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Testing the Predictive Relevance of the Performance Management Antecedents

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Abstract
The purpose of this study is to investigate the relationship between the performance management antecedents and organizational performance in the public sector. A study framework developed from the seminal work of David Otley and Anthony Hopwood, as well as thorough review of the extant literature was used to measure the perceptions of the public sector organizations in Nigeria. The study was conducted using primary data. Questionnaires were sent to 85 public sector organizations situated in the north-eastern part of Nigeria. The findings of the study reveals that, the extent of accountability obligation positively affects the performance of organizations. Likewise, the study revealed that, uninterrupted access to information in public organizations positively affects performance. In contrast, performance audit shows no effect on the efficiency and effectiveness of the public sector organizations. As a consequence, the study would offer a practical significance of the performance management system to both governments and policymakers alike. It could bring back to focus, a workable approach in curtailing inefficiencies and waste of resources in government. Thus, government organizations would be spurred into actions by strengthening their performance management system. However, the study only covers some antecedents of the performance management. Other antecedents like institutional culture, performance measurement, management support are largely jettisoned. Equally still, the sample size of the study is fairly small. Therefore, other antecedents should be incorporated and larger sample size covering many public sector organizations would be better in future studies. By so doing, a concrete and broad picture would be established with regards to constructs investigated.

Keywords: Performance management, Public sector, Nigeria, Organizational performance.

1.0 Introduction

The globally-acknowledged slogan of "achieving more with less resources" has echoed and reverberated through the ears of public sector leaders across countries and continents (Arnaboldi, Lapsley & Steccolini, 2015). Practically, the notion behind this phenomenon is the concept of the performance management as well as equally relative but broader term of the New Public Management (Sarrico et al, 2012; Arnaboldi et al, 2015). Interestingly, the shrinking revenue base as well as the dwindling income experienced recently by governments and countries across the globe have further accentuated the inevitability of the performance management in the public sector (Pollitt & Bouckaert, 2011). This implies that, the antecedents of the performance management ought to have taken a center stage in the pool of the extant literature on the management control and the

public sector accounting practice (Otley, 1999; Ferreira & Otley, 2009; Otley, 2003) especially with a view of proffering solution to the general problem of inefficiency in the public sector. Specifically, the management accounting literature has argued rather strongly that, performance management in the public sector hinges squarely on certain antecedents notably performance reporting (Moynihan & Ingraham, 2004; Christensen & Yoshimi, 2003), accountability (Mero, Guidice & Werner, 2014; Christensen & Lægreid, 2015), value for money audit (performance audit)(Burrowes & Persson, 2000; Johnsen, Meklin, Oulasvirta & Vakkuri, 2001) and possibly institutional culture (Henri, 2006).

Explicitly, even within the realm of the performance management literature, it is observed that, different management actions tends to have different impacts on the organizational performance (Hvidman & Andersen, 2013). For instance, performance management practice is believe to improve outcomes, decision making process and promote organizational performance in the public sector (Verbeeten, 2008; Modell, 2009; Hvidman & Andersen, 2013; Speklé & Verbeeten, 2014). Besides, performance management refers to the strategies, policies and techniques used to direct employees and managers towards improvement of organization's performance (Kloot & Martins, 2000). Specifically, performance management is one of the enduring legacies of the reforms in the public sector in the last two decades (Pollitt & Bouckaert, 2011; Modell, 2009). For instance, Nigeria, has for long period of time, engaged in the series of public sector reforms aims at improving the public service efficiency and promote organizational performance of the vital public sector institutions- notably ministries, departments and agencies (Esu & Inyang, 2009; Abubakar, Saidin & Ahmi, 2016).

Broadly speaking, the combination of complex layers involved in the performance management practice has necessitated volume of studies across countries (Hvidman & Andersen, 2013; Otley, 2003). Although, it is argued that, despite the amount of attention devoted in the literature on the performance management, few empirical studies have painstakingly examined the impact of the performance management on the performance itself (Boyne, 2010; Verbeeten, 2008; Fryer, Antony & Ogden, 2009). Yet still, along this line of argument, "studies view that, performance management lacks a coherent treatment that explicates its significance, analyze its several dimensions as a working system, compares its application internationally and challenges its shortcomings" (Van Dooren, Bouckaert & Halligan, 2015. p. 2). It is also noted that, studies addressing the pervasive influence of the performance management on governments' institutions should be a growing concern of the researchers on the ground of the numerous models espoused in the literature for accomplishing robust public sector organizational performance (Spekle & Verbeeten, 2014; Ferreira & Otley, 2009). Hence, this study is an extension of other similar research efforts on the impact of the antecedents of the performance management on the organizational performance. This is because of the belief that, organizational performance relevance, which is unarguably believe to frame and equally guide the managers' decision making drive, has evolved substantially in managing public sector organizations in developing countries since 1990 (Abubakar, Saidin & Ahmi, 2016).

Overall, this study is aimed at testing the predictive relevance of the performance management antecedents. It is believe that, numerous studies in the performance management literature have outlined the benefits of the performance management in the public sector, but little attention is given yet to the empirical studies of the impact of the performance management antecedents on the performance itself. This study had attempted to fill this vacuum in the literature by empirically testing the relationship using the data from the Nigerian government institutions.

The rest of the paper proceeds as follows: The next section reviews different studies on the performance management practice which significantly focused on pool of empirical and conceptual studies conducted. This follows by the presentation of the study's theoretical framework. Hypotheses development is eventually discussed. Consequently, the measurement of variables is also articulated. The presentation of result follows, and finally, the discussions, limitations and recommendation for further studies.

Performance Management Practice

Broadly speaking, performance management refers to the strategies, policies and techniques used to direct employees and managers in a public sector organization towards improvement of organizational performance (Kloot & Martins, 2000). Effective performance management has been variously inferred and characterized by the researchers and experts, as one of the essential management control designs of the modern organizations especially in the public sector (Burns & Zhiren, 2010; Reichard, 1998; Van Dooren, Bouckaert & Halligan, 2015).

The beginning of the formal practice and broad research writings on the concept of performance management especially in the public sector started at exactly the same time with the global paradigm shift of the new public management (Esu & Inyang, 2009; Modell, 2009). Until recently, researchers at the early period conducted a great deal of studies in the private sector (Pollitt & Bouckaert, 2011). Thus, lately the volume of literatures were come up with, explaining the rationale for using the performance management system in the public sector at the expense of the former traditional and bureaucratic system that reign supreme in many countries (Kaplan & Norton, 2001; Pollitt & Bouckaert, 2011; Gruening, 2001).

Evidently, the plethora of studies on the public sector performance management cut across various disciplines, from accounting and management controls to the public administration (Sarrico et al, 2012; Arnaboldi et al, 2015). Drawing from this context, it is glaringly clear that, there is relatively sharp increase in the number of studies recently from the managerial accounting perspective with regards to the performance management in the public sector (Verbeeten, 2008; Abubakar et al, 2016; Arnaboldi et al, 2015; Mero, Guidice & Werner, 2014) involving different frameworks. For instance, Sun and VanRyzin (2014); Henri (2006); Verbeeten (2008) argued rather persuasively that, public sector performance management has moved a step further from the adoption and implementation phase to the adoptive impact phase. This explicitly suggested that, integrating the various functions and practices of the performance management is likely to create a new paradigm and pattern for operational effectiveness (Arnaboldi et al, 2015). This view is further corroborated by Moynihan and Ingraham (2004), where it was argued that, integrative performance management builds internal capability and

performance. Interestingly again, Abubakar et al (2016) in their study found that, there is strong correlation between performance management antecedents and organizational performance.

Specifically, despite the volume of studies, the predictive strength of the performance management antecedents is strongly debated (Hvidman & Andersen, 2013; Abubakar et al, 2016). While some empirical studies found that, significant association between some antecedents on one hand and organizational performance on the other hand exists (Verbeeten, 2008; Johnsen et al, 2001; Sun & VanRyzin, 2014; Christensen & Lægreid, 2015), others stressed the need for further studies on the impact of the performance management antecedents on the organizational performance (see Abubakar et al, 2016). Thus, this study aims at considering the impact of accountability, performance reporting and performance audit on the organizational performance. The study framework is presented below.

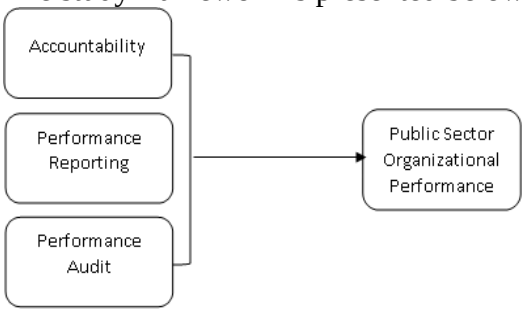

Figure 1: Research Framework

Hypotheses Development

1. Accountability and Organizational Performance

Studies are abound on the link between accountability and performance within the context of the performance management, but more often, it is largely more of postulations and perceptions without the necessary empirical back up. Indeed, the growing sophistication of the performance management practice has made the relationship between accountability and organizational performance more of a two-way continuum (Heinrich, 2002; Aucoin & Heintzman, 2000). It is argued that, a relatively good accountability arrangement improves organizational performance (Mero, Guidice & Werner, 2014; Ammons, 1995). It is also stressed that, accountability is one of the major pre-requisites for accomplishing better organizational performance (Burns & Zhiren, 2010; Kloot & Martins, 2000). Specifically, Hwang (2013) empirically established that, despite the perception in certain quarters that, genuine accountability might harm public sector organizational performance, it is found that, accountability positively affects performance both directly and indirectly. On the flip side, studies found that, lax accountability discourages performance (Dubnick, 2005; Ammons, 1995). Thus, based on the highlighted theoretical postulations, this study formulate the following hypothesis.

H_1: Accountability significantly influences the public sector organizational performance.

2. Performance Audit and Organizational Performance

The rising relevance and preponderance of the public sector performance evaluation has proved to be a clear pointer to the importance of the performance audit in addressing performance issues in the public sector and even non-profit making organizations (Raudla, Taro, Agu & Douglas, 2016). It is justified that, the growing expectation and need of the performance audit has typically highlighted the significant primacy of the public sector efficiency, effectiveness and economy (English, 2007; Pollitt et al, 1999). Performance audit assess and observes system as well as organizational

performance (Jacobs, 1998; Morin, 2001). Research studies have increasingly established that, performance audit is substantially related to, and influenced the public sector organizational performance (Alwardat, Benamraoui & Rieple, 2015). This point is further corroborated by Arnaboldi and Lapsley (2008) where they stressed that, value for money audit strongly impacts performance and outcomes in the public sector. Empirical evidence have also found that, performance audit and organizational performance are closely related, in fact the two concepts are mutually reinforcing (Morin, 2008; Alwardat et al, 2015; Läikko-Roto & Nevas, 2014). Therefore, based on the highlighted theoretical postulations and empirical evidence, the following hypothesis is proposed.

H_2: Performance audit significantly influences public sector organizational performance.

3. Performance Information Reporting and Organizational Performance

The critical importance of the performance management lies behind the sufficient use of performance information, thus, performance information enriches the decision making process and improves organizational performance (Vande Walle & Van Dooren, 2008; Van Dooren et al, 2015). Lee (2008) examined the empirical value of performance reporting in realizing organizational objectives. The result revealed that, performance information reporting is a significant construct in realizing good outcomes. Yet again, the use of performance information reporting in an organization positively contributes to performance (Askim, 2008; Boyne, 2010; Pollitt & Bouckaert, 2011). In similar vein, it is argued that, performance information techniques influence public sector organizational performance (Moynihan & Ingraham, 2008; Christensen & Yoshimi, 2003). The positive impact of the performance management system is significantly felt if the performance information is exhaustively utilized (Cunningham & Harris, 2005; Davies, 1999). Thus, we assumed that, performance information reporting is a significant construct in the public sector performance management that improves organizational performance. Therefore, the following hypothesis is formulated.

H_3: Performance information reporting influences public sector organizational performance.

Methods

Stratified sampling method was adopted through the selection of three (3) distinct public sector organizations vis-à-vis ministries, departments and agencies. The significant aim to ensure the equitable representation of both ministries, departments and agencies in this study, which has been perfectly accomplished. Initially, the letters requesting the consent of participation in the study were sent to the 85 public sector organizations situated in two states in the North-Eastern part of Nigeria. The states involved are Bauchi and Gombe states. Participants in each organization are directors in charge of the performance management or their immediate subordinates. This implies that, the study's unit of analysis is organization because each participant represent his/her organization. Overall, the frequency of the responses and retrieval is that; ministries 19 responses, departments 31 responses, agencies 13 responses. This indicated that, a total of 63 useful responses were retrieved out of the 85 questionnaires distributed. Therefore, this is translated to 74.12% response rate which is quite satisfactory (Hair et al, 2010; Sekaran

& Bougie, 2016). The questionnaires were administered personally by the researcher. This is because self-administered questionnaires elicit high response in the organizational-based studies especially if the organizations are not spread across wide geographical area (Asika, 1991).

Measurement of Variables

In empirical research study, constructs are clearly articulated in a conceptual form before any attempt at measuring those variables (Sekaran & Bougie, 2016). Measurement of variables refers to the assignment of number or numerals to objects and events according to a particular or laid down procedures (De Vaus, 2013). It is worthy to note that, assignment of numbers to the properties of construct is the essential component of the measurement (Leary, 2016; De Vaus, 2013). Thus, the outcome is likely going to be meaningless if the earlier component of assigning numbers is poor and haphazard (Leary, 2016). Specifically, for the purpose of this study, all the constructs were measured using 5 point Likert scales.

Organizational Performance – Organizational performance refers to the ability of the public sector organization to accomplish its goals using available resources effectively and efficiently. The construct measuring public sector organizational performance was adapted from Spekle and Verbeeten (2014) and was slightly modified. Originally, the construct was developed by Ven de Ven and Ferry (1980) but was broadly adopted and adapted by several other subsequent empirical studies like Dunk and Lysons (1997), Verbeeten (2008).

Accountability – Accountability refers to the process of acknowledging an obligation or responsibility for certain actions, decisions and consequences. The instrument measuring accountability was adapted from Kim and Lee (2009). The instrument critically measures the accountability arrangement in the public sector. The instrument was slightly modified in this study to accommodate differences in context and to ensure versatility.

Performance Information Reporting – Performance reporting refers to the process of furnishing information to various stakeholders in and out of the public sector organization. This construct is measured using instrument developed by Moynihan, Pandey and Wright (2012). The items were slightly re-framed to convey meaning to targeted respondents.

Performance Audit – Performance audit refers to the audit of efficiency, effectiveness and economy. In measuring performance audit, an instrument developed by Arthur, Rydland and Amunsden (2011) was adopted. The items were directly used with no modification in the present study. This is so because, the practice and application of the performance audit is relatively uniform irrespective of the country or context.

Results

The result of the empirical analysis on the constructs under review is presented under the following headings:

1. Measurement Model (Outer Model)

Fundamentally, assessment of model in research studies through PLS-SEM encompasses two phases, namely measurement model and structural model (Hair, Andersen, Babin & Black, 2010). Measurement model is a component of the model that assess the relationship between study's latent variables and their measures (Hair, Hult, Ringle & Sarstedt, 2016). Specifically, measurement model or outer model estimates the latent variables as a weighted sum of its manifest variables (Wong, 2013; Hair et al, 2010). Outer

proxies of the latent variables are normally computed as linear combinations of their respective indicators. In research study, outer model is established through four fundamental components as will be explained further. For instance, the measurement model of this study is presented below for close reference:-

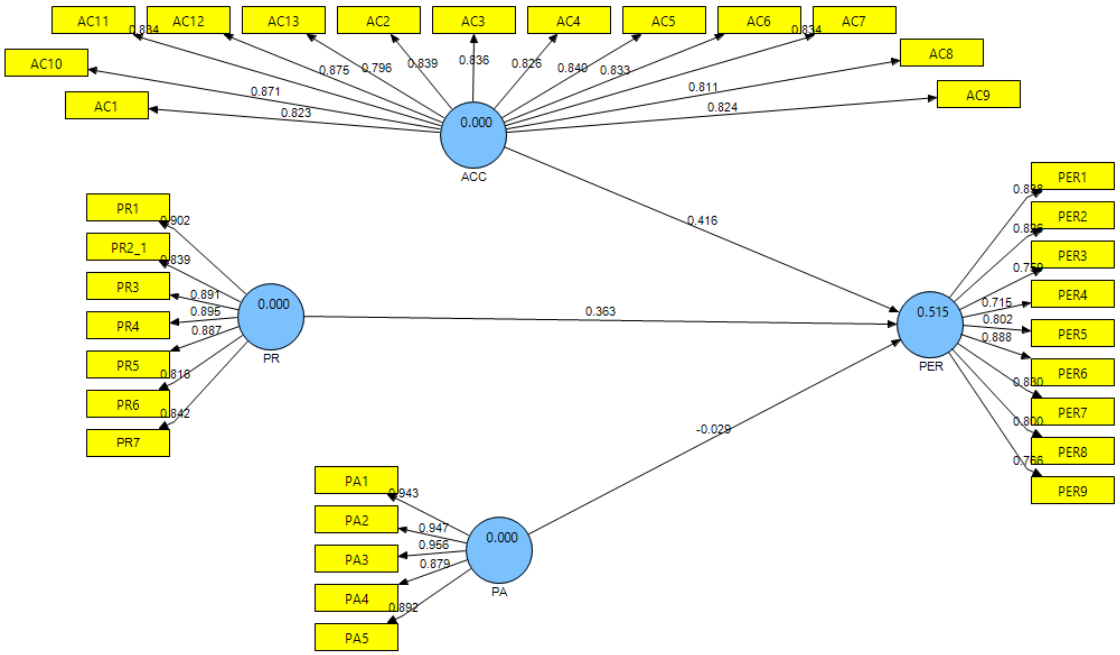

Figure 2: Measurement Model

The four fundamental components for measurement model are established as follows:

i. Indicator Reliability

Indicator reliability refers to the individual loadings and cross-loadings of the items under each latent variable. Loading and cross-loadings are obtained by calculating the standard PLS algorithm in Smart PLS software. Not only that, the AVE and composite reliability are also observed through same process of PLS algorithm. Generally, and by established standard and practice, the individual item loading is expected to be greater than 0.70 (Henseler, Ringle & Sinkovics, 2009; Hair, Ringle & Sarstedt, 2011). However, certain slacks were given for indicator with outer loadings of 0.40 under specific circumstances (Hulland, 1999). On this premise, the PLS algorithm was calculated for the constructs under review. The output is clearly shown in Figure 2 above. It is fortunately observed that, all the items are excellently loaded. In other words, all the items loadings have exceeded the minimum threshold of 0.70 (Henseler et al, 2009; Hair et al, 2011). Therefore, based on this criteria, no item should be deleted.

ii. Internal Consistency and Reliability

Initially, in empirical studies, Cronbach alpha were used in measuring reliability in social science research. But practically, it is argued that, Cronbach alpha tends to provide somehow conservative measurement for reliability in PLS-SEM (Wong, 2013). Specifically, Bagozzi and Yi (1988) suggested that, composite reliability should be used as substitute for Cronbach alpha. To illustrate this point further, Hair, Sarstedt, Ringle and Mena (2012) argue rather

strongly that, composite reliability proves to be sufficiently effective measure of internal consistency. Meanwhile, it is further argued that, the yardstick for using composite reliability is that, it should be greater than 0.70 (Hair et al, 2010). Although, some arguments to the contrary were equally made under worst case scenario. However, in this study, the composite reliability of the constructs under review were all above 0.70. This implies that, this assumption has been fairly fulfilled after running the PLS algorithm.

iii. Convergent Validity

Convergent validity refers to the degree of agreement among multiple items in measuring a particular concept (Hair, Sarstedt, Hopkins & Kuppelwieser, 2014). Specifically, Hair et al (2010) stressed that, Average Variance Extracted (AVE) is conventionally used to assess the convergent validity of the constructs in a study. Equally important is that, the latent construct in a study is expected to explain at least 50% of the variance of the indicators (Hair et al, 2014). With regards to that, Hair et al (2010) claims that, factor loadings should be above 0.70, because the square root would automatically be equals to 0.50. However, with regards to the constructs under review in this study, the PLS algorithm was ran and the output reveals that, the AVE values have adequately met and fairly exceeded the minimum threshold. Table 1 below has shown the indicator loadings, the composite reliability and the AVE.

Table 1: Internal Consistency, Reliability and Convergent Validity

Constructs	Indicators	Loadings	AVE	Composite Reliability
Organizational Performance	PER1	0.8384	0.647	0.9425
	PER2	0.8256		
	PER3	0.7587		
	PER4	0.7146		
	PER5	0.8023		
	PER6	0.8877		
	PER7	0.8297		
	PER8	0.8003		
	PER9	0.7662		
Accountability	AC1	0.8235	0.696	0.9675
	AC10	0.8714		
	AC11	0.8337		
	AC12	0.875		
	AC13	0.7961		
	AC2	0.8391		
	AC3	0.8356		
	AC4	0.826		
	AC5	0.8396		
	AC6	0.8326		
	AC7	0.8344		
	AC8	0.8109		
	AC9	0.8239		

Performance Reporting	PR1	0.9017	0.753	0.9552
	PR2	0.8386		
	PR3	0.891		
	PR4	0.8947		
	PR5	0.8865		
	PR6	0.8164		
	PR7	0.8423		
Performance Audit	PA1	0.9427	0.854	0.9668
	PA2	0.9473		
	PA3	0.9564		
	PA4	0.879		
	PA5	0.8915		

iv. Discriminant Validity

Discriminant validity refers to the extent to which indicators actually represent a construct; and again how they are different from other constructs (Hair et al, 2014). Specifically, Fornell and Larcker (1981) strongly suggested that, the discriminant validity is established by computing the square root of AVE in each latent variable. It is worthy to note that, the values for discriminant validity is expected to be larger than the correlation of other values for other latent variables (Wong, 2013). For the purpose of this study, the square root of AVE is calculated manually and could be seen written boldly on the diagonal of Table 2 below. It is also established from the Table 2 that, none of the constructs' correlation is up to the values on the diagonal. In addition, the values on the diagonal have exceeded the minimum threshold of 0.50. Thus, all the conditions for calculating discriminant validity have been fairly and satisfactorily fulfilled.

Table 2: Discriminant Validity

Variables	ACC	PA	PER	PR
ACC	**0.8343**			
PA	0.7255	**0.9239**		
PER	0.6858	0.5231	**0.8041**	
PR	0.8018	0.6908	0.6762	**0.8679**

2. Structural Model

Another essential model in PLS-SEM after measurement model is the structural model. Structural or inner model describe the relationship among the latent variables that constituted the model. Indeed, the mathematical equation that expresses the interrelationship existing among the latent variables is termed structural model. To be precise, structural model is an essential pre-requisite for the successful analysis of the PLS path modelling (Wong, 2013; Hair et al, 2014). Under structural model, the value of path coefficient, standard error and statistical t-values were evaluated. In addition, hypotheses were tested in line with the assertion of Hair et al (2011); Chin (1998). This is achieved through the procedure for bootstrapping in Smart PLS 2.0. The stages involved under structural model includes the following:-

i. Hypothesis Testing

The study contains three hypotheses which were thoroughly formulated earlier in this study. Specifically, in order to compute the statistical t-values, the PLS bootstrapping was run. Initially, the PLS algorithm calculated had indicated the directionality of the relationship between the constructs. The

result of the hypothesis testing is shown in Table 3 below.

Table 3: Hypothesis Testing Result

Hypotheses	Relationship	Beta	Standard Error	T Statistics	Decision
H1	ACC -> PER	0.4163	0.1561	2.667	Supported
H2	PA -> PER	-0.0295	0.1242	0.2373	Not Supported
H3	PR -> PER	0.3628	0.1682	2.1572	Supported

From the above table, it could be established that, hypothesis 1 and hypothesis 3 are supported. This implies that, a strong positive relationship exist between accountability and organizational performance, as well as between performance information reporting and organizational performance. However, hypothesis 2 is not supported because the t-value is less than 1.96.

ii. Determination of R^2

Coefficient of determination or R^2 is a statistical output that is being used in evaluating how well a study model explains and predicts the future outcomes (Cohen, Cohen, West & Aiken, 2013). R^2 is also an indicative of the measure of explained variability as well as the accuracy of the model (Sarstedt, Ringle, Smith, Reams & Hair, 2014). A number of criteria and yardsticks were suggested in the literature for assessing R^2. For instance, R^2 is considered satisfactory if it exceeds 1.5% (Falk & Miller, 1992). However, the commonly used criteria for assessing R^2 in studies is recommended by Chin (1998) and Cohen (1988), where they recommended three levels of model quality. Specifically, they categorized R^2 into (a) 0.26 and 0.67- Substantial (b) 0.13 and 0.33- Moderate (c) 0.02 and 0.19- Weak. It is worthy to note that, the first value in each category belongs to Cohen (1988), while the second value is recommended by Chin (1998). Meanwhile, the R^2 for this study is 0.515. This value is substantial based on the recommendation of both Chin (1998) and Cohen (1988). Table 4 below shows the coefficient of determination of the endogenous variable.

Table 4: Determination of Coefficient of Determination

Endogenous Variable	R-Square Value
Organizational Performance	0.515

iii. Effect size (F^2)

Henseler and Fassott (2010) argue that, extended analysis is expected to be conducted on the research model to examine the effect size of the exogenous variables on the main model under investigation. The common practice of computing effect size in PLS-SEM is fundamentally illustrated by Hair et al (2014). It is obtained by computing R^2 in a continuous and consistent combination of constructs by excluding and including the affected variables in subsequent orders (Henseler & Fassott, 2010). According to Coe (2012), the essence of computing effect size is simply a means of quantifying the assumed effectiveness of a particular intervention in relation to some established basis for comparison. Besides, Callaghan, Wilson, Ringle and Henseler (2007) proposed a formula for calculating effect size (F^2) in PLS. the formula reads:

F^2 = (R^2 Included – R^2 Excluded)/ (1- R^2 Included)

Generally, the effect size is assessed based on the fact that, under which category of classification a particular effect size falls. Specifically, Cohen (1988) proposed a classification criteria of sizes. Specifically, Cohen (1988) noted that, 0.02 is small, 0.15

is medium and 0.35 is large. It is worthy to note that, Chin, Marcolin and Newsted (2003) again stressed that, the effect size should not be ignored regardless of whether it is large or small. This implies that, effect size is fundamentally important no matter the value. Meanwhile, in this study, the effect size values of the constructs are presented in Table 5 below.

Table 5: Main Model Effect Size

Endogenous Construct	Exogenous Construct	R^2 Included	R^2 Excluded	Effect size (F^2)	Cohen (1988)
Organizational Performance	Accountability	0.515	0.467	0.099	Small
	Performance Audit	0.515	0.515	0.000	None
	Performance Reporting	0.515	0.475	0.083	Small

From the above table, it is established that, both accountability and performance reporting have exhibited small effect sizes of 0.099 and 0.083 respectively. However, performance audit has shown nil effect size.

iv. Predictive relevance

Having a robust predictive relevance is one of the vital needs in the PLS-SEM path modelling. Specifically, under structural model, the predictive relevance is expected to be at most above 0 (Hair et al, 2014). Therefore, when a predictive relevance of a model is above 0, then, the researcher can safely assumed that, the predictive relevance of such a model is robust (Henseler, Ringle & Sinkovics, 2009). Hair et al (2014) recommended that, Stone-Geisser's Q^2 should be used in assessing the predictive relevance of a model. Specifically, predictive relevance is calculated through the blindfolding exercise in SmartPLS. It should be noted that, the blindfolding exercise for predictive relevance covers only endogenous variable. Therefore, Table 6 below presents the predictive relevance of the model.

Table 6: Determination of Predictive Relevance

Endogenous Latent Variable	R square	CV Red	CV Com
Organizational Performance	0.515	0.297	0.000

It is indicated from the above table that, there is substantial evidence that, predictive relevance of this model is robust. This is because Q^2 of 0.297 is obviously greater than 0.

Discussions

The findings of this study has painstakingly provides further, the empirical proofs of the existing relationship between the performance management antecedents and the public sector organizational performance. In specific terms, accountability has been established to have a significant positive relationship with the public sector organizational performance ($\beta = 0.4163$, $t = 2.667$, $p < 0.05$). Equally still, performance information reporting has been found to have a significant positive relationship with public sector organizational performance ($\beta = 0.3628$, $t = 2.1572$, $p < 0.05$). Notwithstanding, performance audit (value for money audit) has been established to have insignificant negative relationship with public sector organizational performance ($\beta = -0.0295$, $t = 0.2373$, $p > 0.05$).

Generally, the result of the study is neither surprised nor unexpected. For instance, studies have specifically and strongly stressed that, accountability in the public sector is one of the vital elements for improving effectiveness and performance of the public agencies (Heinrich, 2002; Aucoin

& Heintzman, 2000; Christensen & Lægreid, 2015; Mero, Guidice & Werner, 2014; Sun & Van Ryzin, 2014). Literature is also replete with the role of accountability as a vital antecedent of the performance management in the public sector. Essentially, the impact of accountability in the performance management is to engender strong management control (Abrudan & Coita, 2008; Fryer, antony & Ogden, 2009; Arnaboldi et al, 2015; Aucoin & Heintzman, 2000). Hence, a good accountability mechanism can powerfully motivate employees in an organization to efficiently and effectively improve the overall organizational performance. This fact is in line with the empirical findings of this study. Moreover, the findings of this study exclusively indicated that, performance information reporting is positively related with public sector organizational performance. This finding is in line with with numerous other empirical outcomes, theoretical postulations and anecdotal evidences. Specifically, it has been advocated severally that, establishing an integrative reporting and communication system within the public sector improves organizational performance (Cunningham & Harris, 2005; Christensen & Yoshimi, 2003; Moynihan & Ingraham, 2004). This implies that reporting is an essential performance management attribute that improves quality of decision making and performance.

However, the findings of this study revealed that, performance audit has shown insignificant relationship with organizational performance. This implies that, performance audit does not improve organizational performance, at least at this point. This is not surprising, thus, it is a quite possible scenario. Specifically, studies argue that, performance audit tends to place excessive control on the system particularly in the public sector, this could sometimes be counter-productive (Davies, 1999; Lapsley & Pong, 2000; Burrowes & Persson, 2000). To illustrate this point further, the impact of performance audit on the public sector agencies seems to be a gradual process, hence, the robust influence of the performance audit might sometimes turn out to be insignificant due to existential circumstances. This point has been further corroborated in the number of studies (Johnsen, Meklin, Oulasvirta & Vakkuri, 2001; Lonsdale, 2000; English, 2007). Therefore, it is worthy to note that, performance audit is a double-edged sword that could improve performance and in some cases discourage efficient outcomes.

Limitations and Recommendation for Future Studies

The study covers only part of the performance management antecedents, there are still other antecedents not covered in this research study. Specifically, other vital antecedents like performance measurement, culture and realistic goals are unavoidably left out of the scope of this study. Equally still, other integral components of the performance management like management support, incentives and rewards are left unaddressed in this study. This implies that, a whole lots of potential variables are available for further studies. Therefore, future research may possibly consider co-opting different combinations of the performance management antecedents in the public sector for extended empirical assessment.

In addition, this study uses data from MDAs at the state governments' level in Nigeria, thus, further studies may consider the public sector organizations at different tier of government, for instance, like the central government or even local government as the case may be. Furthermore, the study also

falls short by collecting data from the organizations (as unit of analysis). Specifically, senior officials of the ministries and agencies filled the questionnaires on behalf of their various organizations. These officials may likely give a different perception with regards to their organizations. Hence, future studies may decide to collect data from the individual employees within such organizations. By so doing, a wide range of perception could be obtained for more in-depth analysis. Finally, this study may be replicated in other countries with similar public sector background. This would give further evidence on the nature of the relationship between the investigated constructs.

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