

INTERNAL CONTROL SYSTEMS AND THE INTEGRITY OF BURSARY UNITS IN NIGERIAN UNIVERSITIES

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ABSTRACT

The development and application of Information Technology (IT) have led to the assertion that the incidence of fraud in non-computerised environment is higher than its computerised counterparts. Most of the Nigerian Universities' Bursary Units have very weak control systems which has been attributable to its poor computerisation features. Internal control systems are controls that provide reasonable assurance for organisation's business objectives to be achieved and its undesired risk-events prevented. This study therefore, investigated the integrity of internal control systems to challenge the correctness or otherwise the lack of computerization in bursary units of Nigeria University.

Three selected Nigerian Universities: University of Lagos, Ladoke Akintola University of Technology, Ogbomoso, and Joseph Ayo Babalola University, Ikeji, respectively were utilised. A closed ended questionnaire containing thirty (30) questions was administered on one hundred (100) respondents from the selected universities. Multivariate analysis method was used in testing the hypotheses.

The findings of study revealed that computerised internal control systems impact significantly at 5% and 10% level on fraud detection in Nigerian universities' financial system. The study therefore, recommended computerisation of all internal control features for all the Nigerian universities bursary units to enhance the integrity of the financial system.

KEYWORDS: Control, Internal Control, Information Technology, Fraud

INTRODUCTION

Internal controls have existed from time immemorial. In Hellenistic Egypt, there was a dual administration, with one set of bureaucrats charged with collecting taxes and another with supervising them (Siyanbola, 2013). It is a system by which organisation maintains environments that encouraged incorruptibility and deter fraudulent activities by management and employee. The system is usually evaluated during the planning phase of an independent financial statement audit (Arena and Azzone, 2010). It provides reasonable assurance for organisation's business objective to be achieved and its undesired risk-events prevented (Oyedeki, 2012). Internal control system has been so significant to organisation especially in the aspect of assurance of the reliability and accuracy of financial report (Mu'asu and Siti, 2013). Yang, Lin and Koo (2011) submitted that the major reason of having internal control system in an organisation is to ensure the reliability of financial information, effectiveness and efficiency of business operations. The issue of internal control system cannot be overemphasised as it has been long recognised as an important feature of a company control system (Kwanbo, 2009).

The Nigerian universities have been witnessing financial crises due to mismanagement of fund resulting from either non-observance of laid-down rules and policies (internal controls) that are established by the various governing

councils, the regulatory authorities or non-existence of such control systems. Notwithstanding, every organisation must install efficient and effective internal control system in order to protect its assets from possible losses resulting from funds misapplication, misuse and assets falsification. Unegbu and Kida (2011) emphasised the need to establish effective internal control system to create financial improvement in the government ministries. The custodians of financial resources in Nigerian universities are the universities' Bursars who head various Bursary Units. As principal officers of the schools, they are totally liable for the action and non- action in any financial matter (Adeniji, 2010). It is therefore, the responsibility of every university Bursar to establish effective and efficient internal control for the entire financial system of the university.

There have been several unreported cases of frauds traceable to inadequate system of internal control as the case with Cadbury Nigeria Plc, 2007. The popular cases of manipulation of annual reports in the public sector are pointers to the fact that internal control system must not only be seen functioning but effectively performing (Bakre, 2007). Assets falsification and financial recklessness which is one of the reasons for setting up effective internal control system and has become a great pain in the neck of many Nigerian chief accounting officers. In order to maintain the integrity of the bursary unit of every Nigerian university, effective functioning of internal control system must be emphasised.

This paper investigates the influence of these control elements on fraud detection in Nigerian universities bursary units.

Research Hypotheses

The following hypotheses were formulated and tested:

- H₀1:** Computerized internal audit has no significant effect on fraud detection.
- H₀2:** Automated Internal check has no significant influence on fraud detection.
- H₀3:** Computerized authorization procedures have no significant influence on fraud detection.
- H₀4:** Automated system did not guarantee the safety of assets and resources of an organisation.

METHODOLOGY

The study used descriptive research design of the ex-post facto type. This method was employed because it helped to describe record, analyse and interpret the condition and prevailing practices that exist in the survey.

Population, Sample and Sampling Technique

The population comprises all bursary staff of the selected Nigerian universities (that is, University of Lagos, Ladoké Akintola University of Technology and Joseph Ayo Babalola University respectively). These Universities are selected based on their level of computerisation. The total population was 374. A sample of 100 respondents which represented over 27% of the entire population was obtained through simple random selection technique.

Instrument

The instrument used to gather information in this study was a self- designed questionnaire. The questionnaire was designed in such a way that all the variables involved in the study were captured. To achieve the aim of the study, a model relating internal control systems with fraud detection was developed and expressed as:

$fD = f (CIA, AIC, CAP, CSAR)$ where:

fD = Fraud Detection

CIA = Computerised Internal Audit

AIC = Automated Internal Check

CAP = Computerized Authorisation Procedure

$CSAR$ = Computerised Security of Asset and Resources

The impact of computerized internal control systems on fraud detection was investigated through a five points Likert's scale of strongly Agreed (SA), Agreed (A), Undecided (U), Disagreed (D) and Strongly Disagreed (SD). A score of 5, 4, 3, 2 and 1 respectively was assigned to each positive statement and it was the reverse in case of negative.

RESULTS AND DISCUSSIONS

Hypothesis One

Table 1: Influence of Computerized Internal Audit on Fraud Detection

Source	Statistics	Df	F(df1 (df2) =		F	p-value
Model	W 0.1007	18	90.0	193.7	1.30	0.066
	P 1.7207		90.0	215.0	1.25	0.095
	L 3.2202		90.0	187.0	1.34	0.049
	R 1.2638		18.0	43.0	3.02	0.0015
RESIDUAL	43					
b ₁	0.7128	3	15.0	108.1	0.94	0.5230
	0.3104		15.0	123.0	0.95	0.5158
b ₂	0.3712		15.0	113.0	0.93	0.5313
	0.2646		5.0	41.0	2.17	0.0762
	0.6520	4	20.0	130.3	0.90	0.5915
	0.3799		20.0	168.0	0.88	0.6107
b ₃	0.4860		20.0	150.0	0.91	0.5735
	0.3670		5.0	42.0	3.08	0.6185
	0.8145	3	15.0	108.1	0.56	0.9018
	0.1916		15.0	123.0	0.56	0.9004
b ₄	0.2205		15.0	113.0	0.55	0.9038
	0.1816		5.0	41.0	1.49	0.2145
	0.6257	4	20.0	130.3	0.99	0.4791
	0.4241		20.0	168.0	1.00	0.4694
b ₅	0.5257		20.0	150.0	0.98	0.4916
	0.3160		5.0	42.0	2.65	0.0358
	0.4127	4	20.0	130.3	1.99	0.0114
	0.7131		20.0	168.0	1.82	0.0217
	1.1286		20.0	150.0	2.12	0.0059
	0.7829		5.0	42.0	6.58	0.0001

Source: Data analysis, 2014

Table 2: Influence of Computerized Internal Audit on Fraud Detection

Equation	Obs	Parms	RMSE	R-sq	F	P
F1	62	19	1.437731	0.3309	1.181346	0.3173
F2	62	19	1.492273	0.2616	0.8462671	0.6396
F3	62	19	1.523562	0.2815	0.9359454	0.5438
F4	62	19	1.211539	0.5246	2.636459	0.0047*
F5	62	19	1.346934	0.4009	1.598403	0.1040*

*, significant at 5% **Source:** Data analysis, 2014

Table 1 and 2 show the estimates of the coefficients in the model via multivariate regression model. The result indicates that P value is statistically significant at 5% and 10% levels respectively. This result implies that most respondents are of the opinion that computerized internal audit could enhance efficiency of an organization (F (5, 41) = 2.17) thereby enhancing fraud detection. Similarly the respondents believed that computerized internal audit system could assist management (F (5, 42) = 2.65) in fraud detection and also ensure adherence to organization rules and procedures (F (5, 42) = 6.58).

From the result of this study, the hypothesis that computerized internal audit has no significant effect on fraud detection is rejected (F = 3.02, P < 0.05) at 0.05 level.

Hypothesis Two

Table 3: Influence of Automated Internal Check on Fraud Detection

Source	Statistics	Df	F(df1	(df2) =	F	p-value
Model	W 0.6556	4	20.0	183.4	1.24	0.2227
	P 0.3856		20.0	232.0	1.24	0.2248
	L 0.4641		20.0	214.0	1.24	0.2228
	R 0.2505		5.0	58.0	2.91	0.0208*
RESIDUAL			59			

*, significant at 5% **Source:** Data analysis, 2014

Table 3 shows the influence of automated internal check on fraud detection. The tests for the overall model, shown in the section labelled Model (under Source), indicate that the model is only statistically significant at 5% level using Roy's largest root multivariate test criteria. Overall, the result indicates that automated internal check has significant influence ((F (5, 42) = 2.65) on fraud detection. Implying a rejection of the null hypothesis

Hypothesis Three

Table 4: Impact of Authorization Procedures on Fraud Detection

Source	Statistics	Df	F(df1	(df2) =	F	p-value
Model	W 0.1033	19	95.0	184.6	1.16	0.2026
	P 1.7207		95.0	205.0	1.15	0.2025
	L 3.0909		95.0	177.0	1.15	0.2097
	R 1.1940		19.0	41.0	2.58	0.0056*
RESIDUAL						
c ₁	0.5396	5	25.0	139.0	1.00	0.4662
	0.5511		25.0	205.0	1.02	0.4482
	0.6967		25.0	177.0	0.99	0.4874
	0.3954		5	41.0	3.24	0.0147*
c ₂						
	0.4229	4	20.0	123.7	1.83	0.0239*
	0.7265		20.0	160.0	1.78	0.0273*

	1.0336		20.0	142.0	1.83	0.0221*
	0.5321		5.0	40.0	4.26	0.0034*
c_3						
	0.6220	4	20.0	123.7	0.95	0.5246
	0.4200		20.0	160.0	0.94	0.5397
	0.5416		20.0	142.0	0.96	0.5121
	0.3833		5.0	40.0	3.07	0.0195*
c_4						
	0.5778	3	15.0	102.5	1.50	0.1179
	0.4889		15.0	117.0	1.52	0.1094
	0.6206		15.0	107.0	1.48	0.1273
	0.3827		5.0	39.0	2.98	0.0224*
c_5						
	0.7339	3	15.0	102.5	0.81	0.6636
	0.2823		15.0	117.0	0.81	0.6643
	0.3405		15.0	107.0	0.81	0.6648
	0.2580		5.0	39.0	2.01	0.0983*

Source: Data analysis, 2014

*, significant at 5%

Table 5

Equation	Obs	Parms	RMSE	R-sq	F	P
F1	61	20	1.320668	0.4554	1.804535	0.0566
F2	61	20	1.465357	0.3295	1.06067	0.4217
F3	61	20	1.398372	0.4144	1.52731	0.1267
F4	61	20	1.377547	0.4109	1.504991	0.1349
F5	61	20	1.408046	0.3579	1.202671	0.3018

Source: Data analysis, 2014

Table 4 and table 5 show the impact of automated authorization procedures on fraud detection. The diagnostics of the multivariate tests indicate that the model is statistically significant at 5% level using Roy's largest root test. All the predictors are statistically significant at either 5% or 10% level especially with Roy's largest root test.

Table 4 shows the estimates of the coefficients in the model via multivariate regression model. The column labelled P indicates that only f_1 model is statistically significant at 10% level. In the column labelled R-sq, the five predictor variables explain 45%, 33%, 41%, 41% and 36% of the variance in the outcome variables f_1 , f_2 , f_3 , f_4 and f_5 , respectively. This result implies that most respondents are of the opinion that automated authorization procedures has significant impact on fraud detection, thus computerized procedures of internal control performance could enhance efficiency of an organization ($F(5, 41) = 2.17$) thereby enhancing fraud detection. By this, the null hypothesis is rejected.

Hypothesis 4

Table 6: Extent to Which Automated Procedures Can Safeguard the Asset and Resources of an Organization

Source	Statistics	Df	F(df1	(df2) =	F	p-Value
Model	W 0.1144	19	95.0	179.8	1.06	0.3611
	P 1.6543		95.0	200.0	1.04	0.4018
	L 2.9877		95.0	172.0	1.08	0.3251
	R 1.3749		19.0	40.0	2.89	0.0023
RESIDUAL	41					
d_1	0.6662	3	15.0	99.8	1.05	0.4082
	0.3656		15.0	114.0	1.05	0.4065

	0.4542		15.0	104.0	1.05	0.4121
	0.3171		5.0	38.0	2.41	0.0541
d_2						
	0.7451	3	15.0	99.8	1.37	0.1747
	0.2758		15.0	114.0	1.41	0.1542
	0.3145		15.0	104.0	1.33	0.1977
	0.1731		5.0	38.0	2.32	0.0624
d_3						
	0.5968	4	20.0	120.3	1.01	0.4523
	0.4533		20.0	156.0	1.00	0.4691
	0.5945		20.0	138.0	1.03	0.4370
	0.4272		5.0	39.0	3.33	0.0134
d_4						
	0.6106	4	20.0	120.3	0.97	0.5086
	0.4417		20.0	156.0	0.97	0.5033
	0.5555		20.0	138.0	0.96	0.5161
	0.3634		5.0	39.0	2.83	0.0281
d_5						
	0.7396	5	25.0	135.2	0.46	0.9874
	0.2795		25.0	200.0	0.47	0.9853
	0.3268		25.0	172.0	0.45	0.9895
	0.2326		5.0	40.0	1.86	0.1231

Source: Data analysis, 2014

Table 7

Equation	Obs	Parms	RMSE	R-sq	F	p-value
F1	60	20	1.315415	0.4600	1.793728	0.0595
F2	60	20	1.402382	0.3706	1.239505	0.2764
F3	60	20	1.252788	0.5329	2.401769	0.0098
F4	60	20	1.426764	0.3704	1.23863	0.2770
F5	60	20	1.341801	0.4257	1.560527	0.1166

Source: Data analysis, 2014

The tests for the overall model, shown in the section labelled Model (under Source), indicate that the model is fit at 5% level of significant using Roy largest root test. The predictors with the exception of d_2 are statistically significant.

Table 6 and 7 shows the estimates of the coefficients in the model via multivariate regression model. The column labelled P-value indicates that d_1 , d_3 , d_4 , and d_5 models are statistically significant at 5% levels respectively. In the column labelled R-sq, the five predictor variables explain 41%, 46%, 29%, 46% and 43% of the variance in the outcome variables f_1 , f_2 , f_3 , f_4 and f_5 , respectively. This result implies that most respondents are of the opinion that computerized documentation impact significantly on fraud detection thereby enhancing fraud detection.

The results contain in table 1 and 2 revealed that computerised procedure of internal control performance enhance efficiencies of an organisation thereby enhancing fraud detection. This result equally shows that computerised internal audit system could assist management in fraud detection. The finding is consistent with assertion of Olaoye (2009) and Akindele (2011) who posit that internal control is significant to fraud detection and prevention. Thus, specific attention should be paid to design of audit features with adequate training of bursary staff in Nigerian universities to enhance the integrity of the system. The result of analysis also shows that automated internal check has significant influence on fraud detection. Therefore, the arrangement of bookkeeping and other clerical duty in the bursary activities should be arranged in

such a way to ensure that no single task is executed from the beginning to the end by only one person. This would strengthen the internal controls system of Bursary unit of every University in Nigeria. The analysis in Tables 4 and 5 above show that most respondents are of the opinion that computerised procedures can aid fraud detection. The results for tables 6 and 7 also confirm that efficient internal controls system safeguards the assets and resources of organisation.

CONCLUSIONS

The overall results of all the hypotheses show that computerization of internal control system has significant impact on fraud detection. The study revealed that only f_4 and f_5 models are statistically significant at 5% and 10% levels respectively. In the column labelled R-5q, the five predictor variables explained 33%, 26%, 27% 52% and 40% of the variance in the outcome variables f_1 , f_2 , f_3 , f_4 and f_5 respectively. This demonstrates that most respondents are of the opinion that computerized internal control system impact significantly on fraud detection. It can, therefore, be concluded that computerization of internal check, internal audit, authorization and security of assets and resources could prevent and detect fraud in Nigerian universities' bursary activities. This implies that the integrity of bursary unit of every Nigerian University can only be enhanced when effective and efficient internal controls system is computerized.

RECOMMENDATIONS

- Nigerian universities should implement computerization of internal control system as a matter of duty in their day to day financial activities to prevent fraud.
- More stringent internal controls in a computerized information system environment should be enforced in order to eradicate fraud. This would make collusion among the staff very difficult.
- Management of Nigerian universities should ensure that there is segregation of duties, efficient computerized internal controls, jobs satisfactions and job enrichment, as these serve as motivational factors to discourage fraud tendencies.
- Labour force in the bursary and internal audit departments should undertake regular training to update their technical skills.
- The functions of fraud prevention, detection and control are interwoven, as the three works together to eliminate fraud and fraudulent tendencies, the procedure for approval and authorisation should therefore be controlled by reliable computerised system.

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