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How Does Ratio Analysis Assist in the Financial Management of Tertiary Institutions In Nigeria?

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ABSTRACT
The objective of this research is to evaluate the extent to which ratio analysis would assist in the financial management of state owned tertiary institutions in Nigeria using Polytechnics in North Central States of Nigeria as a reference point. Specifically, the study aims to ascertain the relationship between the application of ratio analysis and effective management of staff loan schemes, efficacy of internal control processes; management of financial risks; control of frauds and forgeries and financial effectiveness of the management of revenue collection processes. In achieving the objectives of the study, cross sectional survey research design involving the distributions of structured questionnaire was used. This was supported by an ordinary least square model. Data generated from the survey were analyzed using simple regression model. The significant findings of the study is that effective ratio analysis in tertiary institutions is sin qua non for proper financial management of staff loans schemes in the institutions, increases the efficacy of internal control processes and aids in the early detection of frauds and forgeries in the tertiary institutions. The implications of the findings is that if proper financial evaluation techniques are not employed in the higher institutions frauds and poor internal control mechanisms would triumph. To adequately assess the financial managerial performance of any institution, absolute accounting figures have to be expressed in ratio, which will be used as yardstick for assessment. Based on the findings of this study, it was highly recommended that for management to effectively analyze the financial managerial performance of some key functions of the institutions effective ratio analysis will be helpful as this reflects quantitative relationships and thus helps to form qualitative judgment about the key performance indicators of the organizations.
Keywords: Ratio analysis, financial management, Nigeria, Tertiary Institutions, North Central .

1.0 INTRODUCTION

The major function of an accounting system is the collection and provision of information. It gathers, classifies, analyses, processes, interprets and communicates data about the economic performances of an organization, whether it is profit making or non-profit making. Some users of accounting information have direct interest in the organization, by being concerned about the overall financial strengths and weaknesses of the organizations (Okwoli, 2007).

However, in state-owned tertiary institutions such as polytechnics, the state which is the owner is interested in accounting information to evaluate the institution's performance and to determine the degree of risk to which the state as its proprietor is exposed. The state is interested in seeing that the financial resources entrusted to the institution's management are professionally managed according to generally accepted accounting standards. The state is also interested in the operational efficiency of the polytechnic and therefore uses its accounting information for regulatory purposes. To this end, issues that are likely to affect the achievement of the organization's goals must be tracked and monitored through ratio analysis. Therefore the motivation for the preparation of accounting information are as enumerated below: First, the organization's employees and trade unions need financial information to enhance their bargaining powers in matters relating to salary determination, bonus and other fringe benefits and working conditions. Secondly, within the institution, the principal officers who are the custodians of the assets and liabilities are interested in the overall performance of the institution and are always finding ways to ensure that the institution is on a sound financial footing thus ensuring that the expectations of the different interest groups are met while preparing the financial statements of tertiary institutions whenever required.

The need to satisfy stakeholder interests is at the bottom of all accounting information whether it is for profit or nonprofit organizations. CAMA (1990) Section 334 (1) provides that in the case of every company, "the directors shall in respect of each year of the company, prepare annual accounts for the year". Similarly, tertiary institutions are required by law to report their annual accounts to the governing council of the various institutions. These annual financial statements and information have to be analyzed before they can make meaning. No financial statement, (no matter how well prepared and presented) will be meaningfully used without being adequately analyzed. Thus, ratio analysis is a powerful tool of financial statement analysis in the financial management of any organisation. A ratio is used as a benchmark for evaluating the financial position and performance of an institution. The absolute accounting figures reported in a financial statement do not provide meaningful understanding of the performance and financial position of an institution. Financial ratios reflect quantitative relationships and thus help to form a qualitative judgment. To adequately1 assess the financial managerial performance of any institution, absolute accounting figures in financial statements have to be expressed in ratios, which will then be used as a yardstick for the assessment. There are laid down policies in Nigerian tertiary institutions to enable the assessment of the efficacy of financial management and these often lead to liquidity problems and the inability of the institutions to meet other financial management objectives. NISER (2005) and Ozor (2007) contend that the major policy focus of government appears to encourage tertiary institutions to establish systems and policies for self-sustenance.

This study therefore seeks to confirm to what extent the use of ratio analysis serves as an aid to financial management in Nigerian tertiary institutions. The outcome of this study will no doubt excite and motivate tertiary institutions into appreciating the advantages of applying ratio analysis in the financial management of their respective tertiary institutions.

2.0 REVIEW OF RELATED LITERATURE

Financial statements, give a summary of an organisation's performance or capacity in raising, handling and using stakeholders fund. The objective of financial statement is to provide information about the financial position, performance and changes in equity that is useful to a wide range of users in making economic decisions. The statements are however, meaningless unless they are prepared in such a way that the different categories of users will be able to interpret the information contained in them for the purpose of decision –making, planning and control of the business operations of such organizations.

For users to interpret and utilize the information contained in these financial statements, an effective analysis of the statements has to be made. The financial statements could be analyzed using different tools which include; financial or accounting ratios, cash flow statements, value added statements, common sense, and experience. Among the tools mentioned above, accounting ratios are the most effective for the interpretation and analysis of financial statements.

Aroh and Ndu (2002) are of the view that financial ratios are normally calculated and accepted as meaningful indicators. They stress however, that each individual business must be considered separately, because a ratio that is meaningful for one organization may not be meaningful for another organization. Thus Blake et al (1990) stresses that the key to obtaining meaningful information from financial ratio analysis is comparison. This may involve comparing ratio over time within the same organization to establish trends.This would give indications of improvement or otherwise of the entity.

Ken and Carlino (2009) contend that virtually all non-profit organisations; including polytechnics and monotechnics have been adversely affected by declining governmental assistance, unfavourable economic circumstances, greater competition for private gifts and grants. He states that understanding the financial condition of the institution is an important part of deciding how to respond to the above pressure. He recommends that financial ratios which have long been in use by financial analysts in business could also serve in higher institutions. A financial ratio is the relationship between two numbers drawn from the organization's balance sheet: operating statement and related records. Thus analysis of ratios such as tuition revenue to instructional expenditures provides better understanding of financial condition and institutional priority than either of these data standing alone.

Ingram's (2009) study on "How to understand a Non-profit financial statement" shows that little attention was paid to financial ratio analysis as a veritable tool for analysis and understanding of non-profit financial statements in Nigeria.However he recommends the following; To understand the income statement there is need to analyze the organization's income and expenses for the period, thereby, paying attention to the ratio of total expenses to total income. To understand the statement of financial position the financial analyst should analyze the organization's total liabilities and compare it against its cash and liquid assets. To understand the statement of cash flow, the financial analyst is to analyze the organization's spending pattern. The statement of cash flows details how much money came into the organization and where it came from, as well as how much money the organization spent and where it went. The analyst is expected to pay attention to radio of overhead and salaries expenses to direct program expenses. He concludes that understanding a non-profit financial statement involves analyzing the items that are relevant using ratios towards financial management and sustainability rather than placing emphasis on profit and revenue growth.

Aborode (2005) and Okwoli (2007) corroborate the works of John and Ingram in their separate research works, but they submit that for a non-profit financial statement like that of a higher institution to be understood, the analyst has to perform ratio analysis on its items and compare the result against competitors and institutional standard. Hence, profitability metrics such as net profit margin and return on assets are not as important when analyzing non-profit financial statements. Focus is rather on the metric of financial sustainability and cash flow such as the cash coverage ratio and time interest earned.

While Pandey (2002) maintains that financial ratios focus attention on relationships which are significant, further investigation of the underlying data is required for a meaningful interpretation of the ratios. Furthermore, Pandey says that financial ratios may be stated in several ways such as 2:1, 1:1 etc or in percentages. Kumbirai and Webb (2010) carried a research on financial Ratio Analysis of Commercial Bank Performance in South Africa between the period 2005- 2009. Financial ratios are employed to measure the profitability, liquidity and credit quality performance of five large South African based commercial banks using descriptive statistics. The study found that overall bank performance increased considerably in the first two years of the analysis. A significant change in trend is noticed at the onset of the global financial crisis in 2007, reaching its peak during 2008-2009. This resulted in falling profitability, low liquidity and deteriorating credit quality in the South African Banking sector.

Chesnick (2000) discusses the differences in financial management and goals between the investor-oriented firms and cooperatives. It briefly reviews what bankers look for when appraising potential borrowers. A summary of standard financial ratios used to analyze a variety of business structures is included, along with other modified ratios to address deficiencies evident in standard ratios. The findings of the study indicate that ratio analysis is a very useful tools in evaluating the performance of organizations.

John (2009) in his study, Financial Ratio Analysis; putting the numbers to work stated that Financial statement analysis consists of applying analytical tools and

Techniques to financial statements in an attempt to quantify the operating and financial conditions of a firm. Using descriptive analysis approach, he found that The emphasis of the analysis changes depending upon one's relationship with the company. A credit analyst extending a short-term, unsecured loan to a company will examine the firm's cash flow and the liquidity of the company's assets. A stock investor, on the other hand, is primarily looking for future growth in cash flow and earnings. Investors typically examine variables that might significantly impact a firm's financial structure, sales, earnings production, and dividend policy.

There is a significant point of departure between the studies of John (2009) and Ingram (2009) on the one hand and the present study on the other. While John (2009) focuses on financial ratio analysis comes to non-profit and Ingram examines financial statements in non-profits organizations, the present study is specifically interest in the effectiveness of ratio analysis in the financial institutions. The study is specifically located within state Polytechnics in the North Central region of Nigeria.

It is pertinent to state that financial ratio is a yardstick for financial assessment in an organization. Ratio analysis is a well-established tool to evaluate an organization's financial strength and financial stability. As such, it can be used to answer a variety of financial questions in an organization. Just like the trading organizations which are required by the statues of the law to publish their annual financial accounts, non-trading organisations such as polytechnics as required by their edicts/constitutions to submit on annual basis to governing councils their statements of financial annual reports. A copy of the annual financial report will then be sent to the Public Account Committee of the State House of Assembly to scrutinize. Whether negative or positive, the House of Assembly is required to communicate back to the polytechnic authority.

The annual financial report is usually made up of the income and expenditure account and the Balance sheet. The income and expenditure Account operates almost in the same way as the profit and loss account of the trading organization except that the end result is either net surplus when revenue exceeds expenditure or vice –versa. The balance sheet of the Polytechnic is not essentially different from that of the trading organization. Assets remain assets and liabilities same, though the forms may differ. However, in place of capital we have the accumulated or consolidate fund for the Polytechnics.

Ten revenue sources were identified and analyzed in order to establish what proportion each of these revenue streams contributes to the institutions total revenues. These sources are: Public contributions which are the contributions from philanthropists individuals and organizations toward educational advancement in the society. This is similar to the contribution of Moshood Abiola to the Moshood Abiola Polytechnic Abeokuta. The polytechnic authority can use such funds to determined long and short-term trends in line with strategic funding goals that can change the organizational revenue composition in this area Holman (2008) . Government grants. These are funds coming from government sources for Accreditation/Provisions of infrastructural/equipment for teaching and learning purposes are strategic funding goals that can change the organizational fortune of the Polytechnic.

3.0 METHODOLOGY

This study employed a survey research design of which attempt was made to build mathematical models to capture the relationship between the variables.The independent variables in the model describes the magnitude of their relationship. For the purpose of this research, the population consists of all financial managers in selected tertiary institutions in the North Central States of Nigeria. The table below gives details of population of the study.

Table 1: Details of population of study

S/NO	Designation	Kogi State Polytechnic	Benue State Polytechnic	Kwara State Polytechnic	Total
1	Bursar	1	1	1	3
2	Chief Accountant	7	6	8	21
3	Chief Internal Auditor	5	3	4	12
4	Treasurer	4	5	5	15
5	Snr. Accountants	8	9	10	27
6	Snr. Internal Auditors	6	7	10	23
	Total				**101**

Source: Field Work 2011

In order to determine the sample size, random sampling method was used. The essence of adopting random sampling method is that it is widely adjudged as the most suitable method in probability sampling techniques in which every subject in the population has equal chance of appearing in the selection.

Analytical Methods/Techniques

The data collected through the questionnaire administered on respondents were analyzed using simple regression analysis.The focus of the study was on ratio analysis and its implications on financial management.Ordinary least square formed the analysis basis of the regression models. The following model was postulated.

RA $= \beta_0 + \beta_1 EMSL + \beta_2 EICP + \beta_3 EMFR + \beta_4 ECFF + \beta_5 EMRCP + \varepsilon$.

Where

RA= Ratio Analysis: This provides the total balance sheet size evidencing remedial/corrective result arising from the application of ratio analysis.

EMSL = Effective Management of Staff Loan
EICP = Efficacy of internal control process
EMFR =Effective management of financial risk
ECFF = Effective Control of frauds and forgeries
EMRCP =Effective management of revenue collection process

This equation is based upon the concept of efficient market hypothesis to the effect that markets react positively to the quantum of relevant information disseminated. Thus ratio analysis provides management with greater relevant information in which creative decision making is based.

4.0 RESULTS

Variables	coefficient	std.Error	t-statistics	prob
Constant	-635	.068	-9.268	.000
RA	-917	.017	54.852	.000
R	0.988		Mean	3.92000
R-Square	0.976		std Deviation	1.10820
Adjusted R	0.976		Durbin Watson	2.263
Sum of sq	88.727		F.Statistics	3008.727
Std.Error of est.	0.17173		Prob.(F.statistic).	000

Source:analysis of stistical data(SPSS 17.0)

The finding shows that the R-square is 0.976 which is approximately 98% indicating that the independent variables used in this work contribute about 98% of the variations of the dependent variable.The other variables not used or controlled for constitute about 2% which is negligible. This means that the five independent variables selected are very important in determining how an organization should be managed.

When variable additive method was used as shown by the value of the adjusted R Sq,it was found that the coefficient did not change significantly.The spead was seen to be even (mean 3.92000) and did not significantly deviated around the mean (Std Dev 1.10820).In taking our decision also,we looked at the F.statistics viz-a-viz level of confidence.Since the prob of the F statistics is 0.000 less than 5% level of significance, the study reject null hypotheses proposed, as a result the alternative hold which state that ratio analysis has significant relationship with the five independent variables selected. This however conforms to the coefficient of correlations(R=0.988) which shows a positive and significant relationships.

The value of Durbin Watson(DW) is 2.263, at 5% level of significance with five explanatory variables.Th tabulated DW for di and du is 1.758 and 1.778 respectively.The value of DW is less than the lower limit respectively indicating that there is no evidence of auto-correlation.

The finding of the study generally is in tandem with the finding of other scholars. The implication of the study therefore is that for efficient management of tertiary institutions in terms of controlling for frauds and forgery, staff loan, internal control process etc, ratio analysis should be indispensible as it shows trend and deviations.

5.0 Conclusion and Limitations

Financial ratio reflect the quantitative relationship and thus help to form a qualitative judgement.To adequately assess the financial managerial performance of any institution,absolute accounting fiqures in financial statements have to be expressed in ratios,which will then be used as a yardstick for assessment.It is against this background that the thrust of this study was made to ascertain the application of ratio analysis in financial management of tertiary institutions using some selected state owned polytechnics in the North Central part of Nigeria.

This study is constrained and limited by the fact that ratios are not ends in themselves but guides for further operational and financial investigations. Inflation can easily distort information that may be provided by ratio analysis. All defects of financial statements also affect the ratio computation from such statements.

6.0 Recommendations

Based on the objectives itemized, hypotheses formulated and the major findings of this study, the following recommendations are suggested to be applied in the organizations.

The institutions should strengthen the relationship between the application of ratio analysis and the effective management of staff loan schemes.

The application of ratio analysis and the assessment of the efficacy of internal control processes should be monitored.

The application of ratio analysis and management of financial risks should be improved.

The application of ratio analysis and the control of frauds and forgeries should be encouraged.

The application of ratio analysis and the management of revenue collection processes should be integrated in the academic institutions as a statutory report which every financial institution should present using ratios.

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