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Performance Measurement in Business Organizations: An Empirical Analysis of the Financial Performance of Some Breweries in Nigeria

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Abstract

Performance measurement system plays a catalytic role and has many dynamic benefits crucial for business growth. It involves the use of different measures to collect and report information regarding the performance of an individual, groups or organization. The aim of this study was to review the different performance measurement parameters in use in business organizations and to empirically analyse the performance of four breweries that are traded on Nigeria Stock Exchange. The financial statements of the breweries were critically analysed using financial ratio broadly classified into 3 main groups. Loan safety ratios, management efficiency ratios and profitability ratios. With the simple reason that most business ventures are set with the main aim of making profit, the study made its conclusion based on profitability. The finding shows that Nigeria Breweries Plc is more financially healthy than the other breweries, followed by Guiness Nigeria Plc.

Keywords: Financial Performance, Breweries, Profitability ratio, Management Efficiency ratio, Loan Safety ratio.

1. Introduction

Performance measurement serves as a source of information about financial outcomes and the internal operations shown in an organization's financial statements. Effective performance measurement is key in ensuring that an organization's strategy is successfully implemented. It is about monitoring its own predetermined goals or stakeholders requirements (CIMA, 2008). Performance measurement is a very important aspect of business activities. The purpose of measuring performance is not only to know how a business is performing but also to enable that business perform better. It helps to improve the performance of an organization so that it may better serve its customers, employees, owners and stakeholders. A performance measurement system enables an enterprise to plan, measure, and control its performance according to a pre-defined strategy.

Performance measurement can be financial or non-financial. Horngren, Datar and Foster (2006) note that many organizations are increasingly presenting financial and non-financial performance measures for their subunits in a single report called Balance Scorecard. Different Organizations stress different measures in their Balanced Scorecards, but the measures are always derived from a company's strategy. They stressed that the balance scorecard measures an organization's performance from four perspectives:- financial perspective, customer perspective, internal–business process perspective and learning and growth perspective. Hofmann (2001) notes that non-financial measures are often used for performance evaluation. They are especially relevant on the available financial performance measures not completely reflected on the manager's contribution to the firm's total value. He added that the non-financial performance measures serve as an indicator of the firm's long term performance and may therefore be included in incentive contracts. Ofley (2003) argues that financial measure of performance is very crucial as it serves as a tool of financial management, a major objective of a business organization, and a mechanism for motivation and control within an organization.

This study focuses on the financial performance measurement. An empirical analysis of the financial statement from the annual report of four brewing firms in Nigeria will be carried out.

Literature Review

Neely et al (2000) define performance measurement as "the process of quantifying the efficiency and effectiveness of action", "a metric used to quantity the efficiency and/or effectiveness action", and the set of metrics used to quantity both the efficiency and effectiveness of action" Neely et al (2003) argue that the above definitions are precise but do not convey what is being labeled in the literature and in practice as performance measurement. According to them, performance measurement refers to the use of a multi-dimensional set of performance measures. The set of measures is multi-dimensional as it includes both financial and non-financial measures that includes both internal and external measures of performance which quantify what has been achieved as well as measures which are used to help predict the future.Performance measurement is a process for collecting and reporting information regarding the performance of an individual group or organizations. It involves looking at process strategies in place, as well as whether outcomes are in line with what was intended or should have been achieved (Wikipedia).

Behn (2003) in Wikipedia gives 8 reasons for adopting performance measurements:-

- To evaluate how well a public agency is performing.
- To control subordinates. As manager allow some freedom in the workforce, some measures are used to control subordinate.
- To budget: budgets are used as tools to improve performance.
- To motivate: Performance measurement is used to motivate staff performance targets may also encourage creativity in developing better ways to achieve the goal.
- To celebrate: Performance measurement is used to commemorate accomplishment by achieving specific goals, people gain sense of personal accomplishment and self worth.
- To promote: It used to validate success, justify additional resources, earn customers and win recognition in side and outside the organization.
- To learn – learning involves analyzing corporate performance and lastly
- To improve-performance.

Otley (2003) wrote on the accounting perspective of performance measurement. According to him, Accounting measures of performance have been the traditional mainstay of quantitative approaches to organizational performance measurement. He however, added that over the past two decades, a great deal of attention has been paid to the development and use of non-financial measures of performance.

Vince (2003) notes that different frameworks for measuring business performance have evolved from a variety of origins. These frameworks are approaches to measurement that business have frequently adopted, often with significant diversity in their design and use.

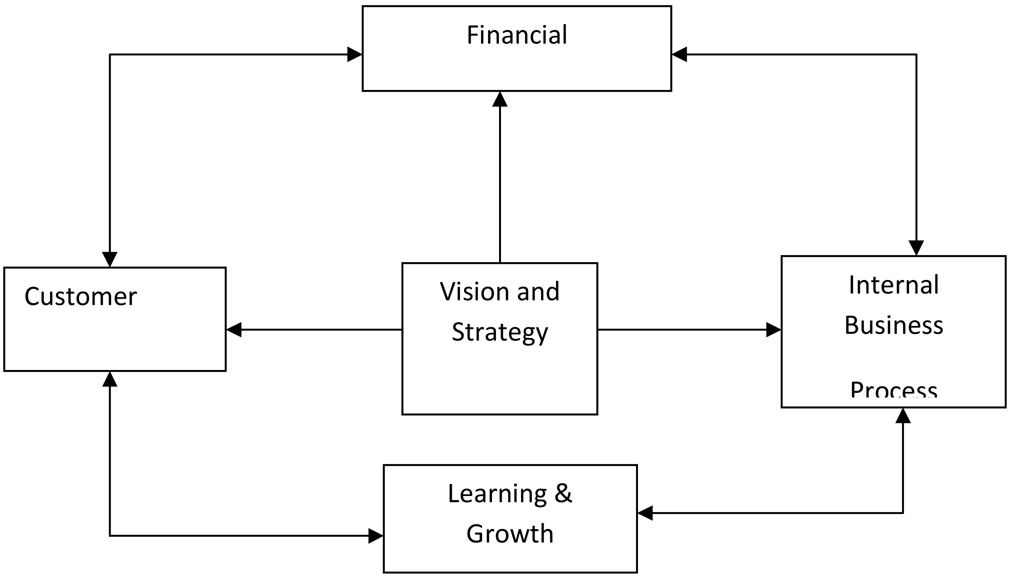
The approaches are:

- Balanced Scorecard
- Economic Value Added
- Activity-Based Costing
- Quality Management
- Customer Value Analysis
- Action-Profit Linkage Model

He however described Balance Scorecard as the most codely used business performance measurement. However, Datar and Foster (2006) also note that balanced scorecard translates an organization's mission and strategy into a set of performance measures that provides the framework for implementing its strategy. They added that the balanced scorecard does not focus solely on achieving financial objectives, it also highlights the non-financial objectives that an organization must achieve to meet its financial objectives. Drury (2008) added that balanced scorecard translate an organization's vision and strategy into operational objectives and performance measures for the following four perspectives:

1. Financial Perspective (How do we look to shareholders?)
2. Customer perspective (How do customers see us?)
3. Internal business perspective (What must we excel at?)
4. Learning and growth perspective (Can we continue to improve and create value?)

The balanced scorecard



Source: Drury (2008)

Emekekwue (2005) stresses on the use of ratio analysis to measure performance of businesses. He classified ratios into three broad groups.

- Loan safety ratios
- Management efficiency ratios
- Profitability ratios

He describes the broad ratios as follows

- **Loan safety ratios** are of interest to the creditors of a firm. The ratios show how liquid and solvent a firm is. Under this ration, we have.
- Liquidity ratios – (i) Current ratio = $\frac{\text{Current asset}}{\text{Current liability}}$

  (ii) Acid test or Quick ratio = $\frac{\text{Current Inventory}}{\text{Current liability}}$

-
- Leverage Ratio – (i) Debt Equity Ratios = $\frac{\text{Total Debt}}{\text{Equity}}$

  (ii) Debt Capitalization ration = $\frac{\text{Total Debt}}{\text{Total Long Term Capital}}$

(iii) Current liability: Owner Equity = $\frac{\text{Current liability}}{\text{Owner Equity}}$

(iv) Capital Employed to liability = $\frac{\text{Capital Employed}}{\text{Fixed Assets}}$

- Leverage Coverage Ratios:-

(i) Interest Coverage Ratio = $\frac{\text{Net Income + Fixed Cheque}}{\text{Fixed Charge}}$

(ii) Fixed Asset to Loan Ration = $\frac{\text{Fixed Asset}}{\text{Long term Loan}}$

(iii) Long term Debt to Networking Capital = $\frac{\text{Long term Debt}}{\text{Current Assets-Current Liability}}$

- Management Efficiency Ratios

These ratios seek to measure the efficiency of management. They address how management has been utilizing its available resources. These ratios include:

- Performance Ratios
  (i) Receivable Turnover Ratio = $\frac{\text{Average Account receivable}}{\text{Total Credit Sales}}$ + 360
  (ii) Equity Turnover Ratio = $\frac{\text{Total Sales}}{\text{Total Equity}}$
  (iii) Creditors Ratios = $\frac{\text{Creditors x 360 days}}{\text{Credit Purchases}}$
  (iv) Stock Turnover Ratio = $\frac{\text{Cost of goods Sold}}{\text{Average Stock}}$
  (v) Turnover to Working Capital = $\frac{\text{Total Sales}}{\text{Working Capital}}$
  (vi) Contribution Margin to sales Ratios = $\frac{\text{Sales variable cost}}{\text{Sales}}$
- Expenses Control Ratios
  (i) Operating ratio = $\frac{\text{Total operating cost}}{\text{Total Sales}}$
  (ii) Average Financial Charges ratio = $\frac{\text{Financial Charges}}{\text{Sales}}$
  (iii) Selling and Distribution Cost Ratios = $\frac{\text{Selling and Distribution Cost}}{\text{Sales}}$
  (iv) Administrative Cost Ration = $\frac{\text{Administrative Cost}}{\text{Sales}}$
- Profitability Ratios. These ratios measure the profitability of a firm. These ratios include:

- Return on capital Employed $= \dfrac{\text{Profit before interest and tax-Income from external investment}}{\text{Shares capital + debt + reserve – external investment}}$
- Net Profit Margin $= \dfrac{\text{Net Profit}}{\text{Total Sales}}$
- Return on Assets $= \dfrac{\text{Profit before Interest and Taxes}}{\text{Total Assets}}$
- Cross Profit Margin $= \dfrac{\text{Gross Profit}}{\text{Total Assets}}$
- Return on Investment $= \dfrac{\text{Profit Before Interest and Taxes}}{\text{Total Capitalization}}$
- Equity Profitability Ratios
  - (i) Return on Equity $= \dfrac{\text{Profit after Tax}}{\text{Total Equity}}$
  - (ii) Earning Per Share $= \dfrac{\text{Profit after Tax}}{\text{Total Number of Shares}}$
  - (iii) Dividend Per Share $= \dfrac{\text{Dividend Pay Out}}{\text{Total Number of Shares}}$
  - (iv) Price Earning Ratio $= \dfrac{\text{Market Price Per Share}}{\text{Earning Per Share}}$

(v) Earnings Yield $= \dfrac{\text{Profit after Tax less prior shares}}{\text{Total number of Shares}} \times \dfrac{\text{Par value of shares}}{\text{market price of share}}$

$= \text{Earning Per Share} \times \dfrac{\text{Par Values of Share}}{\text{Market Prices of Share}}$

(vi) Dividend Yield. $= \text{Quantum of Dividend} \times \dfrac{\text{Par Value per Share}}{\text{Market value of share}}$

(vii) Dividend Cover $= \dfrac{\text{Profit after tax less Prior Charges (preference share interest)}}{\text{Dividend Payable}}$

(viii) Preference Cover $= \dfrac{\text{Profit after Tax}}{\text{Interest Payable to preference shareholders}}$

Emekekwue (2005) however notes that when interpreting these ratios, a lot of caution or restraint must be exercised to avoid making sweeping statements. The ratios must at least be considered alongside those of other firms in the same industry so as to make proper comparison of performance.

In the same vein, Gopinathan (2009) observes that there are no universal profit margins applicable to all business. Instead, the margins tend to vary from industry to industry and product line to product line. He noted that the value profitability ratio analysis lies in

- The ease with which historical performance can be compared. Thus, it is possible to compare this year's gross profit margin with last year's.
- The opportunity to compare the performance of different companies engaged in the same business.

- Comparison against industry averages.

This study compares the performance of four breweries in Nigeria using different performance measurement parameters.

Empirical Reviews

Majdy, Rafat and Salah (2011) carried out a study on participation in performance measurement systems and level of satisfaction. The aim of the study was to investigate the use of variety of financial and non-financial performance measures identified in performance measurement systems literature. Based on survey responses from 87 financial managers the results indicate that performance measurement diversity is associated with the satisfaction of performance measurement system. Hult et al (2008) in the study titled "An assessment of the measurement of performance in international business research, examine the measurement of performance in 96 articles published in some journals between 1995 and 2005. Their findings reveal that most studies do not measure performance in a manner that captures the multifaceted nature of the construct. They however offer suggestion for improving future practice.

Bourne and Neely (2003) wrote on "implementing performance measurement system: a literature review. The paper reviews the different performance measurement system design processes published in the literature and creates a framework for comparing alternative approach. It concludes that performance measurement literature was at the stage of identifying difficulties and pitfalls to be avoided based on practitioner experience with few published research studies.

In another study, titled "towards a definition of Business Performance Measurement System" Franco – Santos et al (2007) review the performance measurement literature using a systematic approach with aim of finding out different definition of performance measurement system. In analyzing the key characteristic of a Business Performance Measurement (BPM) system, seventeen definitions found in the literature were content analysed. This finding suggests that the majority of researchers in this field do not explicitly define what they are referring to when they use the phrase BPM system.

Moreover, Vince (2003) critically evaluates Business Performance Measurement: At the cross roads of strategy, decision-making, learning and information visualization. The study which aimed at suggesting solution to the problems experienced in implementing BPM system, indentified a set of critical success factors for BPM projects. A minimal set of four criteria for designing successful BPM system along with 12 BPM system factors to be considered while building BPM systems are discussed. Forty software vendors with BPM related solutions are listed and the role of data visualization and metaphor is discussed as a potential means for addressing cognitive problems with BPM systems.

In the same vein, Hofmann (2001) wrote on "Balancing Financial and Non-financial Performance Measures" In the paper, the author analyze the incentive weights placed on non-financial performance measures and the firm's short-term financial return. The consequences of a non-contractable long-term financial return and of private pre-decision information for the incentive weight of non-financial performance measures was determined. The analysis shows that the magnitude of the agent's pre-decision information reduces the incentive weights placed on non-financial signals. None of the literatures reviewed compares the performance of companies in the same industry. This study intents to fill this gap by comparing the financial performance of four breweries that are quoted on Nigeria Stock Exchange.

Methodology.

This study carried out financial performance analysis on four brewery companies whose shares are traded on the Nigerian Stock Exchange. This method enhances the comparison of the performances of the four brewery firms in year 2009. The firms include Nigerian Brewery Plc, Guiness Nigeria Plc, Champion Brewery Plc and International Breweries Plc.

Data Analysis and Findings.

<Insert Table 1>

<Insert Table 2>

Table 2 shows that International brewery has the highest current ratio (1.74:1) followed by Guiness Nig Plc with (1.15:1), then Nigeria Brewery (0.89:1) and Champion Brewery (0.26:1). This shows that the ratio of current Asset to liability is highest with International brewery. However, none of the breweries has up to 2.1 which is often accepted as ideal. The acid test ratios are 4.03:1, 0.61:1, 0.16:1 and 0.05:1 for Nigerian Breweries, Guiness Plc, International Breweries Plc and Champion Breweries Plc respectively. This ratio shows how quickly a firm can meet its financial obligation. The ideal ratio is 1:1. Based on this ideal ratio, Nigeria breweries ratio is two high, while the ratios for the other three breweries are too low.

The debt equity ratios which are 1.30:1, 0.99:1 189.66:1 and 2.14:1 for the four Breweries respectively measure the extent to which the equity of a firm can be used to liquidate its debt. The lower this ratio the better. Guiness Nig Plc has the lowest of this ratio. International Breweries has a very high debt equity ratio. It shows that the ratio of its debt to total equity is high. Its finances are mainly financed with debt.

The debt capitalization ratio for Nigeria Breweries (NB) Guiness Nig. Plc (GN), International Breweries (IB) and Champion Breweries (CB) are 0.93:1, 0.73:1, 11.92:1, 2.13:1 respectively. The ideal ratio is 2:3, i.e 0.67:1. Nigeria Breweries with 0.73:1 has a better Debt capitalization ratio than the other companies. The equity turnover ratio seeks to identify the efficiency of management as regards how they employ the equity of the firm to generate revenue. The higher this ratio the better, International Brewery has the highest with 5.70:1 followed by Nigeria Breweries with 3:53:1.

The operating ratio shows the percentage of sales revenue that is spent on operating expenses. The lower this ratio the better. NB has the best operating ratio, followed by GN, then IB and CB. The best return on capital employed is that of Nigerian Breweries, which has the highest ratio. The higher this ratio, the better. It seeks to ascertain the level of profit made by the firm as a going concern. The net profit margin measures the profitability of the firm in relation to sales. The higher this ratio, the better. NB has the highest ratio followed by GN.

The gross profit margin of GN (0.48:1) come first, followed by that of NB (0.46:1). Nigeria Breweries Plc performed better in return on investment and return on equity with 0.64:1, and 0.60:1 respectively.

Guiness Nigeria Plc has the highest earning per share with N9.18 followed by Nigeria Breweries N3.69.

Conclusion

In conclusion, it is difficult to state that a particular company performs better than the others in all ramifications. But judging by the main aim of setting up a business - profit making, the study is concluded by reviewing the profitability ratios of the breweries. This view agrees with Emekekwue (2005:573), who states that "many consider profitability ratios as the most important group since it impinges on the very reason why a business organization is set up."

Of the four breweries, Nigerian Breweries (judging by profitability ratios) is financially healthy. It generates more returns on capital employed, Net profit margin, return on investment, return on equity. The gross profit margin of Guiness Nig. Plc is higher than that of Nigeria breweries. This can be explained by the fact that operating ratio of Guiness Nig. Plc 24% is higher than that of Nigeria Breweries Plc (21%). Finally despite the fact that Nigeria Breweries Plc performed better in most profitability ratios, its earning per share is lower than that of Guiness i.e N3.69 < N9.18. Nigeria Breweries Plc has 7,562,563,340 ordinary share as opposed to Guiness Nigeria Plc which has 1,474,925,519. The analysis shows that Nigeria Breweries Plc is more financially healthy followed by Guiness Nigeria Plc.

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Table 1: Extract of 2009 Balance Sheet, Profit & Loss Account for the Breweries.

	Nigeria Breweries	Guiness Nig Plc	International Brewery	Champion Plc
Fixed Asset	69,003,023	35,897,959	3,069114	2,497,944
Current Asset	37,629,344	35,764,651	2,005,059	1,227,660
Stocks	22,064847	16847,699	1821,403	979,357
Current liability	42,318,498	31141,958	1,150,597	4,791,519
Working capital	(4,689,154)	4,622,693	854,461	(3563,860)
Total Debt	60,417,789	31,141,958	53,742,179	4,800,718
Equity	46,570,094	31,524,701	283,355	2,239,682
Capital	64,669,385	42,726,779	4506,975	2248,881
Turnover	164,206,848	89,148,207	1,616,503	1,226,549
Operating Expenses	33,954,970	21,796,024	606,437	490,933
Selling & Distribution	20,795,333	13,761,826	235,148	311,932
Administrative expense	13,159,637	8,034,198	371,289	179,001
Interest charges	738,455	2,026,261	14,992	634,666
Net Profit Before Interest & Tax	41,662,334	19,806,485	(61,587)	(380,429)
Gross Profit	75,472,408	42,638,611	517,176	34,015
Profit after tax	27,910,091	13,541,189	(285,546)	(1,015,788)
Earning per share	369k	918kobo	(14)k	(113)kobo
Dividend per share	1.80	12.80	-	-
No of shares	7,562,562,340	1,474,925,519	2112,914,682	900,000,000

Source: 2009 Annual Report of the Brewing Companies.

Table 2: Performance Measurement

Ratios	Nigeria Breweries	Guiness Nig Plc	International Brewery	Champion Plc
Loan Safety				
Current Ratio	0.89	1.15	1.74	0.26
Acid Test Ratio	4.03	0.61	0.16	0.05
Debt Equity Ratio	1.30	0.99	189.66	2.14
Debt Capitalization Ratio	0.93	0.73	11.92	2.13
Management Efficiency				
Equity Turnover	3.53	2.83	5.70	0.55
Turnover to Working Capital	-35.02	19.28	1.89	-0.34
Operating Ratio	0.21	0.24	0.37	0.40
Selling & Distribution Cost	0.13	0.15	0.15	0.25
Administrative cost	0.08	0.09	0.23	0.15
Profitability				
Return on Capital Employed	0.89	0.63	-0.22	-0.17
Net Profit Margin	0.25	0.22	-0.04	-0.31
Gross Profit Margin	0.46	0.48	0.32	0.03
Return on Investment	0.64	0.46	-0.01	-0.17
Return on Equity	0.60	0.43	-1.01	0.45
Earning per Share	N3.69	N9.18	N0.14	N1.13

Source: Computed Ratios from the Financial statements of the Four Breweries.