
Assessing internal audit function and public sector performance in Nigeria

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Abstract: The growing size and complexity of the public sector in recent years call for a robust internal audit function. This study shed light on the link between internal audit function and public sector performance. The paper uses surveys conducted on 30 local government areas and ministry of finance in Osun State in Nigeria. We used correlation and regression to analyse the association between internal audit function and public sector performance. Data from 93 participants suggest that the quality of manpower and service dimension of internal audit function enhance public sector performance. Quality of audit delivery has a negative and significant impact on public sector performance. Robustness of audit has an insignificant negative relationship with public sector performance. Furthermore, quality of manpower and service increase public sector effectiveness, efficiency and quality of service.

Keywords: internal audit; public sector; robustness of audit; performance; manpower; Nigeria.

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1 Introduction

There is general awareness all over the world for the need to pay more attention to the improvement of public sector management. The reason is obvious, government constitutes the largest single business entity and her pattern of expenditure through its various parastatals, agencies and commissions stimulate a lot of economic activities. The prevalence of corruption in developing countries has received more attention in the literature (Otusanya et al., 2017). More so, the growing size and complexity of public sector in the recent years, has necessitated putting in place a robust public sector internal control and its development has made a considerable contribution to management efficient performance (Onoja et al., 2013). Indeed, it is important to strengthen the internal audit function in the public sector to enhance performance and to ensure the achievement of set objectives (Payne, 2005). Unfortunately, the internal audit functions in most government offices have not been effective due to neglect on the part of the government at both federal and state levels (Belay, 2007). Previous policies by government geared towards repositioning the internal audit profession had not been matched with appropriate actions (Aguolu, 2009). The public sector accountant has the responsibility of developing systematic arrangements to assist management in the performance of the services of the institution while the public sector auditor has among other duties, the complementary role to examine whether management actually performs that efficiently. There is a major concern in the Nigerian public sector over the effective use and transparency regarding the use of public money. Nigerian government collect and spend hundreds of billion naira of public money through the various ministries and agencies for government program and activities. This revenue and expenditure may constitute a major driver for economic growth. Considering the huge money involved, government need efficient and effective financial management machinery and 'watchdog' to ensure accountability and compliance with rules and regulation. Therefore, all government ministries, departments and agencies are supposed to maintain the accuracy and reliability of accounting record for the purpose of auditing and future use. Internal audit is important resources and mechanisms at the disposal of public sector managers that enable them to achieve their responsibilities (Anao, 2012). Recently, a combination of forces has led to a quiet revolution in the profession. In other, the government had embarked on several public service reforms to ensure accountability in

Nigeria public sector. The reform efforts include strengthening of the management information system and public sector accounting capacity, Payroll computerisation that has begun to curb incidents of “ghost workers” that caused corruption- induced inflated wage bills, monetisation of benefits in kind to curb the abuse of open-ended privileges and entitlements of public officials that distorted the recurrent-to-capital expenditure ratio. Despite all these reforms in the public sector, there are increasing public outcries on the government’s wastage in public spending, corruption, high recurrent expenditures, cost of governance and poor budget performance by the various governments in Nigeria since 1999. Equally worrisome is the political and media propaganda by most elected officials in the delivery of democratic dividends whereas massive looting and corruption continue non-stop. Nigeria has continued to be rated by the Transparency International (TI) among the most corrupt country in the world for many years consecutively since 2001 due to the collapse of public sector accountability and the weak supreme audit institutions. The increasing ministerial scandals and public agitations of the inability of the executive arm of government to turn things around have given rise to the demand for greater public accountability and performance audit in public sector (Green and Singleton, 2009; Manaf, 2010). Studies that focused on internal audit function and public sector performance in Nigeria is scanty. This paper attempts to fill this gap by assessing the impact of internal audit function on public sector performance in Nigeria. The paper contributes to a debate on public sector accounting and management by providing empirical insights on the impact of internal audit function on public sector performance in the developing economies context. To the best of our knowledge, no study has examined internal audit/public sector performance using multiple constructs in a single study in an emerging African country like Nigeria. Therefore, this study helps to fill this gap in the literature. The paper is structured as follows. Section 2 presents a theoretical review, relevant literature and hypotheses. Section 3 presents data and methods. Section 4 provides the empirical results and Section 5 conclusions of the paper

2 Theoretical review

2.1 Agency theory

Lambert et al. (2007) explained that agency theory is used in accounting research for the two reasons; for addressing incentive and compensation problems. Business owners acknowledge the need to monitor managers’ financial activities for accuracy and fraud prevention (Tan, 2015). Agency theory has generated insight into auditing. It has highlighted principal-agent relationship such as government and citizenry in the internal control system. Agency theory has helped to provide decision support mechanism in the area of performance measurement in line with the theory of governance, which highlights the way in which a government chooses to carry out its activities.

Theories of governance suggest that social conflicts are resolved by a sovereign from an accountability viewpoint as guided by the new public management (NPM) theory (Bevir, 2010; Carrington, De Buse, and Lee, 2008 cited in Babatunde and Dandago, 2014). This necessitates assurance from those who are governing to the governed through stewardship. Internal control system assists in this area of governance in tandem with the NPM. Maesschalck (2004) opines that NPM focuses on the merit principle, neutral,

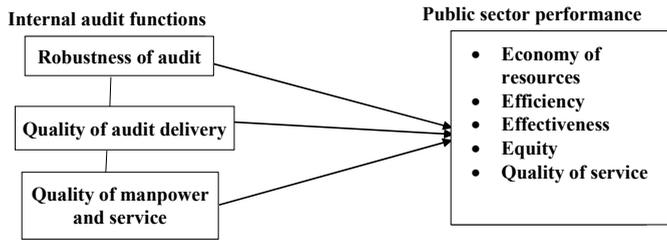
competent administrators and sound financial management. Internal control is a key institutional driver for performance (Kiabel, 2012; Baltaci and Yilmaz, 2006 cited in Babatunde and Dandago, 2014). According to the International Organisation of Supreme Audit Institutions (INTOSAI, 2004) internal control, elements show locus of controls in the management mode of operations. It requires organisations to institute self-control adjustments as backed by an organisation's structure and effective business process mechanism.

2.2 Internal auditing and performance

Many organisations of various sizes have seen the need for internal audit as a tool for ensuring effective working of internal control system owing to this priceless value from internal audit. From a public organisation perspective, Jurchescu (2010) assert that internal audit is an independent and functional activity that guarantees efficient and effective management of public income, expenditure, risks, internal control system and organisational process. The objective of internal audit is to assist members of the organisation in the effective discharge of their obligations. Internal audit is an examination and review of management performance by some people working as employees of the organisation. Internal auditors are employed in organisations to examine and evaluate the systems used in different parts of the organisation and to make recommendations for improvement (Page and Spira, 2004). Previous studies suggest that effective internal audit function correlates with improved financial performance. Bejide (2006) submitted that an effective internal audit service could help reduce cost, improve efficiency and enhance the bottom line. Fadzil et al. (2005) reported that internal auditors contribute to the efficiency and effectiveness of firms, which enhance shareholders' value. Similarly, Hermanson and Rittenberg (2003) contend that an effective internal audit function is related to superior organisational performance. Empirically, Kiabel (2012) evaluated the impact of internal auditing practice on the financial performance of government-owned companies (GOC) in Nigeria. The study concluded that there is no strong relationship between internal auditing practices and the financial performance of government-owned companies in Nigeria. A survey conducted by KPMG (1999) suggests that an effective internal audit could save organisations from malpractices and irregularities thus enabling them to achieve a high level of productivity and profit. Enofe et al. (2013) reported that internal audit does not have a significant influence on the performance of public universities in Nigeria. The recent study by Bello et al. (2017) reported a strong relationship between competence, independence and performance of Nigerian University. In light of the paucity of literature on the subject especially in the public sector in Nigeria, we hypothesised that:

- H₁ Robustness of audit (internal audit dimension) significantly and positively influences public sector performance.
- H₂ Quality of audit delivery (internal audit dimension) positively and significantly influence public sector performance.
- H₃ Quality of manpower and service (internal audit dimension) significantly and positively affect public sector performance.

Figure 1 Conceptual model showing the relationship between the study variables



Source: Authors (2017)

3 Methodology

The study adopted a cross-sectional survey research design. The survey was conducted in Osun State in Nigeria. Osun state is located in the South Western part of Nigeria and shares a border with five states namely; Kwara, Oyo, Ogun, Ekiti and Ondo. We surveyed all the local government areas and the state ministry of finance. The population of the study consists of the 31 public sector organisations, which consist of 93 heads of departments from the Ministry of Finance and the 30 local government areas. All the 30 local government areas and the Ministry of Finance in Osun State of Nigeria were purposively selected to achieve a reliable outcome. 93 Heads of departments/their representatives were selected from the Internal Audit Department, Treasury Department and Administration Department and Finance Department. The constructs were subjectively measured based on participants' perceptions using a 5-point Likert scale ranging from 1 = strongly agree to 5 = strongly disagree. We respond to the call by (Badara and Saidin, 2012) that more research is needed to expand the internal auditing literature in the local government context. In this study, public sector performance was measured using the economy of resources, efficiency, effectiveness, equity and quality of service. Internal audit was assessed using three perspectives: robustness of audit, quality of delivery and quality of manpower and services. Authors used correlation coefficient and multiple linear regression to examine the effect of each of the internal audit functions on each public sector performance indicators and the overall general performance. To ensure the validity of the instrument the questionnaire was presented to experts in the field of study for consideration. All items were reviewed and corrected in line with the suggestions and contributions from these experts in order to ensure the face and content validity of the instrument. The reliability, which measures the internal consistency of the research instrument based on pair-wise correlations between different items, was measured with Cronbach's alpha. The result revealed an alpha value, which was above the minimum acceptable alpha value of 0.70, signifying that the research instrument was reliable. We employed both descriptive statistics and inferential statistical tool to analyse our data.

3.1 Handling common method bias

The heads of departments/their representatives are in the best position to provide reliable information about the subject. Participants anonymity was assured, which reduced

evaluation apprehension (Conway and Lance, 2010; Podsakoff et al., 2003). Correlations between the variables that are more than 0.9 indicate common method bias (Bagozzi et al., 1991). The highest correlation between the constructs was 0.688 (efficiency and quality of manpower and service), indicating the absence of common method bias (see Table 2).

3.2 *Model specification*

The dependent variable for the study is public sector performance while the independent variable is internal audit functions.

$$PSP_i = \beta_0 + \beta_1 IAF_i + e_i$$

where

PSP public sector performance

β_0 intercept coefficient

e error term

i cross-sectional sign

β slope coefficient

IAF internal audit functions.

4 **Empirical results**

4.1 *Distribution of respondents by socio-demographic characteristics*

In Table 1, the socio-demographic characteristics were represented by gender, age group, marital status, educational qualification, staff category and length of service of the respondents. The genders of the respondents were of equal proportions, with (50.0%) each representing males and females. A larger proportion of the respondents in this study were adults between the ages 36–45 years (34.3%) and 46–55 years (36.0%), while the rest were of younger age groups, 26–35 year (13.6%) and 18–25 years (2.3%). More than half of the respondents were married (57.0%) while a fewer proportion was single (30.2%), divorced (9.3%) or widowed (3.5%). Furthermore, more than 70% of the respondents had a minimum of HND or first degree, while the rest had NCE/OND (27.9%). In addition, the majority (73.2%) of the respondents used for this study were senior staff or top management while the rest were in the lower cadre of industrial relations/human resource (10.5%) and junior staff category (16.3%). Furthermore, as regards the length of service of the respondents at their respective institutions, about 42% of them had more than ten years work experience in their respective institution, 27.9% had been working in the public sector for 6–10 years while the rest were younger in public sector work experience. Conclusively, a larger proportion (41.9%) of the respondents work in internal audit department compared to others who work in admin (30.2%), accounts (19.8%) and operations department (8.1%)

Table 1 Socio-demographic characteristics of the respondents

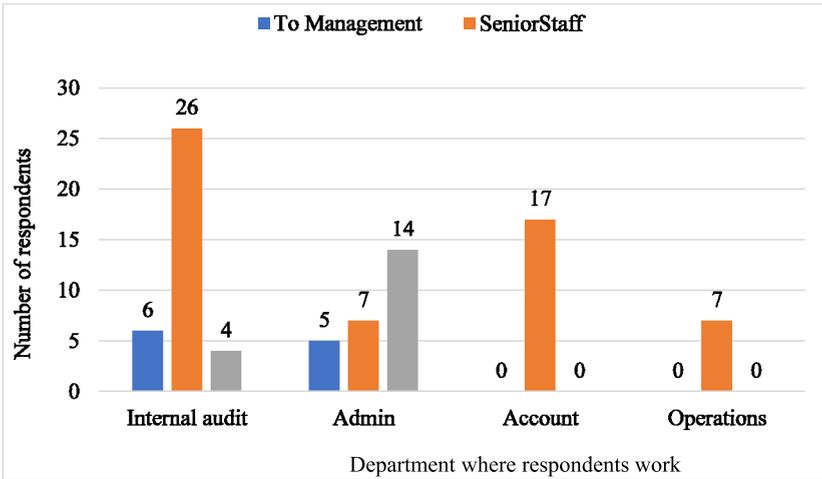
<i>Variables</i>	<i>Category</i>	<i>Frequency N = 86</i>	<i>Percentage</i>
Gender	Male	43	50.0
	Female	43	50.0
Age group	18–25 years	2	2.3
	26–35 years	12	14.0
	36–45 years	26	30.2
	46–55 years	31	36.0
	55 years and above	15	17.4
Marital status	Single	26	30.2
	Married	49	57.0
	Divorced	8	9.3
	Widowed	3	3.5
Educational qualification	NCE/OND	24	27.9
	HND/BSc	43	50.0
	MSc/MBA	19	22.1
Staff category	Top management	11	12.8
	Senior staff	57	66.3
	Junior staff	18	20.9
Length of service	1-5 YRS	26	30.2
	6–10 years	24	27.9
	11–15 years	19	22.1
	16 years and above	17	19.8
Department	Internal audit	36	41.9
	Admin	26	30.2
	Accounts	17	19.8
	Operations	7	8.1

Source: Field survey (2017)

4.2 Distribution of respondents’ position by department

Figure 2 further expatiates on the category of respondents in the department where they work. As shown in Figure 2, majority of the sampled respondents who work in internal audit and accounts were senior staff; of the total number of respondents (N = 86) used for this study, half (n = 43) of them were senior staff and work in either internal audit or account. Besides, a larger number of the top management staff were in the audit unit (n = 6) while the rest were in the administrative unit (n = 5). This implies that the respondents used for this study were appropriate in terms of knowledge of issues around internal audit and organisational performance.

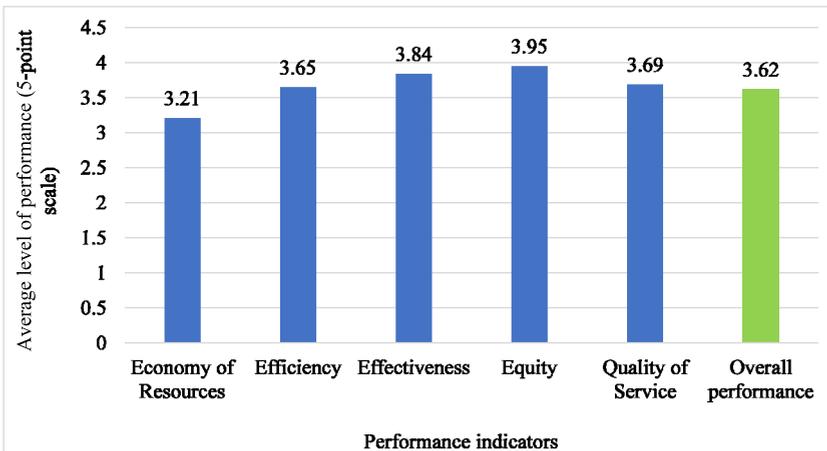
Figure 2 Department of respondents by rank (see online version for colours)



Source: Field survey (2017)

Figure 3 presents the results of the variables used to measure performance in the public sector. The result shows that the overall performance of public sectors in the study location was 3.62 on a 5-point scale; however, it varied in the variables used to measure performance. For instance, the public sector had the best performance in the area of equity with an average score of 3.95, followed by effectiveness with an average score of 3.84, quality of service (3.69) and efficiency (3.64). The performance was lowest in economy of resources (3.21).

Figure 3 Level of performance in the public sector (see online version for colours)



Source: Field survey (2017)

4.2 Correlation results

In order to assess the relationship between internal audit functions and public sector performance, the Spearman rank correlation coefficient was used as shown in Table 2 which displays the correlation matrix between the variables. The result in Table 2 revealed that only quality of audit delivery ($r = -.333, p < 0.05$) and quality of manpower and service ($r = .426, p < 0.05$) were significantly related to the general public sector performance in the study area. Though the strength of the relationship was weak, quality of delivery was negatively related while the quality of manpower was positively related to public sector performance in the Osun state. Examining the relationship between each of the audit functions and individual public sector performance, the result revealed that only robustness of audit was significantly but negatively related to economy of resources ($r = -0.305, p < 0.05$), quality of delivery is negatively related to quality of service in public sector ($r = -0.411, p < 0.05$) while quality of manpower and auditing services is significantly and positively related to efficiency ($r = 0.688, p < 0.05$) and effectiveness ($r = 0.289, p < 0.05$) of public sector.

Table 2 Correlation matrix showing relationship between internal audit and public sector performance

SN		1	2	3	4	5	6	7	8
1	General performance								
2	Economy of resources	r .516**							
		p .000	.						
3	Efficiency	r .672**	-.033						
		p .000	.765	.					
4	Effectiveness	r .562**	.228*	.239*					
		p .000	.035	.027	.				
5	Equity	r .179	-.108	.154	-.124				
		p .100	.321	.158	.255	.			
6	Quality of service	r .613**	.255*	.286**	.090	.032			
		p .000	.018	.008	.409	.768	.		
7	Robustness of audit	r -.027	-.305**	.178	-.030	-.174	.038		
		p .806	.004	.101	.785	.109	.726		
8	Quality of delivery	r -.333**	-.191	.089	-.186	.047	-.411**	-.234*	
		p .002	.078	.413	.086	.665	.000	.030	.
9	Quality of manpower and service	r .426**	-.018	.688**	.289**	.043	.018	.019	.189
		p .000	.871	.000	.007	.695	.867	.861	.082

Note: r – spearman’s correlation coefficient; p –p value.

4.3 Regression results

Table 3 presents the result of the multiple regression analysis of the effect of internal audit performance on public sector performance. According to the result of effect of the independent variables on the dependent variables, the R-squared value of 0.182 for economy of resources model, 0.403 for efficiency model, 0.193 for effectiveness model, 0.024 for equity and 0.218 for quality of service implies that all internal audit factors account for 18.2%, 40.3%, 19.3%, 2.4% and 21.8% respectively of the variation in public sector performance in term of each of the dependent variables. The F-statistic in each model indicated the significance of the independent variables (robustness of audit, quality of delivery and quality of manpower and services) on the dependent variables (economy of resources, efficiency, effectiveness, equity and quality of services). From the result, the F-statistic diagnosing the fitness of the model shows that all the internal audit performance variables were statistically and significant fit ($p < 0.001$) in each of the model except for equity. The result further shows that robustness of audit ($B = -1.166$, $p < 0.05$) and quality of service ($B = -1.488$, $p < 0.05$) had negative and significant effect on public sector performance relating to economy of resources; whereas, robustness of audit ($B = 0.648$, $p < 0.05$) and quality of manpower and services ($B = 1.029$, $p < 0.05$) show positive and significant effect on efficiency of public sector in the Osun state. This implies that a unit increase in robustness of audit and quality of audit delivery will decrease economy of resources by 1.166 and 1.488 respectively, while a unit increase in robustness of audit and quality of manpower and services will yield an increase in efficiency of public sectors by 0.648 and 1.029 respectively, all other factors remaining constant. Quality of manpower and service was the only internal audit variable that had a significant effect on effectiveness of public sector ($B = 0.696$, $p < 0.05$), and the result implied that as quality of manpower and service improves by one unit, effectiveness of public sector performance increases by 0.696, all other factors held constant. Also, of the internal audit variables, quality of audit delivery ($B = -1.780$, $p < 0.05$) and quality of manpower and service ($B = 0.343$, $p < 0.05$) were significantly related to the quality of service in the public sector. The result indicated that a unit increase in quality of delivery would yield decrease in quality of service by 1.780 while a unit increase in quality of manpower and audit service will increase the quality of service by 0.343, all other factors remaining constant. However, none of the internal audit variables showed any significant effect on equity in sample public sectors. In summary, the correlation results in Table 2 ($r = .426$, $p < 0.05$) and regression result in Table 3 ($B = 0.427$, $p < 0.05$) suggest that only H_3 quality of manpower and service (internal audit dimension) significantly and positively affect public sector performance. This result support past empirical studies (KPMG, 1999) that reported a link between internal audit and performance and Bello et al. (2017) concluded that a strong connection exists between auditor competence and performance of Nigerian universities. However, this finding negates submission of the submission of Kiabel (2012) and Enofe et al. (2013).

Table 3 Regression result of effect of internal audit on public sector performance

	Unstandardised coefficients		Standardised coefficients		T	Sig.	95% confidence interval for B		Model diagnosis and summary
	B	Std. error	Beta				Lower bound	Upper bound	
<i>Economy of resources</i>									
(Constant)	13.924	2.837			4.907	.000	8.279	19.568	R = 0.427
Robustness of audit	-1.166	.322	-.370***		-3.621	.001	-1.806	-.525	R ² = 0.182
Quality of delivery	-1.488	.499	-.305***		-2.982	.004	-2.480	-.495	F = 6.086
Quality of manpower and service	.073	.189	.039		.386	.700	-.304	.450	p = 0.001
<i>Efficiency</i>									
(Constant)	-2.858	2.244			-1.273	.206	-7.323	1.607	R = 0.634
Robustness of audit	.648	.255	.223**		2.547	.013	.142	1.155	R ² = 0.403
Quality of delivery	-.064	.395	-.014		-.162	.872	-.849	.721	F = 18.415
Quality of manpower and service	1.029	.150	.587***		6.870	.000	.731	1.328	p < 0.001
<i>Effectiveness</i>									
(Constant)	4.701	2.592			1.814	.073	-.455	9.858	R = 0.440
Robustness of audit	.001	.294	.000		.002	.999	-.584	.585	R ² = 0.193
Quality of delivery	-.856	.456	-.191*		-1.879	.064	-1.763	.050	F = 6.547
Quality of manpower and service	.696	.173	.399***		4.023	.000	.352	1.040	p = 0.001
<i>Equity</i>									
(Constant)	5.895	2.056			2.867	.005	1.805	9.986	R = 0.155
Robustness of audit	-.330	.233	-.158		-1.414	.161	-.794	.134	R ² = 0.024
Quality of delivery	-.148	.361	-.046		-.409	.684	-.867	.571	F = 0.674
Quality of manpower and service	-.008	.137	-.006		-.056	.955	-.281	.265	p = 0.570

Notes: Dependent variables are robustness of internal audit, quality of delivery and quality of people and service. ***, ** and * denotes 1%, 5% and 10% levels of significance respectively.

Source: Author's computation (2017)

Table 3 Regression result of effect of internal audit on public sector performance (continued)

	Unstandardised coefficients		Standardised coefficients		T	Sig.	95% confidence interval for B		Model diagnosis and summary
	B	Std. error	Beta				Lower bound	Upper bound	
<i>Quality of service</i>									
(Constant)	9.499	2.488			3.818	.000	4.549	14.448	R = 0.467
Robustness of audit	.167	.282	.059		.591	.556	-.395	.728	R ² = 0.218
Quality of delivery	-1.780	.437	-.407***		-4.070	.000	-2.651	-.910	F = 7.620
Quality of manpower and service	.343	.166	.202**		2.063	.042	.012	.673	p < 0.001
<i>General performance</i>									
(Constant)	6.232	1.272			4.901	.000	3.703	8.762	R = 0.570
Robustness of audit	-.136	.144	-.088		-.942	.349	-.423	.151	R ² = 0.325
Quality of delivery	-.867	.224	-.361		-3.879	.000	-1.312	-.422	F = 13.533
Quality of manpower and service	.427	.085	.457		5.027	.000	.258	.596	p < 0.001

Notes: Dependent variables are robustness of internal audit, quality of delivery and quality of people and service. ***, ** and * denotes 1%, 5% and 10% levels of significance respectively.

Source: Author's computation (2017)

Table 4 Hypotheses test results/decision

<i>Hypotheses</i>	<i>Remark/decision</i>
H1	Not supported
H2	Not supported
H3	supported

Source: Author (2017)

5 Conclusions

The study focused on internal audit and public sector performance in Osun state local governments and the ministry of finance. The study attempts to shed light on the link between internal audit function and public sector performance. Survey data from 30 local government areas and the state ministry of finance suggest that quality of manpower and service have a significant positive impact on public sector performance and quality of audit delivery have a significant negative effect on public sector performance. Robustness of audit has an insignificant negative impact on public sector performance. We also found that robustness of audit and quality of audit delivery will reduce economy of resources, while robustness of audit and quality of manpower and services will improve the efficiency of the public sector. The study suggests that quality of manpower and audit service enhance public sector efficiency, effectiveness and quality of service. The present results enrich theoretical arguments and scanty empirical studies on the subject in the emerging market context like Nigeria. It was insightful to find that quality of manpower and audit service shows a positive and significant effect on efficiency, effectiveness, quality of service and overall public sector performance. This study affirms that the quality of manpower and audit service is important for public sector performance. This study has several implications for policy makers, professionals, management or head of department of various government ministries and public corporations. The role of the internal audit function needs special attention to achieve superior public sector performance. The effectiveness, efficiency and quality of service of the public sector depend on the availability of quality manpower and audit service. The public sector in Nigeria should create a robust internal audit department with quality manpower and audit service as this directly influences public sector performance (effectiveness, efficiency and quality of service). To achieve this, they should ensure that their internal audit staffs have the appropriate skills, technical knowledge and expertise, including access to specialists and robust attitude. The audit team should have enough experienced staff with provision made for knowledge retention on the rotation of staff. Though the quality of audit delivery does not influence public sector performance, it is important for internal auditors to have a constructive working relationship with management. Furthermore, to conduct a robust audit, internal auditors must liaise effectively with the necessary units and maintain firmness in their dealing with management. Indeed, a more professional internal audit function can foster decision making and add value to public sectors in Nigeria. This study focused on the public sector in a single state in Nigeria, which may limit its generalisation. Future studies can extend the analysis to other states in Nigeria and African countries, particularly to see if the quality of delivery and robustness of audit will have a positive and significant effect on public sector performance. This will present an

opportunity to evaluate if differences in the institutional environment explain the effect of internal audit functions on public sector performance in various contexts. Beyond this limitation, this paper enriches the internal auditing/public sector management literature in a developing country context.

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