

Impact of Internal Control on Fraud Prevention and Detection in the Public Sector: A Case of Anambra State.

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Abstract

This research article examines how internal control can prevent and detect fraud in the public sector. This study covers the accounts section of Anambra state government of the 247 staff in the accounts section, 120 staff in the director of accounts office, internal control unit, cash unit and pay office were sampled using well-structured questionnaire. Data were analysed using Anova. This study shows internal control of Anambra state public sector is not adequately staffed, equipped with qualified personnel to prevent and detect fraud. It is recommended that their accounting systems provide an efficient means of recording and reporting financial transactions, providing management information and protecting the public's asset from fraud and misappropriation.

Keywords: *Internal control, fraud preventive controls, detective controls.*

Introduction

Internal control, the strength of every organization, has become of paramount importance today in Nigerian banks. The reason being that the control systems in any organization is a pillar for an efficient accounting system.(Olaoye, 2009).

The need for the internal control systems in the public sector, is paramount due to the fact that the public sector, which has a crucial role to play in the economic development of a nation is now being characterized by macro-economic instability, slow growth in real economic activities, corruption and the risk of fraud.

An internal control system is designed as being the whole system of controls financial and otherwise established by the management in order to carry on the business of the enterprise in an orderly and efficient manner, ensure adherence to management policies, safeguard the assets and secure as far as possible the completeness and accuracy of the records. It involves the control environment and control procedure, all the policy and procedure adopted by the directors and management of an entity to assist in achieving their objectives, including adherence to internal policies, the safe guarding of assets, the prevention and detection of fraud and error as well as the completeness and accuracy of records, with the timely preparation of reliable financial information (Benjamin, 2001). The incidence of misappropriation of government fund, cooking the books and theft has been on the increase. Some argue that the internal control is unreliable, others attribute it to an inadequately functioning internal control system as a result of poor staffing, poor training and unqualified personnel, manual record keeping which makes it easy for the perpetrators of fraud. The damage which this menace, called fraud has done to the public fund is innumerable and needs urgent attention. Therefore, the attempt to put an end to this economic degradation, gave rise to the topic of this research study impact of internal control measures on fraud prevention and detection in the public sector: The Nigerian experience. Which is the main objective of this study,. The specific objectives are; 1. To examine if the internal control of Anambra state public sector is adequately staffed to prevent and detect fraud in the public sector. 2. To investigate if the internal control

staff of Anambra state is qualified to carry out control measures in the public sector. 3. To analyse if there is a well-equipped internal control system in the Anambra state public sector. **H0₁**: Internal control of Anambra state public sector is not adequately staffed to prevent and detect fraud in the public sector. **H0₂**: Internal control staff of Anambra state is not qualified to carry out control measures in the public sector. **H0₃**: Internal control system in the Anambra state public sector is not well equipped and to detect and prevent fraud.

Literature review

Internal control, as defined in accounting and auditing, is a process for assuring achievement of an organization's objectives in operational effectiveness and efficiency, reliable financial reporting, and compliance with laws, regulations and policies. A broad concept, internal control involves everything that controls risks to an organization. (The Institute of Internal Auditors Research Foundation. 2012).

Under the COSO Internal Control-Integrated Framework, a widely used framework in not only the United States but around the world, COSO defines internal control as having five components:

1. Control Environment-sets the tone for the organization, influencing the control consciousness of its people. It is the foundation for all other components of internal control.
2. Risk Assessment-the identification and analysis of relevant risks to the achievement of objectives, forming a basis for how the risks should be managed
3. Information and Communication-systems or processes that support the identification, capture, and exchange of information in a form and time frame that enable people to carry out their responsibilities
4. Control Activities-the policies and procedures that help ensure management directives are carried out.
5. Monitoring-processes used to assess the quality of internal control performance over time.

Preventive Controls are designed to discourage errors or irregularities from occurring. They are proactive controls that help to ensure departmental objectives are being met. Examples of preventive controls are:

- Segregation of Duties: Duties are segregated among different people to reduce the risk of error or inappropriate action. Normally, responsibilities for authorizing transactions (approval), recording transactions (accounting) and handling the related asset (custody) are divided.
- Approvals, Authorizations, and Verifications: Management authorizes employees to perform certain activities and to execute certain transactions within limited parameters. In addition, management specifies those activities or transactions that need supervisory approval before they are performed or executed by employees. A supervisor's approval (manual or electronic) implies that he or she has verified and validated that the activity or transaction conforms to established policies and procedures.
- Security of Assets (Preventive and Detective): Access to equipment, inventories, securities, cash and other assets is restricted; assets are periodically counted and compared to amounts shown on control records.

Detective Controls are designed to find errors or irregularities after they have occurred. Examples of detective controls are:

- **Reviews of Performance:** Management compares information about current performance to budgets, forecasts, prior periods, or other benchmarks to measure the extent to which goals and objectives are being achieved and to identify unexpected results or unusual conditions that require follow-up.
- **Reconciliations:** An employee relates different sets of data to one another, identifies and investigates differences, and takes corrective action, when necessary.
- **Physical Inventories**
- **Audits**

The concept of fraud

Fraud has been widely defined in literature by scholars and experts. Hornby (1998) defines Fraud as an action or an instance of checking somebody in order to make money or obtain goods illegally. The same dictionary defines the perpetrators of frauds as fraudsters.

According to the ICAN study Pack (2006a, b) Fraud consists of both the use of deception to obtain an unjust or illegal financial advantage and intentional misrepresentations, affecting the financial statements by the one or more individuals among management, employees, or third parties.

Emperical study

Idowu and Adedoku (2013) in their study effects of internal control system on fraud detection in selected Nigerian commercial banks. Using the least square regression analysis, result showed that fraud was visible as a result of poor employee training. Ogudaet al. (2015) in their work the effect of internal controls on fraud prevention and detection in district treasuries of kakamega using SPSS, their result showed that there was a statistically significant and positive relationship between the adequacy of internal control systems and fraud prevention and detection in district treasuries in kakamega county. Chukwu (2012) in her work the impact of internal control system on the financial management of an organization utilized regression analysis and result shows that perpetration of fraud and losses of revenue in an organization are as a result of weakness in the internal control system.

Methodology

The structural framework of this study is based on survey design (Asika 2006). Population of the study is the 247 staff in the accounts section with the selection of 120 respondents from director of accounts unit, internal control and audit unit, cash unit and pay office all in the accounts section of Anambra state government. The selection was judgemental to sample staff who are conversant with the topic under study. A total number of 120 questionnaires were distributed, while 97 were attended to and returned. The research instrument contains 15 questions on internal control and fraud against which the respondents were asked to indicate their level of agreement upon a five point Likert scale (where 5 = strongly agree, 4 = agree, 3 = undecided, 2 = disagree and 1 = strongly disagree). Selected questions in the questionnaires which are closely related to the purpose of the study are tabulated and analyzed using Anova

Test of hypothesis 1

H1: Internal control of Anambra state public sector is adequately staffed to prevent and detect fraud in the public sector.

Director of Acc dept internal control unit cash unit pay office

X	X ²	X	X ²	X	X ²	X	X ²
22	484	33	1089	19	361	23	529
24	576	26	676	12	144	21	441
9	81	17	289	6	36	14	196
6	36	12	144	9	81	9	81
8	64	9	81	5	25	4	16
$\sum X=69$	$\sum X^2=1241$	$\sum X=97$	$\sum X^2=2279$	$\sum X=51$	$\sum X^2=647$	$\sum X=71$	$\sum X^2=1263$

Director of accounts In/contr cash unit pay office

N	5	5	5	5	$\sum n=20$
$\sum X$	69	97	51	71	$\sum \sum X=288$
$\sum X^2$	1241	2279	647	1263	$\sum \sum X^2=5430$
$\sum X^2/n$	248.2	455.8	129.4	252.6	$\sum (\sum X^2/n)=1076$

$$\sum \sum X=288 = \sum \sum X^2=82944 \quad \therefore (\sum X^2/n)=82944 / 20 = 4147.2$$

Formula for between groups sum of squares

$$\frac{\sum (\sum X)^2}{n} - \frac{(\sum X)^2}{n}$$

$$\therefore 1076 - 4147.2 = 3071.2$$

Formula for within group sum of squares

$$\sum \sum X^2 - \frac{\sum (\sum X)^2}{N}$$

$$5430 - 1076 = 4354$$

Degree of freedom (df) = K-1 (number of groups minus one)

$$\therefore 4-1 = 3$$

Degree of freedom (df) for within groups N-K (total number of respondents in groups minus number of groups)

$$\therefore 20-4 = 16$$

Degree of freedom (df) for total variance = N-1 (total number of respondents in group minus one)

$$\therefore 20-1 = 19$$

Mean sum of squares (variance estimate)

$$= \frac{3071.2}{3} = 1023.7$$

Within group mean square

$$= \frac{4354}{16} = 272.1$$

F-ratio = $\frac{1023.7}{272.1}$

$$= 3.76$$

Source variation	Sum of squares	Degree of freedom	Mean sum of squares variation	F
Between groups	3071.2	3	1023.7	3.76
	Within group mean square		167.8	
Within groups	4354	16	272.1	
Total	7425.2	19		

F table at 5% level for VI = 3

$$V_2 = 16 = 3.24$$

H₀: X₁ = X₂

H₂: X₁ ≠ X₂

Decision rule

If |F| > |F_{table}| reject H₀ and accept H₁

If |F| < |F_{table}| accept H₀ and accept H₁

|3.76| > |3.24| we accept the alternate (H₁) that is, H₁: Internal control of Anambra state public sector is adequately staffed to prevent and detect fraud in the public sector.

Test of hypothesis 2

H₁: Internal control staff of Anambra state is qualified to carry out control measures in the public sector.

Director of Acc dept internal control unit cash unit pay office

X	X ²	X	X ²	X	X ²	X	X ²
27	729	20	400	10	100	17	289
18	324	13	169	5	25	10	100
15	225	20	400	3	9	17	289
7	49	11	121	1	1	7	49
3	9	8	64	1	1	3	9
∑X=70	∑X ² =1330	∑X=72	∑X ² =1154	∑X=20	∑X ² =136	∑X=54	∑X ² =736

Director of accounts In/contr cash unit pay office

N	5	5	5	5	∑n=20
∑X	70	72	20	54	∑∑X=216
∑X ²	1330	1154	136	736	∑∑X ² =3356
∑X ² /n	266	231	27	147	∑(∑X ² /n)=671

$$\sum \sum X = 216 = \sum \sum X^2 = 46656 \quad \therefore (\sum X^2/n) = 46656/20 = 2332.8$$

Formula for between groups sum of squares

$$\frac{\sum(\sum X)^2}{n} - \frac{(\sum X)^2}{n}$$

$$\therefore 671 - 2332.8 = 1661.8$$

Formula for within group sum of squares

$$\sum \sum X^2 - \frac{\sum(\sum X)^2}{N}$$

$$3356 - 671 = 2685$$

Degree of freedom (df) = K-1 (number of groups minus one)

$$\therefore 4-1 = 3$$

Degree of freedom (df) for within groups N-K (total number of respondents in groups minus number of groups)

$$\therefore 20-4 = 16$$

Degree of freedom (df) for total variance = N-1 (total number of respondents in group minus one)

$$\therefore 20-1 = 19$$

Mean sum of squares (variance estimate)

$$= \frac{1661.8}{3} = 553.9$$

Within group mean square

$$= \frac{2685}{16} = 167.8$$

$$F\text{-ratio} = \frac{553.9}{167.8} = 3.30$$

Source variation	Sum of squares	Degree of freedom	Mean sum of squares variation	F
Between groups	1661.8	3	553.9	3.30
Within groups	2685	16	167.8	
Total	4346.8	19		

F table at 5% level for VI = 3

$$V2 = 16 = 3.24$$

H₀: X₁ = X₂

H₂: X₁ ≠ X₂

Decision rule

If |F| > |F_{critical}| reject H₀ and accept H₁

If |F| < |F_{critical}| accept H₀ and accept H₁

|3.30| > |3.24| we accept the alternate (H₁) that is, H₁: Internal control staff of Anambra state is qualified to carry out control measures in the public sector.

Test of hypothesis 3

H1: Internal control system in the Anambra state public sector is well equipped and to detect and prevent fraud.

Director of Acc dept internal control unit cash unit pay office

X	X ²	X	X ²	X	X ²	X	X ²
11	121	17	289	7	49	15	225
13	169	13	169	9	81	11	121
3	9	9	81	3	9	7	49
5	25	5	25	2	4	3	9
4	16	3	9	2	4	1	1
$\sum X=36$	$\sum X^2=340$	$\sum X=47$	$\sum X^2=573$	$\sum X=23$	$\sum X^2=147$	$\sum X=37$	$\sum X^2=405$

Director of accounts In/contr cash unit pay office

N	5	5	5	5	$\sum n=20$
$\sum X$	36	47	23	37	$\sum \sum X=143$
$\sum X^2$	340	573	147	405	$\sum \sum X^2=1465$
$\sum X^2/n$	68	114.6	29.4	81	$\sum (\sum X^2/n)=293$

$$\sum \sum X=143 = \sum \sum X^2=20449 \quad \therefore (\sum X^2/n)=20449 / 20 = 1023$$

Formula for between groups sum of squares

$$\frac{\sum (\sum X)^2}{n} - \frac{(\sum X)^2}{n}$$

$$\therefore 293 - 1023 = 730$$

Formula for within group sum of squares

$$\frac{\sum \sum X^2}{N} - \frac{\sum (\sum X)^2}{N}$$

$$1465 - 293 = 1172$$

Degree of freedom (df) = K-1 (number of groups minus one)

$$\therefore 4-1 = 3$$

Degree of freedom (df) for within groups N-K (total number of respondents in groups minus number of groups)

$$\therefore 20-4 = 16$$

Degree of freedom (df) for total variance = N-1 (total number of respondents in group minus one)

$$\therefore 20-1 = 19$$

Mean sum of squares (variance estimate)

$$= \frac{730}{3} = 250.5$$

Within group mean square

$$= \frac{1172}{16} = 73.3$$

F-ratio = $\frac{250.5}{73.3}$

$$= 3.42$$

Source variation	Sum of squares	Degree of freedom	Mean sum of squares variation	F
Between groups	730	3	250.5	3.42
Within groups	1172	16	73.3	
Total	1902	19		

F table at 5% level for VI = 3

$$V_2 = 16 = 3.24$$

H₀: X₁ = X₂

H₂: X₁ ≠ X₂

Decision rule

If |F| > |F_{critical}| reject H₀ and accept H₁

If |F| < |F_{critical}| accept H₀ and accept H₁

|3.42| > |3.24| we accept the alternate (H₁) that is, H₁: Internal control system in the Anambra state public sector is well equipped and to detect and prevent fraud

Conclusion

Control system should address the risks associated with the financial management of the agency and clearly articulate expectations and internal accountabilities for management of these risks. It is important that the public sector must have an internal audit department that is adequately functioning, to ensure that their accounting systems provide an efficient means of recording and reporting financial transactions, providing management information and protecting the public's asset from fraud and misappropriation (Achibong, 1993). Fraud will be difficult to eradicate completely. This gives rise to the following recommendations: Adequate remuneration and motivation other welfare issues such as promotion, giving staffers a sense of belonging so as to prevent segregation or alienation.

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