



























Similarly, there is a positive and significant relationship between “internal audit effectiveness” and “independence of internal audit unit” ( $b_3=0.239$ ,  $p=0.004$ ) Thus, H3 is rejected while the alternative hypothesis is consequently accepted i.e. IAE is determined by the independence of internal audit unit. Finally, the fourth hypothesis relates to management support. In this case, the regression analysis highlighted a positive and significant association between “internal audit effectiveness” and “management support” ( $b_4=0.164$ ,  $p=0.002$ ). Thus, H4 is rejected while alternative hypothesis is thereby accepted i.e. Internal Audit Effectiveness is determined by management support/perception.

Table 8. Correlation matrix.

	IAE	QIA	CIAT	IIA	MS
IAE	1				
QIA	0.929**	1			
CIAT	0.878**	0.840**	1		
IIA	0.813**	0.719**	0.666**	1	
MS	0.919**	0.916**	0.808**	0.757**	1

\*\* . Correlation is significant at the 0.01 level.

Source: Field Survey, 2018.

Table 9. Regression analysis.

Variables	Coeff.	Value	S.E.	T	p-value
Constant	$b_0$	1.705	0.545	3.130	0.004*
QIA	$b_1$	0.140	0.047	2.967	0.005*
CIAT	$b_2$	0.104	0.053	1.959	0.058**
IIA	$b_3$	0.239	0.076	3.130	0.004*
MS	$b_4$	0.164	0.049	3.338	0.002*

\* = Significant at the .05 level; \*\* = Significant at the .01 level;

Source: Field Survey, 2018.

$R^2=0.936$ ; Adjusted  $R^2=0.928$ ;  $F=127.039$ ;  $p=0.000$ .

## 5.0 CONCLUSION AND RECOMMENDATIONS

The researcher documents and provides empirical evidence on the determinants of internal audit effectiveness which in the past has largely been ignored particularly in the tertiary institutions that fall under the regulatory framework of the National Board for Technical Education (NBTE). Overall from the results, respondents in general appear to be positive about the set of parameters (Nunnally, 2010). In this respect, Table 7 shows that Cronbach’s alpha for “Internal audit effectiveness” is 0.858, for “internal audit quality” is 0.946, for “internal audit team” is 0.881, for “Independence of internal audit” is 0.810 and for “Management support” is 0.928. For “Competence examined in relation to the internal audit quality, the competence of internal audit team, the independence of internal audit the management support. However, there are some exceptions such as the neutral position against the parameter of the participation of internal audit unit in planning and developing processes and procedures, which is incorporated in the independence of internal audit. There is also a neutral position against the parameters of the number of members in the internal audit department and the information provided in the

management about the needs of audit department which are incorporated in the support of top management to the audit unit. Comparing the results of the study with previous literature, it can be generally argued that all of the four examined factors (internal audit quality, professional competence of internal audit team, organizational independence of internal audit unit and management support) proved to be associated with internal audit effectiveness. This result is in line with the general standards of IPPF (IIA, 2012) which consider these four factors as important indicators of internal audit effectiveness and also in line with (Kasim and Hanafi, 2012) who developed their model for assessing internal audit effectiveness based on the same factors. Considering the competence of internal audit team, the results showed positive relationship with internal audit effectiveness but with the lower value of all factors. This finding is in line with prior studies such as (Turley and Zaman, 2007), (Arena and Azzone, 2009), (Cohen and Sayag, 2010), (Alzeban and Gwilliam, 2014), (Shawemene, 2014) and (Drogalas, 2015) who concluded that internal audit team and effectiveness of internal audit are positively associated at almost the same level of significance. Regarding the independence, it can be argued that independence of internal audit is the most important factor affecting internal audit effectiveness according to the present research. Quite similar were the findings of (Alzeban and Gwilliam, 2014) who argue that independence is one of the most important factors in their research. Finally, similar to the (Yee et al., 2008), management support is also positively associated with internal audit effectiveness.

Contrary to the findings of the present study, (Cohen and Sayag, 2010) and (Alzeban and Gwilliam, 2014) found that management support was the most important factor affecting internal audit effectiveness. However, similarly to the study of (Alzeban and Gwilliam, 2014), management support seems to be positively and significantly associated with all other factors. Overall, this study adds to the extant literature on internal audit by examining the factors of internal audit effectiveness. The study also provides practical insights for regulators and internal audit practitioners, suggesting that internal audit effectiveness is of major importance to tertiary education financial management in Nigeria. Despite findings' importance, the results should be considered in light of a number of limitations. The data collected by survey was necessarily limited in order to restrict the length of the questionnaire and to maximize response rates.

Further, the data are limited to the perceptions of internal auditors and are not as comprehensive as they would have otherwise been if the researcher had included other stakeholders, such as external auditors. For this reason the following recommendations are made for future research:

1. Future study could be undertaken to explore the perception of other parties such as external auditors and staff of Inspectorate unit of Office of Accountant General of the Federation.
2. Other Independent variables could also be factored in the measurement of Internal Audit Effectiveness.
3. Other alternative methods such as interviews may be adopted to further explain the determinant of Internal Audit Effectiveness.

- Al-Twaijry, A.A.M., Brierley, J.A., & Gwilliam, D.R. (2003). *The Development of Internal Audit in Saudi Arabia: An Institutional Theory Perspective*, Crit. Perspect. Int. J. Account. 14(5):507-531.
- Alzeban, A. & Gwilliam, D. (2014). *Factors affecting the internal audit effectiveness: A survey of the Saudi public sector*, J. Int. Account. Audit.Taxat. 23:74-86.
- Arena, M. & Azzone, G. (2009). *Identifying Organizational Drivers of Internal Audit Effectiveness*. Int. J. Audit.13:43-60.
- Barac, K. & Van Staden, M. (2009). *The correlation between perceived internal audit quality and defined corporate governance soundness*, African Journal of Business Management, 3(13): 946-958.
- Bekiaris, M., Efthymiou, T. & Koutoupis, A. (2013). *Economic crisis impact on corporate governance & Internal Audit*. The case of Greece, Corporate Ownership, Control 11(1):55-64.
- Bota-Avram, C. & Palfi, C. (2009). *Measuring and Assessment of Internal Audit's Effectiveness*, Ann. Faculty Econ. 3(1):784-790.
- Bryman, A. & Cramer, D. (2005). *Quantitative Data Analysis with SPSS 12 and 13: A Guide for Social Scientists*, Sussex: Psychology Press.
- Burnaby, P. & Hass, S. (2011). *"Internal auditing in the Americas"*, Manag. Audit. J. 26(8):734-756.
- Cohen, A. & Sayag, G. (2010). *The Effectiveness of Internal Auditing: An Empirical Examination of its Determinants in Israeli Organizations*, Austr. Account. Rev. 20(3):296-307.
- Drogalas, G. Alampourtsidis, S. & Koutoupis, A. (2014). *Value-added approach of Internal Audit in the Hellenic Police*, Corporate Ownership Control 11(4):692-698.
- Endaya, A.K. & Hanefah, M.M. (2013). *Internal audit effectiveness: an approach proposition to develop the theoretical framework*, Res. J. Financ. Account. 4(10):92-103. 122 J. Account. Taxation
- Gbadago, F.Y. (2015). *Audit expectation gap and MBA accounting students' knowledge on auditor(s)'s responsibilities: Evidence from a public university in Kumasi Ashanti Region of Ghana*, J. Account. Taxat. 7(4):53-61
- Gerrit, S. (2006). *The relationship between Internal Audit and Senior Management: A qualitative analysis of expectations and perceptions*, Int. J. Auditing
- Hay, D., Knechel, R.W. & Ling, H. (2008). *Evidence on the impact of internal control and corporate governance on audit fees*, Int. J. Audit. 12:9-24.
- Institute of Internal Auditors (1999). *"Definition of Internal Auditing"*, The Institute of Internal Auditors, Altamonte Springs, FL.

- Institute of Internal Auditors (2012). *“International Standards for the Professional Practice of Internal Auditing”*, The Institute of Internal Auditors, Altamonte Springs, FL.
- Karagiorgos, T., Drogalas, G., Eleftheriadis, & Christodoulou, P. (2009). *Efficient Risk Management and Internal Audit*, Int. J. Manage. Res. Technol. 3(2):429-436.
- Karagiorgos, T., Drogalas, G. & Giovanis, N. (2011). *Evaluation of the effectiveness of internal audit in Greek hotel business*, Int. J. Econ. Sci. Appl. Res. 4(1):19-34.
- Kasim, A.B. & Hanafi, S.R. (2012). *Assessment of quality for internal audit functions: A quest for a valid and reliable instrument*, Afr. J. Bus. Manage. 6(9):3402-3412.
- Kinney, W. (2000). *Research opportunities in internal control quality and quality assurance*, J. Auditing 19:83-90.
- Kinney, W. (2001). *Accounting scholarship: what is uniquely ours?*, Account. Rev. 76:275-284.
- Lenz, R. & Hahn, U. (2015). *A synthesis of empirical internal audit effectiveness literature pointing to new research opportunities*, Manag. Audit. J. 30(1):5-33.
- Melville, R. (2003). *The contribution internal auditors make to strategic management*, Inter. J. Audit. 7(3):209-22.
- Mihret, D.G., Kieran, J. & Mula, JM. (2010). *Antecedents and organizational performance implications of internal audit effectiveness: some propositions and research agenda*, Pacific Account. Rev. 22(3):224- 252.
- Mihret, D.G. & Yismaw, A.W. (2007). *Internal audit effectiveness: an Ethiopian public sector case*, Manag. Audit. J. 22(5):470-484.
- Mohamud, Al. & Salad, D.M. (2013). *Internal auditing and operational risk management for some selected remittance companies in Mogadishu- Somalia*, Afr. J. Bus. Manage. 7(35):3374-3380.
- Mousa, F.R. (2005). *“Developing a Model for Evaluating the Effectiveness of the Internal Audit Function in Libyan Organizations: Case Study with Special Reference to Oil Companies”*, Ph.D. Thesis.
- Nunnally, J.C. (1978). *“Psychometric Theory”*, Second Edition. New York: McGraw-Hill. 13. Parasurama. Roth.
- J, Espersen, D. (2002). *“Internal Auditors, Role in Corporate Governance”*, Institute of Internal Auditors Research Foundation, Altamonte Springs, Florida.
- Osuala, E.C. (2013). *“Introduction to Research Methodology”* African First Publishers Plc, pp.161-196
- Said, K. & Khasharmeh H. (2014). *Auditors’ perceptions on impact of mandatory audit firm rotation*



*on auditor independence* – Evidence from Bahrain, *J. Account. Taxat.* 6(1):1-18

- Sarens, G. & De Beelde I. (2006). *Internal auditors' perception about their role in risk management: a comparison between US and Belgian companies*, *Manag. Audit. J.* 21(1):63-80.
- Sawyer, L.B. (1995). *"An internal audit philosophy*, *Internal Auditor*: 46-55.
- Simunic, D.A. (1984). *Auditing, consulting and auditor interdependence*, *Journal of Accounting Research*, 22: 679-702.
- Shewamene, H. (2014). *Determinants of Internal Audit Effectiveness in the Public Sector, Case Study of Selected Ethiopian Public Sector Offices: MSc Thesis*
- Spira, L.F. & Page, M. (2003). *Risk management: The reinvention of internal control and the changing role of internal audit*, *Account. Audit. Accountability J.* 16(4):640-661.
- Tabachnick, B.G. & Fidell, L.S. (2001). *"Using Multivariate Statistics"*, 4th ed., Allyn and Bacon, Boston, MA.
- Tsipouridou, M. & Spathis, C. (2014). *Audit opinion and earnings management: Evidence from Greece*, *Account. Forum* 38(1):38-54.
- Turley, S. & Zaman, M (2007). *Audit Committee effectiveness: Informal processes and behavioral aspects*, *Accounting, Audit. Accountability J.* 20(5):1-30.
- Vinary, E. & Skaerbaek, P. (2014). *The uncertainties of risk management, Accounting, Audit. Accountability J.* 27(3):489-526.
- Wallace, W.A. (1984). *Internal auditors can cut outside CPA costs*, *Harvard Bus. Rev.* 62:16-20.
- Xiandong, W. (1997). *Development trends and future prospects of internal auditing*, *Manag. Audit. J.* 12(4):200-204.
- Yee, C.S.L., Sujan A., James K. & Leung J.K.S. (2008). *"Perceptions of Singaporean Internal Audit Customers Regarding the Role and Effectiveness of Internal Audit"*, *Asian J. Bus. Account.*1(2): 147-174.
- Zhang, Y. Zhou, J. & Zhou, N. (2007). *Audit committee quality, auditor independence and internal control weaknesses*, *J. Account. Pub. Policy* 26(3):300-327.