance (1/VIF)
Competency of auditors	1.154	.867
Independency of internal auditor	1.478	.677

Internal audit quality	1.699	.589
Management support	1.193	.839
Scope of internal audit	1.100	.909

Source: Field Survey data, 2020

Table 8- Pearson Correlation Matrix							
		IND	IAQ	CIA	SIAW	MS	IAE
IND	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	83					
IAQ	Pearson Correlation	.276*	1				
	Sig. (2-tailed)	.012					
	N	83	83				
CIA	Pearson Correlation	.313**	.532**	1			
	Sig. (2-tailed)	.004	.000				
	N	83	83	83			
SIAW	Pearson Correlation	.025	.312**	.358**	1		
	Sig. (2-tailed)	.819	.004	.001			
	N	83	83	83	83		
MS	Pearson Correlation	-.002	.049	.269*	.093	1	
	Sig. (2-tailed)	.9833	.662	.014	.401		
	N	83	83	83	83	83	
IAE	Pearson Correlation	.361**	.618**	.396**	.368**	.264*	1
	Sig. (2-tailed)	.001	.000	.000	.001	.016	
	N	83	83	83	83	83	83
*. Correlation is significant at the 0.05 level (2-tailed).							
**. Correlation is significant at the 0.01 level (2-tailed).							
Source: Field Survey data, 2020							

As it's shown in the above table the Pearson correlation coefficient indicate that there is a positive significant relationship between the dependent Variable (IAE) and all independent variables (IDN, IAQ, CIA, SIAW and MS). As of the relationships between the dependent variables (IAE) and independent variables (IND, IAQ, CIA, SIAW, and MS), findings are significant. In addition to this there were strong correlations between the dependent variable internal audit effectiveness (IAE) and independent variables IAQ ($r = 0.618$), CIA ($r = 0.396$), SIAW ($r = 0.368$), IND ($r = 0.361$), MS ($r = 0.264$) with ($P < 0.01$) level of significant. This mean that all independent variables are positively affect internal audit effectiveness therefore, South Gonder Administrative zone offices should work on all independent variables to consume the most from internal audit effectiveness.

Assessment of Heteroskedasticity

For the regression output of the model Breusch-Pagan/Cook-Weisberg test for Heteroskedasticity was conducted on STATA 14 to test for homogeneity of variance and a P- value of greater than 0.05 were acceptable. As the result revealed in table 9 below and p value ($= 0.8075$) for the model is greater than 0.05 the critical value, shows homogeneity of variance across the model.

Table 9- Breusch-Pagan/Cook-Weisberg test for Heteroskedasticity
Breusch-Pagan / Cook-Weisberg test for Heteroskedasticity
Ho: Constant variance
Variables: fitted values of Effectiveness of Internal Audit
chi2(1) = 0.06
Prob> chi2 = 0.8075

Source: Field Survey data, 2020

The Regression Results and Hypothesis Testing

The regression result that are obtained by regressing the internal auditors effectiveness in identifying noncompliance activities and the internal auditors ability in adding value for their organization on the independency of internal auditors (IND), quality of internal audit work (IAQ), competency of internal auditor (CIA), scope of internal audit work (SIAW) and the management support (MS) were analyze and reported. Finally, the hypothesis tests were undertaken based on the proposed hypothesis and the regression output results.

Regression Results for IAE

The regression result explores the necessary indicators of the internal audit effectiveness by using the variables Identified in the model. As indicated in the model summery (table 13) the appropriate indicators of the variable used to identify the internal audit effectiveness were explored. That is, the value of R square used to identify how much of the variance in the dependent variable identified by the model. The larger the value

of R square, the better the model is. The overall contribution of internal audit quality, independency of auditors, competency of internal auditors, management support and scope of internal audit work to the IAE accounted for 51.6% ($R^2 = 0.516$) of the variation in the internal audit effectiveness, the rest 48% are other variables not included in this study. Furthermore, the model summary also shows the significance of the model by the value of F-statistics ($P=.000$) and $F = 16.429$ 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 predict the effectiveness of internal audits in the public sector. The beta (β) sign also shows the +ve or -ve effect of the independent variables coefficient over the independent variable. And as shown in table 4, beta sign of all the independent variables show the positive and negative effect of the predicting dependent variable. This means any improvement in the independent variables lead to enhancement of the effectiveness of internal audit.

Therefore, based on the coefficients of the dependent variable (β sign) all the hypotheses proposed by the researcher are acceptable because of all the four hypotheses stated the positively relationship and one negative variable with the dependent variable while are meet. But based on the statistical significances of the independent variable over the dependent variable at 5% level of significance, only four independent variables (IND, IAQ, SIAW and MS) are significantly contributed for the IAE at ($P < 0.01$) level of confidence. Thus, this implies the IND, IAQ, SIAW and MS are the most important determinants of IAE in which the public sector office should give more emphasis in their IA function. Besides to this, even if their relationships are positive the remaining independent variables (CIA) have not significant contribution for the predicted dependent variable (IAE) because they have 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.

Table 10- Regression result for IAE

R = .718a			R ² = 0.516		Adj. R ² = 0.485		Std. Error of the Estimate = 2.7287	
Durbin-Watson (d) = 1.579			F = 16.429		P = .000			
Variables	Unstandardized		Standardized	t-value	Sign.	Collinearity Statistics		
	Coefficients		Coefficients			Tolerance	VIF	
	B	Std. Error	Beta					
(Constant)	.739	.485		1.524	.132			
IND	.175	.061	.242	2.847	.006*	.867	1.154	
IAQ	.331	.060	.528	5.482	.000*	.677	1.478	
CIA	-.091	.092	-.103	-.994	.323	.589	1.699	

SIAW	.178	.073	.211	2.434	.017*	.839	1.193
MS	.256	.086	.247	2.973	.004*	.909	1.100

P < 0.01, 95% level of Confidence, N = 83

Source: Field Survey data, 2020

Hypothesis Test

The regression analysis whose results are presented in table 13 above and appendix A 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 required to test for a significant influence of the independency of internal auditors (IND), quality of internal audit work (IAQ), competency of internal auditor (CIA), scope of internal audit work (SIAW) and the management support (MS) on the direct effect of internal audit effectiveness which was measure in terms of internal auditors ability to identify the noncompliance activities and by their added contributions to the publicsector.

As shown in table 13 above the p value for the IND, IAQ, SIAW and MS are statistically significant at (p< 0.01) which suggests a strong support for hypothesis 1, 2, 4 and 5; whereas, CIA is not supported the developed hypothesis (hypothesis 3) because it was statistically insignificant at (p <0.05).The following hypotheses test were conducted based on the regression results of the internal audit effectiveness obtained from the regression output.

H1: The independence for internal auditors positively related to the internal audit effectiveness in the public offices.

The first hypothesis of this research which is assumed to be the determinants of IA effectiveness is the independence of the organization in which internal audit work were conducted. As shown in table 14 above the coefficient of IND ($\beta = .175, t = 2.847$) were positively related with the effectiveness of IA and its statistical result (P<0.01) the regression output result have statistically significant relationship between the organizational independence and the IA effectiveness reveals have to support the first hypothesis.

It can be concluded that independence of internal auditors is the most important factor that affect the effectiveness of internal auditors which enhance the previous studies (George et al., 2015) and (Ayitenew & Lakech, 2019) who argue that independence is one of the most important factors that affect internal audit effectiveness.

H 2: Quality of IA work is positively related to the internal audit effectiveness in the public offices.

The internal audit quality is measured in Examination of reliability and integrity of information, checking working paper quality, properly done by internal auditors, External auditors use internal audit working papers and reports in conducting their audit, effective audit planning, field work and controlling, meeting objectives and effective communication. Internal audit quality, which is determined by the internal audit department’s capability to provide useful findings and recommendations, is central to audit effectiveness.

Internal audit has to prove that it is of value to the organization and earn a reputation in the organization (Sawye, 1995) and (Ayitenew & Lakech, 2019).

The regression result as shown in table 10 above the coefficient of IAQ ($\beta = .331$, $t = 5.482$) were positively related with the effectiveness of IA. And its statistical result ($P < 0.01$) shows that internal audit quality is significant at 1% ($p = 0.000$) and it can be concluded that internal audit quality is a good explanatory variable. This indicated that internal audit quality is statistically significant which affect internal audit effectiveness. The beta value ($\beta = .0528$) indicates that internal audit quality has a direct and positive impact on internal audit effectiveness. Therefore, based on the above result leads to support the proposed hypothesis (H2) of the study. For the reason that the statistical value of the regression result is significant at 1% and the beta sign is positive. It can be argued that greater quality of IA work understood in terms of compliance with formal standards, as well as a high level of efficiency in the audit's planning and implementation improve the audit's effectiveness. When internal audit demonstrate professionalism and an objective approach in their work, and report balanced and constructive audit, the effectiveness of an internal audit can be increased. The result of this study is in lined with (George et al., 2015) ; (Cohen, A. and Sayag, G, 2010) and (Ayitenew & Lakech, 2019).

H3: Competence of IA teams is negatively related to the internal audit effectiveness in the public offices

The third hypothesis tested competence of IA team positive association with the effectiveness of IA. The result shows competence of IA team negatively associated with the effectiveness insignificance level of ($P > 0.05$). The magnitude (β) of the effect of this variable on the effectiveness of IA was $-.091$ and the t-value of $-.994$. The t-value of less than 2 is indicating a weak relationship between the independent and dependent variable (Hair, et al., 1998). Therefore, the competence of IA team, results in statistically insignificant contribution for the effective internal audit activities in their public offices. Even if this result of its insignificant regression analysis output result leads not to support the proposed hypothesis (H₃).

Even though, the above analysis is consistent with previous auditing researches. For instance, (Arena, and Azzone, 2009) argued that there were no relationship between the overall number of internal auditors (adequacy) and the employment of internal auditor with professional certification (competency) and internal audit effectiveness. In addition, (Cohen, A. and Sayag, G, 2010) concluded that there was no correlation between professional competency and internal audit effectiveness.

H4: Scope of IA work is positively related to the internal audit effectiveness in the public offices

The fourth hypothesis tested scope of work conducted by internal auditors has a positive impact on internal audit effectiveness. The regression result as shown in table 10 above the coefficient of SIAW ($\beta = .178$, $t = 2.434$) were positively related with the effectiveness of IA. And its statistical result ($P < 0.01$) shows that scope of internal audit work is significant at 1% ($p = 0.017$) and it can be concluded that scope of internal audit is a good explanatory variable. Based on this result, the hypothesis "scope of internal audit work has positive significant effect on internal audit effectiveness" is accepted in terms of its degree of significance. However, When internal auditors checking adequacy of record keeping, accuracy of amounts in financial records,

evaluating the internal control system, performing audit of major fraud cases (risky areas), compliance with government rules and regulations, identifying risk exposures of the office etc. the level internal audit effectiveness can be enhanced. However, it is statistically significant. Even though, the above analysis is consistent with previous auditing researches (Barzan, 2018) and (Ayitenew & Lakech, 2019).

H5: The management supports are positively related to the internal audit effectiveness in the public sector offices.

The last hypothesis of this research posted that the effectiveness of the internal audit is directly related with the extent of the management support it receives. Showing the strongly correlated relationship between the IAE and the management support, the positive beta sign and a statistically significant result of management support related with the internal audit effectiveness ($\beta = 0.256$, $t = 2.973$, $P < 0.01$) 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 effectiveness of internal audit work in their office contributes for the IAE.

The result were consistent with the previous auditing research works of (Mihret and Yismaw, 2007); (Cohen, A. and Sayag, G, 2010) ; (Ayitenew & Lakech, 2019) they find that the top management support was the critical determinants of internal audit effectiveness 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. 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 internal auditors 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 last proposed hypothesis .

Summary and Conclusions

The overall objective of the study is to examine the determinant factors of internal audit effectiveness in public sector offices in South Gonder Administrative zone. The study focused on all South Gonder Administrative zone 18 woreda internal auditor's staffs. Explanatory research design has been used with primary and secondary data by using mixed research method by employing quantitative and qualitative research methods. The quantitative research method used through 83 usable self-administered questionnaires. These questionnaires were constructed in 5-point likert scale, distributed to internal auditors and analyzed using SPSS version23 statistical software. The qualitative research method used through documents review. The Ordinary Least Square (OLS) linear regression model was used to analysis the collected data and examines the association between IAE and five study's variables.

According to the regression output all these predictors independency of internal auditors, quality of internal auditor, scope of internal audit work and management support were positively contributed where as

competency of internal auditor are negatively contributed for the effectiveness of internal audit functions in South Gonder zone public sector offices. Therefore, the public sector office should give emphasis to use these determinant variables to make their service delivery and use of recourse effective, efficient and economical throughout their offices. Moreover the independency of internal auditors, quality of internal auditor, scope of internal audit work and management support were the major determinants of IAE in the public sector. However, the competencies of internal auditor for IA value were not significantly important for the IAE of public sectors as of the above five variables.

The regression result show that the overall contribution of independency of auditors, internal audit quality, competency of internal auditors, scope of internal audit work and management support to the IAE accounted for 51.6% ($R^2 = 0.516$) of the variation in the internal audit effectiveness, the rest 48% are other variables not included in this study. Furthermore, the model summary also shows the significance of the model by the value of F-statistics ($P=0.000$) and $F = 16.429$ 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 predict the effectiveness of internal audits in the public sector. Therefore, we can understand that the contributions of these variables were collectively significant to identify any noncompliance activities in their office and to add values for the internal audit effectiveness in the public sector offices.

The final portion of this research aims to conclude the finding of the study focusing on the core determinants that have significant impacts to the internal audit effectiveness 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 Independency of internal auditors, quality of internal auditor, scope of internal audit work and management support given to the IA.

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