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The Impact Of Contingent Factors On Performance Measures In The Rural Banks Of Ashanti Region Of Ghana

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Abstract

The study examined the application of performance measurement techniques in the rural banks in the Ashanti Region of Ghana. Management accounting theory suggests that two different measures of branch performance should be computed; one to evaluate the economic performance of each branch and the other to evaluate the performance of branch managers (managerial performance).

The purpose of the study was to ascertain the type of performance measures that are applied in these institutions. That is whether or not the management of these banks has been applying financial and/or non financial performance measures in assessing the performance of their branches and the managers of those branches In addition the study examined the impact of contingent factors on the use of financial and non financial performance measures. Though, all the respondents stated that they used both financial and non financial performance measures, there was heavy reliance on financial measures. The study found that neither the balanced scorecard nor the Tableau de Bord have ever been used as performance measures.

The study findings also revealed that profitability (i.e. Operating profit margin, Return on shareholders' capital) and liquidity (i.e. current ratio and working capital ratio) have varied impact on the use of performance measures by the rural banks in the Ashanti Region of Ghana.

Keywords: Ghana, Performance measurement, Rural banks, Contingent factors.

1. Introduction

A significant feature of the Ghanaian economy during the past three decades has been the growth of the retail financial services sector. One of the major developments has been the introduction of rural banks to help not only mobilize funds in the communities but also to help in the development of the communities they operate. To be able to meet the goals of their shareholders these rural banks have established many branches in various rural towns within their catchment areas. Thus the rural banks can be said to be operating divisionalised form of organisational structure.   Divisionalisation as used in the manufacturing and services sectors can help improve the decision making process both from the point of view of the quality of the

decision and the speed with which the decision is taken. The benefits that organisations that adopt divisionalised structures gain, according to Drury C. (2007) are as follows:

i.   The quality of the decision should improve since the divisional managers have good knowledge of local conditions and should therefore be able to make more informed judgements. Moreover, with the personal incentive to improve the division's performance, they ought to take decisions in the division's best interests.

ii.   The speed of the decision should be improved because information does not have to pass along the chain of command to and from top management.

iii. The authority to act to improve performance should act as a motivator to divisional managers. Provided that a suitable reward structure exists, for example, successful managers are paid more, or are given promotion; managers will want to achieve a good return for their division.

iv.   Distribution of decision-making responsibility to division's free top management from detailed involvement in day-to-day operations, thus allowing them more time to concentrate on taking strategic decisions.

The Chartered Institute of Management Accountants (CIMA) Official Terminology (2005, p16) defines performance measurement as;

> *"the process of assessing the proficiency with which a reporting entity succeeds, by the economic acquisition of resources and their efficient and effective deployment, in achieving its objectives. Performance measures may be based on non-financial as well as on financial information. Performance measurement is pertinent to all industry sectors, types and size of organisations. Performance measures communicate the firm's objectives and goals to the employees, monitor their progress and provide feedback on their efforts to senior management".*

According to the Office of Government Commerce (2008) "the focus of performance management is the future – what do you need to be able to do and how can you do things better?" In other words, performance management is a process of ensuring that action is being taken towards achieving pre-determined goals and the process and targets are communicated within the organization.

Organisations need to measure their performance not only to ensure that they are meeting their organisational goals, but also to encourage new ideas and innovations; to promote change and to better understand best practices.   Organisations need to control their expenses and operations and performance measurements can help in doing that.. Performance evaluation is important in motivating employees to enhance performance and is an essential element of an organisation's control system according to Merchant and Van Der Stede (2007).

Feedback is important in the financial services industry, as in other types of business organisations, and a major part of this feedback is provided by performance evaluation.

Similarly, Lawson, Stratton and Hatch (2003) states that the use of performance measurement and management systems as a management control tool reduces organisation's overhead costs by 25% and increases organisational sales and profit.

After setting up the branches and having operated for a period of time there comes the period when there is the need to measure the performance of these branches. The management control function of organisations demands that the performance of each branch be measured periodically.

Performance measurement is a method for focusing team activities on the critical few indicators of importance and ultimately improving performance. However, it must be noted that by applying too many measurement tools may create confusion in an organisation and cause a lack of focus for accountability in value creation. It is therefore important that an organisation should use an appropriate number of measurements and select the right measurement tools that could effectively measure its performance and focus on meeting shareholders aim of profit maximisation and value creation, Aguilar (2003).

Management accounting theory suggests that two different measures of branch performance should be computed; one to evaluate the economic performance of each branch and the other to evaluate the performance of branch managers (managerial performance), (Drury, 2005; Merchant, K. and Van Der Stede, 2007; Burksaitiene, 2008).

However, in his research conducted on UK building societies, Colin Drury (1994) found that there was no evidence to indicate that any of the building societies computed two separate measures to evaluate the economic performance of each branch and that of the managers. Branch profitability measures were not used to evaluate the branch managers he stated. Instead, managers were evaluated on the basis of those critical variables that they could influence (e.g. number and value of new mortgages, net savings receipts) and which would affect long-term profitability.

According to Drury, C. and EL-Shishini, H. (2005, p15) *"the need to distinguish between divisional managerial and economic performance leads to three different profit measures – divisional controllable profit, divisional contribution to corporate sustaining costs and profits and divisional net income."* Alternative ways of overcoming such difficulties is the use of performance measure such as the balanced scorecard which combines both financial and non financial measures.

Despite this suggestion, the literature reviewed showed that only few studies (e.g. Drury, 2005; Burksaitiene, 2008) have examined whether divisionalised companies use different performance measures for measuring the performance of their divisions and the performance of divisional managers. Studies by Lorenzo, (2008) have emphasised the need to use multidimensional performance measures in the service sector such as the banking sector.

Also only a few of the literature reviewed studied the application of performance measures in the financial services sector; for example (Fakhri, Menacere, and Pegum, 2009).

Taking into consideration the important role that the rural bank branches play in savings mobilisation in the rural areas of Ashanti Region, and contribution towards the profitability of the bank there is the need to research into how the performance of the branches are measured.

This study therefore, is to research into how the performance of these bank branches is measured, and factors influencing the selection of the performance measures.

2. Literature Review And Development Of Hypotheses

2.1 Importance Of Performance Measurement And Control

Performance measurement and management play important roles in the development of organisations. Research conducted by (Franco et al., 2004; Kennerley and Bourne, 2004; Davis and Albright, 2004) support the fact that investments are based on the hypothesis that the use of 'balanced' performance measurement and management systems has a positive effect on the performance of the organization.

Organisations need to measure their performance to ensure that they are meeting their organisational goals. Organisational control is often thought of in the terms suggested by Hit, Black and Porter (2007; p591) as being; the process whereby an organisation ensures that it is pursuing strategies and actions which will enable it to achieve its goals. Thus control should be closely linked to the strategic goals and, particularly the planning process of the organisation.

Robert Anthony (1967), (cited in Otley et al., 1995, p32) also defines management control as *"the process by which managers ensures that resources are obtained and used effectively and efficiently in the accomplishment of the organisation's objectives"*. This definition of control solely focuses on controlling the behaviour of divisional managers.

Daft, Kendrick and Vershinina (2010, p733) defines organisational control as; *"the systematic process of regulating organisational activities to make them consistent with the expectations established in plans, targets and standards of performance"*.

What this definition implies is that for proper controls to work in an organisation there is the need for information on performance standards and actual performance, as well as actions taken to correct any deviations from the standards, Daft, Kendrick and Vershinina (2010). In the field of management accounting this is captured under budgeting and standard costing.

Anthony, R. M., cited in Sims and Smith (2004, p408) identifies three levels of control; Strategic control, management control and operational control. The types of information control

provided by the management accounting function will vary according to the level of control being exercised.

2.2 Performance Measurement And Control In The Service Industry

The service industry is diverse and consists of many categories such as; catering, communication, financial services, health care among others. According to Looy et al. (2003) the following categories of service can be traced:

-*Distributive services*: include transportation, communication and trade.
-*Producer services*: involve services such as investment banking, insurance, engineering, accounting, bookkeeping and legal services.
-*Social services*: include health care, education, non-profit organizations and government agencies.
-*Personal services*: include tourism, dry cleaning, recreational services and domestic services.

Until relatively recently in the early nineties, 1991, *(see Fitzgerald et al., 1991)* most analyses of control and performance measurement systems concentrated on the manufacturing industry. There are four key differences between manufactured products and service products, which make the transfer of precepts from one area to another very difficult. These differences are: intangibility, heterogeneity, simultaneity and perishability.

First, most services, unlike manufacturing, outputs are *intangible*. They may be performances rather than objects. Hence measurement in service industries is particularly problematical because many of the outputs are intangible and traditional success measures may be inappropriate.

Second, because service outputs are *heterogeneous* the standard of performance may vary especially where there is a high labour content.

Third, the production and consumption of many services are *simultaneous.* Most services therefore cannot be counted, measured, inspected, tested in advance of sale for subsequent delivery to the customer.

Fourth, services are *perishable*; that is, they cannot be stored.

The service industry were dealt with relatively briefly in the management accounting literature due to the fact that; the problems and institutional arrangements were different, and the control systems seemed less developed than those in manufacturing industry. This point has been buttressed by Sartorius et al. (2006) when they found that the development of performance measures in service companies has not kept abreast with manufacturing counterparts despite their unprecedented growth in the recent decades.

The services sector plays important roles in the economy of every nation hence it cannot be ignored when performance measurements are being considered.

Holm-Olsen (2003) states that the services sector accounts for over 65% of GDP in South Africa showing that the sector is playing an important role in that country's development. In Australia, the production and delivery of services account for more than 70% of GDP and 80% of total employment in 1995 (Feaver and Mahmood, 1997, cited in Anand et al. (2005).

Anand et al. (2005) quoted Chenhall and Smith's 1988 study, which they found that 88 per cent of the Australian firms studied, had adopted the balanced scorecard.

Several factors also might have contributed to the problems of developing controls in the services sector. They include the difficulty of measuring performance outputs (Waweru and Porporato, 2008), the fact that the service industry has been less exposed to competition, certain macro economic factors, and the revolutionary effect of information technology (Sartorius et al., 2006).

In a review of current state of performance measurement it was highlighted that in the United States, performance measurement was first formally reported at the Massachusetts General hospital in 1915. Studies of performance measurement show that Codman's concepts emphasised notions such as maintaining patient records, monitoring performance and examining access to care and were considered new and novel (Loeb, 2004).

2.3 Financial Performance Measurements

Many organizations evaluate the performance and also control the behaviours of their managers and employees through the use of financial measures. Common financial performance measures used include profitability, return on capital employed, economic value-added, revenue growth, cost reduction, and cash flow. These financial measures clarify where a company should focus its efforts, what business processes need to be improved and identify weaknesses of that organisation. Despite all these platitudes, Chaudron (2003) cautions that if senior management focuses only on the financial health of the organisation, several consequences may arise.

Divisionalised companies do not rely on the absolute size of a division's profit but focus on the return on investment (ROI) of a division (that is, profit as a percentage of the investment in a division). ROI expresses divisional profit as a percentage of the assets employed in the division. Among the most common ROI type ratios are; return on equity (ROE), return on capital employed (ROCE) and return on net assets (RONA), Drury (2005).

Relying heavily on ROI measures in a results-control system can cause some problems. One major limitation of the ROI measure is that of inducing sub-optimisation. *"ROI measures can create a suboptimisation problem by encouraging managers to make investments that make*

their divisions look good even though those investments are not in the best interest of the corporation" (Merchant and Van der Stede (2007 p. 420).

To help overcome the sub-optimisation problems of the ROI many researchers have argued for the use of residual income, (Burksaitiene, 2008). The residual income is calculated by subtracting from profit a capital charge for the net assets tied up in the investment center.

Perhaps the greatest criticisms of the financial measures have come from Merchant and Van der Stede (2007 pp 413 - 414). They have identified several reasons why accounting profit measures do not reflect economic income perfectly as follows:

> ➢ *Accounting systems are transactions oriented. Accounting profit is primarily a summation of the effects of the transactions that took place during a given period. Thus most changes in value that do not result in a transaction are not recognised in the income statement.*
> ➢ *Accounting profit is highly dependent on the choice of measurement method. Multiple measurement methods are often available to account for identical economic events. The typical examples frequently cited are the various methods of depreciation and stock valuations where depending of the method used different amounts of profit can be computed.*
> ➢ *Accounting profit is derived from measurement rules that are often conservatively biased. Accounting conventions require slow recognition of gains and revenues but quick recognition of expenses and losses. This is what is termed as the prudence concept in financial accounting.*
> ➢ *Profit calculations ignore some economic values and value changes that accountants feel cannot be measured accurately and objectively.*

Despite the heavy criticisms that the use of financial performance measures has received many organisations continue to use it as the main control measure. Several reasons, according to Merchant and Van der Stede (2007, p253- 254) account for the wide use of financial measures:

First, profits and cash flows ensure the organisations' survival. They also provide returns to investors and are among the primary measures outsiders use to evaluate the organizations' performance.

Second, financial measures provide a comprehensive, summary measure of performance. They aggregate the effects of a broad range of operating initiatives into a single measure, thus reducing the possibility of conflicting signals about the importance of various operating indicators.

Third, most financial measures are relatively precise and objective. They generally provide significant measurement advantages over qualitative and subjective information.

Fourth, financial results controls can provide a relatively subtle or unassuming form of management control. They provide control while allowing those being controlled considerable autonomy. This freedom of action allows managers to adapt their operations to fit their managerial styles, and it may stimulate creative thinking.

Fifth, financial results controls have wide applicability. They can be effective even when management does not know what specific actions are best, as is often the case in uncertain environments and with jobs that require considerable professional judgment.

Finally, the cost of implementing financial results controls is often small relative to that of other forms of management control. This is because the core financial results control measurement elements are largely in place.

It was as a result of the heavy criticisms that the financial performance measures have received that some have argued for the inclusion of non-financial performance measures.

2.4 Non-Financial Performance Measurement

Prior to the 1980s management accounting control systems tended to focus mainly on financial measures of performance. That is only those items that could be expressed in monetary terms were considered, whilst product quality, delivery, reliability, after-sales service and customer satisfaction were not given prominence in the measurement of performance, (Drury, 2007; p999).

Peter Drucker argued that the objectives set by the organisation should be appropriate measures which could be used to continually monitor the organisation's performance against objectives. Since Drucker's work there have been many more authors identifying a range of performance areas which organisations have to control and measure and most of them tend to be non financial performance measures.

Tom Peters in his book *Thriving on Chaos*, cited in Sims and Smith (2004)   states that our fixation with financial measurement leads us to downplay or ignore less tangible non-financial measures, such as product quality, customer satisfaction, order lead time, factory flexibility, the time it takes to launch a new product and the accumulation of skills by labour over time.

Sims and Smith (2004) quotes Sheridan, that UK companies by 1994 were discovering the usefulness of non financial indices such as:

- Quality
- Number of customer complaints and warranty claims.
- Lead times
- Delivery to time
- Non-productive hours.

Measures such as these can be provided quickly for managers, on a daily or even hourly basis. Eccles has been a great critic of the continual use of financial measures to the detriment of non financial measures. In 1991 he came out with the performance measurement manifesto whereby he calls for a move away from reliance on financial data as the only indicators of business performance and the inclusion instead of non financial measures to reinforce competitive strategies.

Eccles' argument has been summarized by Sims and Smith (2004, p437) as follows:

(a) *Managers have tracked non-financial measures such as quality, market share, etc., for many years but these measures have not been given their appropriate status in corporate information and bonus system dominated by financial measures.*
(b) *Granting additional non-financial measures on top of the financial reporting system achieves little because they often conflict and consequently the financial measures again take priority.*
(c) *Financial measures are lagging indicators of performance because they show the outcomes of past investment and strategic decisions and often discourage further strategic investments.*
(d) *Focusing on and rewarding achievement of financial measures alone causes managers to adopt short-termist behaviour to improve their financial performance (e.g. arbitrary cost cutting and under-investment) to the detriment of the long-run development of the firm.*
(e) *Modern competitive strategies based on quality and customer satisfaction, together with the development of benchmarking initiatives, and the improvement in computer power to record and transmit multiple measures, have led to the potential for a revolution in performance measurement.*

CIMA Official Terminology (2005) defines non financial performance measures as measures of performance based on non financial information which may originate in and be used by operating departments to monitor and control their activities without any accounting input. Non financial performance measures may give a more timely indication of the levels of performance achieved than do financial ratios, and may be less susceptible to distortion by factors such as uncontrollable variations in the effect of market forces on operations.

Ittner and Larcker (2003) highlight that only 23% of 157 organizations surveyed consistently build and test causal models, but that these 23% achieved on average 2.95% higher return on assets and 5.14% higher return on equity. In addition, Said, HassabElnaby and Wier's (2003) survey on 144 US firms shows that non-financial measures have positive relationships with stock market returns.

Recognizing the fact that it is not conducive to evaluate the performance of organisations using either financial or non financial measure alone, researchers started to agitate for the use of a combination of both measures.

2.5 Integration Of Financial And Non-Financial Performance Measurements

Financial performance measures are frequently criticised on the grounds that they can lead to many behavioural problems including behavioural displacement, myopia (i.e. focusing on achieving results on the short term) and dysfunctional behaviour in terms of budgetary slack and data manipulation, Merchant and Van der Stede (2007).

With the traditional performance measurement systems; based on financial measures failing to integrate all those factors critical in contributing the rapid development of business excellence, people started agitating for a multi-dimensional performance measures. The balanced scorecard was developed as one of the measures the meet that criteria.

According to the Balanced Scorecard Institute (2008),

> *"Kaplan and Norton describe the innovation of the balanced scorecard as follows: The balanced scorecard retains traditional financial measures. But financial measures tell the story of past events, an adequate story for industrial age companies for which investments in long-term capabilities and customer relationships were not critical for success. These financial measures are inadequate, however, for guiding and evaluating the journey that information age companies must make to create future value through investment in customers, suppliers, employees, processes, technology, and innovation."*

The Balanced Scorecard Institute (2008), describes the Balanced Scorecard, as a strategic planning and management system, which is being used extensively in business and industry as well as in government and non-profit organizations worldwide to align business activities to the vision and strategy of the organization and to improve communication (external and internal) and monitor the performance of the organization against its strategic goals.

Prior to the development of the balanced scorecard, Nanni *et al.* (1992) had presented the idea of integration after McNair, Lynch and Cross (1991, cited in Broadbent, 1999) had come out with the performance pyramid. The performance pyramid draws attention to the principle that performance measures should be appropriate for the interests and levels of management who receive them. Financial and economic measures are likely to be of importance chiefly to the heads of business divisions and the main board. Lower levels in the management will be controlling processes and hence will need non financial measures such as quantities and times Sims and Smith (2004, p449).

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vision and strategy of the organization and to improve communication (external and internal) and monitor the performance of the organization against its strategic goals.

The Balanced Scorecard originated as "a performance measurement framework that added strategic non-financial performance measures to traditional financial metrics to give managers and executives a more 'balanced' view of organizational performance" (The Balanced Scorecard Institute, 2008).

According to Drury (2007, p1001)

> *"the aim of the [balanced] scorecard is to provide a comprehensive framework for translating a company's strategic objectives into a coherent set of performance measures.... A critical assumption of the balanced scorecard is that each performance measure is part of a cause-effect relationship involving a linkage from strategy formulation to financial outcomes".*

Focusing on the literature reviewed above the following hypotheses will be tested:

> *H1: Rural banks are likely to use separate measures to evaluate the performance of the branch managers and that of their branches*
> *H2: Evaluation of branch managers and branches' performances are likely to be based on both financial and non financial performance measures.*
> H3: *The decision to use financial performance measures by the rural banks is likely to be based on internal factors.*
> H4: *The decision to use non financial performance measures by the rural banks is likely to be based on internal factors.*

3. Data And Methodology

This section describes the research design of the study including sample description, variable measurement, data collection and empirical model.

In the business of research, a universe or a population represents a group of potential participants relevant to the research project and a sampling frame or a working population is the list of population elements that can be worked with operationally, (Ticehurst & Veal, 2000). A sample is a subset or some part of a larger population. The process of sampling, therefore, involves any procedure using a small number of items or parts of the whole population to make conclusions regarding the entire population, (Zikmund, 2000). The process of sample selection must be aimed at minimizing bias in the sample.

The study is a small scale study which has relatively few respondents. It is therefore, imperative that all respondents are suitable. As the study is restricted to Ashanti region all the 21 rural banks qualified to form the population and sample for the study. The sample selected is therefore, purposive and biased to the extent that it includes only rural banks in the Ashanti

region. Data for this study were collected from questionnaire, and also from the 2005 to 2009 annual reports of the 21 rural banks in the sample. In this study, the collection of information and analysis of the impact of contingent factors on the selection of performance measures is based on content analysis. This method according to Krippendorf (1990) enables the study of messages in a rigorous and systematic manner.

4. Findings

4.1 Performance Measures Used To Evaluate Branch Managerial Performance And Economic Performance Of The Branches

A substantial majority of respondents (88%, n=15) stated that they use different performance measures to evaluate the performance of their branch managers and economic performance of branches. While only (12%, n=2) indicated that they used the identical performance measures to evaluate the performance of branch managers and the economic performance of branches. Thus the hypothesis*, H1: Rural banks are likely to use separate measures to evaluate the performance of the branch managers and that of their branches,* has been upheld.

This finding is consistent with Drury and El-shishini's (2005) survey on UK-based divisionalised companies. However, the study is inconsistent with what Drury found in his 1994 study of building societies. In his research conducted on UK building societies, Colin Drury, found that there was no evidence to indicate that any of the societies computed two separate measures to evaluate the economic performance of each branch and that of the managers.

The study found out that both financial and non financial performance measures were applied in evaluating the performance of both the branches and their managers. Thus the hypothesis, *H2: Rural banks in Ashanti Region of Ghana are likely to use both financial and non financial measures to measure the performance of their branches and managers* have been upheld.

This finding is also consistent with Drury and El-shishini's (2005) survey on UK-based divisionalised companies.

4.2 Financial Performance Measures

It was assumed for the purpose of the study that more than one financial performance measure may be used to evaluate the performance of branch managers the respondents were given a list of measures that have been identified in the management accounting literature for measuring overall divisional performance. The results for the three most important rankings are summarized in Table 4.1 below.

It can be seen that ability to mobilize target funds was considered to be the most important measure by 35% (n=6) of the branches. The second highest percentage was attributed to ability to stay within budget, (29%, n=5). The third most important measure was achievement of a target cash flow (18%, n=3). Return on capital employed (ROCE) and Residual Income (RI) were

used by 7 (41%) and 5 (29%) banks but were regarded as playing second fiddle to three factors stated above.

Economic value added (EVA), an important financial performance measure was not ranked by any of the respondents at all meaning that it is not well known to the respondents.

Table 4.1 Ranking of three most important financial measures

Financial measure	Most important ranking		Second most important ranking		Third most important ranking	
	No.	Percent	No.	Percent	No.	Percent
(a) Achievement of a target rate of return on capital employed	1	6	7	41	3	18
(b) A target profit after charging interest on capital employed (Residual Income)	1	6	1	6	5	29
(c) A target profit before charging interest on capital employed	1	6	1	6	1	6
(d) A target economic value added	-	-	-	-	-	-
(e) A target cash flow figure	3	18	4	24	2	12
(f) Ability to stay within budget	5	29	1	6	3	18
(g) Target funds mobilized	6	35	3	18	3	18
Total	**17**	**100**	**17**	**100**	**17**	**100**

(source: Developed for current research)

In Drury and El-Shishini's (2005) research, the target profit before charging interest on capital was considered to be the most important measure by 55%. The second most important measure, highlighted by 14% was 'to target profit after charging interest on capital (Residual Income). Their study also found that only 7% of respondents ranked return on capital employed (ROCE) as the most important measure.

The respondents, who stated that they used either, return on capital employed (ROCE), Residual Income (RI) or target profit before interest was asked to indicate how their profit figures were measured. Majority of the respondents (56%, n=5) who answered this question stated that they used profits after charging a share of head office costs and 47% (n=4) stated that they used profit before charging a share of head office costs.

Respondents were also asked to indicate items included in the asset based used in calculating the return on capital employed (ROCE) or Residual income (RI). The results are shown in figure 4.2 below. Fixed assets, inventories, debtors and cash/bank balances were the most frequently used in calculating both ROCE and RI. The assets used in calculating these ratios were net book values (i.e. after deducting depreciation).

In setting targets for the branches the respondent indicated that both head office management (88%) and branch management (82%) took part all the time.

Table 4.2 Asset base used in calculating ROCE and RI

Asset base used	Return on capital employed (ROCE)		Residual Income (RI)	
	Number	**Percentage**	**Number**	**Percentage**
Cash/Bank	5	63	4.00	57.14
Debtors	5	63	5.00	71.43
Inventories	7	88	7.00	100.00
Fixed Assets	8	100	7.00	100.00
A pro-rata share of corporate headquarters assets	2	25	1.00	14.29
Other (please specify)	-	-	-	-

(source: Developed for current research)

Table 4.3 Valuation base used in calculating ROCE and RI

Valuation base used	Return on capital employed (ROCE)		Residual Income (RI)	
	Number	Percentage	Number	Percentage
Historical cost less depreciation (net book value)	8	100	7	100
Historical cost before depreciation (gross book value)	2	25	2	29
Current value, replacement cost or other departure from historical cost	-	-	-	-
Other (please specify)	-	-	-	-

(source: Developed for current research)

4.3 The Impact Of Contingent Factors

This section of the data analysis adopts the contingency theory framework as it enables the researcher to do statistical analysis depending on the selected factors.

The main dependent variables that the study intended to research into are the selection of either financial or non financial performance measures.

Before running the regression analysis there was the need to verify the correlation between the variables. Table 4.4 reports on the Spearman's rho correlation indices for all the test variables. The Spearman's rho is very commonly used by researchers. This has been used because of the small sample size and the Spearman's rho will help in getting a clear result. It has been suggested by Bryman and Cramer (2007) that Spearman's rho is a powerful non-parametric method dealing with data, which means they can be used in a wide variety of contexts since they make fewer assumptions about variables.

The analysis shows that working capital ratio (WCR) has a significant relationship with current ratio (CUR) at 5% level (p=0.000). Return on capital employed (ROCE) also has a significant relationship with operating profit margin (OPM) at 5% level (p=0.003). The other variables do not seem to have relationship among each other. These results indicate the need to pay attention to possible multi-co linearity problem in the regression analysis.

		CUR	WCR	ROCE	OPM	ROSC	FINPM	NFPM	ALCM
CUR	Correlation Coefficient	1	0.884**	0.195	-0.188	0.235	0.344	-0.344	-0.538
	Sig. (2-tailed)	.	0.000	0.454	0.470	0.365	0.176	0.176	0.026
	N	17	17	17	17	17	17	17	17
WCR	Correlation Coefficient	0.884	1	0.302	-0.355	0.023	0.331	-0.331	-0.633
	Sig. (2-tailed)	0.000	.	0.239	0.162	0.931	0.194	0.194	0.006
	N	17	17	17	17	17	17	17	17
ROCE	Correlation Coefficient	0.195	0.302	1	-0.669	0.059	0.237	-0.237	0.031
	Sig. (2-tailed)	0.454	0.239	.	0.003	0.822	0.359	0.359	0.904
	N	17	17	17	17	17	17	17	17
OPM	Correlation Coefficient	-0.188	-0.355	-0.669**	1	-0.318	-0.240	0.240	0.239
	Sig. (2-tailed)	0.470	0.162	0.003	.	0.214	0.354	0.354	0.356
	N	17	17	17	17	17	17	17	17
ROSC	Correlation Coefficient	0.235	0.023	0.059	-0.318	1	0.238	-0.238	0.205
	Sig. (2-tailed)	0.365	0.931	0.822	0.214	.	0.358	0.358	0.429
	N	17	17	17	17	17	17	17	17
FINPM	Correlation Coefficient	0.344	0.331	0.237	-0.240	0.238	1	-1.000	0.040
	Sig. (2-tailed)	0.176	0.194	0.359	0.354	0.358	.	0.000	0.879
	N	17	17	17	17	17	17	17	17
NFPM	Correlation Coefficient	-0.344	-0.331	-0.237	0.240	-0.238	-1.000	1	-0.040
	Sig. (2-tailed)	0.176	0.194	0.359	0.354	0.358	0.000	.	0.879
	N	17	17	17	17	17	17	17	17
ALCM	Correlation Coefficient	-0.538	-0.633	0.031	0.239	0.205	0.040	-0.040	1
	Sig. (2-tailed)	0.026	0.006	0.904	0.356	0.429	0.879	0.879	.
	N	17	17	17	17	17	17	17	17

*Correlation is significant at the 0.01 level (2-tailed).
**Correlation is significant at the 0.05 level (2-tailed).

A regression analysis was performed on the dependent and independent variables to check on the existence of the multi-co linearity and serial or autocorrelation problems. In a multiple

regression model, multicollinearity exists when two independent variables are perfectly correlated with each other. Drury (2007, p1046) sums up the multicollinearity in multiple regression analysis as follows:

Multiple regression analysis is based on the assumption that the independent variables are not correlated with each other. When the independent variables are highly correlated with each other, it is very difficult, and sometimes impossible, to separate the effects of each of these variables on the dependent variable. This occurs when there is a simultaneous movement of two or more independent variables in the same direction and at approximately the same rate".

Methods for correcting multicollinearity include computing variable inflation factor (VIF), dropping one or more of the independent variables from the model or enlarging the sample size. Since it is not possible to increase the sample size at this stage of the research, the first two methods were adopted. As a rule of thumb a variable inflation factor (VIF) in excess of 5 is considered an indication of harmful multi-co linearity, Zikmund et al. (2010, p588). All the VIF are less than 5 and the average VIF is 1.201 therefore it can be said that there is no multi-co linearity problem for the model. The results of the regression analysis can therefore be interpreted with a greater degree of confidence.

The Durbin -Watson statistic was also used to test for autocorrelation. The Durbin-Watson value of 1.439 indicates that the data has no serial correlation or autocorrelation problem.

To test whether the application of these variables are based on contingent factors (financial ratios) such as ROCE, size, liquidity, investment and profitability a multiple regression analysis (step wise method) was conducted. The step wise regression is an iterative procedure that adds or deletes one independent variable at a time. The decision to add or delete a variable is made on the basis whether that variable improves the model (Keller and Warrack, 2005). The financial statements of the respondent banks were used to rank the banks on the selected variables. The published financial statements of the respondent banks for the periods 2004 to 2008 were used. The decision to use the 5-year averages is that financial ratio values may fluctuate from one year to the other. Thus it is possible for financial ratios computed with data for a single year to be influenced by some temporary unusual circumstances occurring in that year and may thus not represent the true and fair view (financial characteristics) of the firms. Meric et al. (2008). The use of financial characteristics (ratios) to compare the financial characteristics of different firms has long been a widely used research methodology in Management accounting. The popular ones being the Altman's 1968 and Deakin's 1972 studies to compare the financial characteristics of bankrupt firms and non bankrupt firms.

5. Factors That Influence The Decision To Use Financial Performance Measures

The findings of the study shows that majority of the respondent banks prefer to use financial measures to evaluate the performance of their branches. It is therefore expected that the decision to use these measures will be based on internal factors such as Leverage, profitability

and liquidity. Though the use of such internal factors has been criticised by Johnson and Kaplan, by saying that, the reliance on financial accounting-based information for internal performance measurement is unfair; researchers continue to use them as explanatory variables. To them the information may be appropriate for external reporting but is questionable for internal performance and evaluation (Drury, 2005).

The multivariate test used to test hypothesis *H3* and *H4* is the standard multiple regression analysis and the regression model is:

$Y_1 = a + \beta 1\ X1 + \beta 2\ X2 + \beta 3\ X3 + \beta 4\ X4 + \beta 5\ X5 + e$

Where:

Y_1 = Financial Performance measurement

a = constant (the intercept).

X1 = Current ratio (Current assets divided by current liabilities)

X2 = Working Capital ratio/Debtor turnover (Average debtors divided by interest income)

X3 = Return on Capital Employed (Earnings before interest and tax divided by net assets).

X4 =Operating Profit Margin (profit before interest and tax divided by interest income)

X5 = Return on Shareholders' Capital (Profit after tax divided by shareholders' funds)

e = error term.

Table 4.5: Multiple regression results for Hypothesis 3: *The decision to use financial performance measures by the rural banks is likely to be based on internal factors*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.893(a)	.798	.769	.210	1.439

a Predictors: (Constant), Operating profit margin

From the model summary above, the R (0.893) is the multiple correlation coefficient and it indicates the degree of the relationship or association between the dependent and the independent variables. The R^2 (R square) also known as the coefficient of determination, measures the percentage of variation in the dependent variable that is explained by changes in the independent variables. The R^2 value (0.798) shows the amount of variance in the dependent variable, financial performance measure that can be explained by the independent variable, operating profit margin. The coefficient of determination being 0.798 means that 79.8% of the variability in the use of financial performance measures can be explained by the variability in the operating profit margin of the rural banks. The adjusted R^2 (.769) adjusts for a bias in R^2 as the number of variables increases. The standard error of estimate is a measure of the variability of the multiple correlation. The ANOVA tests the significance of each regression model to see if the regression predicted by the independent variables explains a significant

amount of the variance in the dependent variables, (Hinton et al., 2008). The Durbin-Watson statistics of 1.439 is less than 5 and therefore implies that there is no auto correlation.

ANOVA (b)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.739	1	1.739	19.760	.000(a)
	Residual	1.320	15	0.88		
	Total	3.059	16			

a Predictors: (Constant), Operating profit margin

b Dependent Variable: Financial performance measure

From the ANOVA table, the sig. (*p* value) = 0.000. As $p < 0.05$ the predictor variable, operating profit margin is significantly better than would be expected by chance. The regression line predicted by the independent variable explains a significant amount of the variance in the dependent variable, [$F(1,15) = 19.760$; p< 0.05].

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.036	0.129		7.998	0.001
	Operating profit margin	0.049	0.017	0.345	2.858	0.013

A   Dependent Variable: Financial performance measure

The unstandardized coefficients B column gives us the coefficients of the independent variable, operating profit margin, in the model. Model 1: Financial performance measure = 1.036 + 0.049 operating profit margin.

The standardized beta coefficient (0.345) informs us of the contribution that the variable makes to the model. The regression model explained 76.9 per cent (adjusted R square) of the variance in the dependent variable ($F = 19.7$, $p = 0.01$ two-tailed). The data indicated that an unstandardized coefficient beta for operating profit margin is positive ($\beta_2 = 0.345$) and it is significant since $p = 0.013$ (two-tailed). Thus, Hypothesis *the decision to use financial performance measures by the rural banks is likely to be based on internal factors* was accepted.

The results of the multiple regression analysis (figure 1) above shows that there is a significant positive coefficient (0.049) between the operating profit margins of the banks and the decision

to use financial performance measures. The positive coefficient shows that as those banks profit increases they expect their branches to contribute positively towards that direction. Hence the decision to use financial measures to measure the performance of their branches Thus the hypothesis H3: *The decision to use financial performance measures by the rural banks is likely to be based on internal factors,* is upheld.

A firm's performance to most stakeholders is based on its ability to generate more profits and also by how much this year's profit is bigger or smaller than last year's profit. The profit margin is one of the most important profitability ratios as it states the profit as a percentage of the income generated over the period. This results from the fact that the higher profitability of those banks would aid them to efficiently and timely meet their financial obligations.

Traditionally, corporate headquarters may wish to compare a division's economic performance with that of comparable firms operating in the same industry. Despite the fact that divisional net profit is said to be not a good measure for evaluating managerial performance it is still being used. Thus this study has just confirmed what is happening in practice.

It is also true to suggest that firms hold managers accountable for divisional net profit because this is the measure that investors focus on to evaluate the performance of the company as a whole.

The findings of the study therefore support Drury's (2005) assertion that the use of financial performance measure for divisional performance evaluation is to ensure that performance measures are consistent with external financial accounting information that is used by the financial markets to evaluate the performance of a company as a whole.

Drury (2005, p24) quoted Skinner as saying that in one company (in New Zealand) the accountant could indicate no reason for the use of profit as a performance measure, other than that it was regarded as the accepted way of measuring divisional financial performance. This shows that the selection of financial performance measures is seen as an institutional way of doing things (Drury, 2005).

6. Factors That Influence The Decision To Adopt Non Financial Performance Measures

A multiple regression analysis was used to test the hypothesis: *H4: The decision to use non financial performance measures by the rural banks is likely to be based on internal factors*
The multivariate test used is the standard multiple regression analysis and the regression model is:

$Y_2 = a + \beta 1\ X1 + \beta 2\ X2 + \beta 3\ X3 + \beta 4\ X4 + \beta 5\ X5 + e$
Where:
Y_2 = Non-Financial Performance measurement
a = constant (the intercept)
X1 = Current ratio (Current assets divided by current liabilities)
X2 = Working Capital ratio / debtor turnover (Average debtors divided by interest income)

X3 = Return on Capital Employed (Earnings before interest and tax divided by net assets).
X4 =Operating Profit Margin (profit before interest and tax divided by interest income)
X5 = Return on Shareholders' Capital (Profit after tax divided by shareholders' funds)
 e = error term.

Table 4.5: Multiple regression results for Hypothesis 4: *The decision to use non financial performance measures by the rural banks is likely to be based on internal factors.*
Model Summary (b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.733(a)	.538	.507	.307	1.241

a Predictors: (Constant), Working capital ratio
b Dependent Variable: Non financial performance measure

The R^2 value (0.538) shows the amount of variance in the dependent variable, non financial performance measure, which can be explained by the independent variable, working capital ratio.

From the model summary above, the R (0.733) is the coefficient of correlation and it indicates the degree of the relationship or association between the dependent and the independent variables.

The R^2 (R square) also known as the coefficient of determination, measures the percentage of variation in the dependent variable that is explained by changes in the independent variables. The coefficient of determination being 0.538 means that 53.8% of the variability in the use of non financial performance measures can be explained by the variability in the working capital ratio of the rural banks.

The Durbin-Watson value of 1.241 indicates that the data has no serial correlation or autocorrelation problem.

ANOVA (b)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.646	1	1.646	17.464	.001(a)
	Residual	1.413	15	.094		
	Total	3.059	16			

a Predictors: (Constant), Working capital ratio
b Dependent Variable: Non financial performance measure

From the ANOVA table, the sig. (*p* value) = 0.001. As *p* < 0.05 the predictor variable, working capital ratio is significantly better than would be expected by chance. The regression line predicted by the independent variable explains a significant amount of the variance in the dependent variable, [F(1,15) = 17.464; p< 0.05].

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.236	0.135		1.746	0.101
	Working capital ratio	0.068	0.016	0.733	4.179	0.001

A   Dependent Variable: Non financial performance measure

The unstandardized coefficients B column gives us the coefficients of the independent variable, working capital ratio, in the model. Model 1: Non financial performance measure = 0.236 + 0.068 working capital ratio.

The standardized beta coefficient 0.733 informs us of the contribution that the variable makes to the model. The regression model explained 50.7 per cent (adjusted R square) of the variance in the dependent variable (F = 17.464, p = 0.001 two-tailed). The data indicated that an unstandardized coefficient beta for working capital ratio is positive ($\beta2$ = 0.733) and it is significant since p = 0.001 (two-tailed). Thus the hypothesis *H4: The decision to use non financial performance measures by the rural banks is likely to be based on internal factors,* is upheld. The results of the multiple regression analysis show that there is a significant positive coefficient, standardised beta (0.733) between the working capital ratio of the banks and the decision to use non financial performance measures. A high liquidity level reduces a firm's ability to meet its short term obligations e.g. interest payments on debt. However, if the liquidity level is too high, it can adversely affect the firm's profitability.

Since those banks that use non financial performance measures expect their branches to maintain appropriate liquidity levels they have no option but to use the working capital ratio to measure the performance of their branches.

The findings of this study is inconsistent with Gumma Fakhri, Karim Menacere , Roger Pegum's (2009, p13) findings on Libyan banks, that "size of bank is positively correlated with non financial performance measures while it is so with financial performance measures but it is not significant".

In their study of Japanese banks Hussain and Hoque (2002) found that several institutional features were influential in the banks' implementation of a particular performance measurement system including the central bank's regulatory control, bank size, and

competition. Thus their study confirms the fact that bank size determines the use of non financial performance measures.

In this study operating profit margin and working capital ratios are the significant variables that determine the use of financial and non financial performance measures.

7. Conclusions And Implications Of The Findings

Even though the study found out, in consistent with management accounting theory, that both financial and non financial performance measures are used to evaluate the performance of their branches there is heavy reliance on financial measures. Though financial measures were heavily used, Economic Valued Added (EVA), an important financial measure which has been recommended as a measure of business unit performance since the 1920's when General Motors adopted it, was not used. The implication is that it is not known to the managers of the rural banks.

The management of the rural banks should be trained in the use of the EVA as it will help improve on their performance. By assessing a charge for using capital, EVA raises managerial awareness of the need for care in the management of the statement of financial position as well as the statement of comprehensive income, and helps them to properly assess the trade-offs between the two.

EVA has the advantage of being conceptually simple and easy to explain to non-financial managers, since it starts with familiar operating profits and simply deducts a charge for the capital invested either in the company as a whole, or in a business unit, or office. In addition EVA is closely analogous to the concept of residual income (RI) which is both widely practised and well established in management accounting literature as a measure of divisional performance. It measures corporate performance in terms of changes in value. It advocates that common profits alone is insufficient, as a company should generate sufficient profits to cover its cost of capital and surplus left over for growth (Reddy and Satish, 2001).

One of the criticisms of traditional financial performance measures deals with their failure to measure and monitor multiple dimensions of performance. Researchers therefore, argue that non-financial performance measures are necessary for operational control purposes. It is therefore being suggested that traditional financial performance measures should be supplemented with non financial performance measures, such as; customer satisfaction, social responsibility, investing in new state of the art technology, product development and employee turnover.

One measure that has been developed to integrate both financial and non financial performance measure is the balanced scorecard. Despite the popularity of the balanced scorecard it is surprising to note that none of the respondents have ever used this as a performance measure. The implication of this is that knowledge of this performance measure is very low among the respondents. It must be noted that the purpose of performance

measures is to communicate the firm's objective to the employees, monitor their progress and provide feedback to senior management. There is the need therefore, for the rural banks to consider the introduction of the balanced scorecard as a performance measure as it will help introduce multiple dimensions of performance.

The importance of the balanced scorecard, as a performance measure, is that it supports the development of a consensus around the firm's vision and strategy, allowing managers to communicate the firm's strategy throughout the organization and forces managers to focus on the handful of measures that are most critical. This communication ensures that employees understand the long-term strategy, the relations among the various strategic objectives, and the association between the employees' actions and the chosen strategic goals. The Scorecard measurements therefore help crystallize an organization's strategies, communicate them, and help align everyone toward common goals.

The balanced scorecard also help firms allocate resources and set priorities based on the initiatives' contribution to long-term strategic objectives, and to provide strategic feedback and promote learning through the monitoring of short-term strategic results according to Kaplan and Norton, the developers of the scorecard concept.

The scorecard features the idea that management's strategies should give explicit attention to the causal relationships between leading indicators (causes) and lagging indicators (effects). In summary the adoption of the balanced scorecard by the rural banks will achieve the following goals according to Kaplan and Norton.

> ➢ The adoption of the balanced scorecard will facilitate learning within the banks. The measurement tools, depicted by the four perspectives will help assess how well the strategies of the banks are being implemented by the branches, i.e. where the branches are performing well and where they are under-performing.
> ➢ The adoption of the balanced scorecard will help align action to strategy. The performance measures developed will help to clarify the organisation's goals and strategic objectives and align action to strategy.
> ➢ The balanced scorecard will stimulate action in the most important areas of the rural banks. The measurement tools developed will help to focus attention and channel adequate resources quickly to the areas identified as critical to achieving the goals of the organization.
> ➢ The balanced scorecard will influence behavior within the rural banks. Identifying the appropriate performance measurement tools and indicators will influence behavior of staff within the rural banks towards achieving the goals of the organization.

7.1 Implication Of Findings To Regulators

Even though the Bank of Ghana guidelines on the selection of people to the Board of Directors and Management suggest that they should come from the locality where the bank is situated,

there is the need to engage people with the right qualifications who understand concepts like the balanced score card so that they will be able to implement them.

Refresher courses should be organised for those already in the system so that they can improve on their knowledge on terms like the balanced scorecard. The ultimate beneficiary of such courses will be the bank as the learners will bring their experiences to bear on the direction of the bank.

7.2 Implication Of The Findings To Managers

According to the developers of the balanced scorecard, in order to survive in this era of high competition firms cannot ignore the importance of non financial measures along with financial measures for improving firm performance in the long term (Kaplan and Norton, 1996).

The use of the balanced scorecard can help the rural banks improve on their services in particular and performance in general, in the following ways:

- *Customer's Perspective:* There is the saying in marketing that, 'customers are always right'. In fact the main job of a bank is to provide service to its customers, hence customers' satisfaction is the prerequisite to the success of a bank. To achieve this goal an opinion survey of the customers on factors like; time taken for cashing cheque; evaluation time on loan application; hidden cost of loan granting and attitude towards phone banking, etc should be undertaken. The outcome of the survey can help the rural banks improve on the service offered to their customers.
- *Internal Business Perspective;* Implementation of good credit policy, development of efficient human resources through training and re-training and the use of the state of the art technology can be considered as some important aspects of qualitative performance of a bank and will thus have an important impact on the overall performance of the bank.
  Banks that have adopted state of the art technology in banking are now reaping high growth in operating profits, hence there is the need for the rural banks to go in for such technologies to help improve on their performances.
- *Innovation and learning:* Factors like well organised staff, good banker-client relationship, on-line banking system and internet banking which can be classified under innovation and learning are important to improve the performance of the banks in the years ahead hence should be considered. There is the need for the rural banks to introduce new products like internet banking, on-line banking, etc. to enable their customers to be fully satisfied and also to earn more income through product diversification.

In the preceding analysis it has been observed that the rural banks rely heavily on financial measures but they should consider the use of the balanced scorecard. Under the Balanced scorecard, both financial ratios and qualitative factors like, customer satisfaction, implementation of credit policy, human resource development, technological improvement and

product diversification are treated equally as important when the performance of banks are being measured hence should be considered.

The results of this study also have implications for lecturers of management accounting.

Lecturers of management accounting should double their efforts in helping their students acquire knowledge in concepts like Balanced Scorecard, for it is only when the concept has been well taught in the lecture rooms will students be able to implement them at the work place.

7.3 Contribution To Theory

The conclusions reached by this research resulted in several significant research contributions being made to the field of performance measurement and management accounting in a number of ways.

Contrary to what Drury found in his 1994 study that firms in the financial services industry (building societies) do not use separate measures to evaluate the performance of branches and managers, the study has proved otherwise, as separate measures are being used by the rural banks in Ashanti region of Ghana.

Though both financial and non financial performance measures are being used, there is more reliance on financial measures than non financial measures. Thus rural banks in the Ashanti region of Ghana though use both financial and non financial performance measures there is heavy reliance on financial measures.

The study also found out that the decision to use financial and non financial measures are based on the profitability levels and liquidity, of the rural banks. This is significant in the sense that an earlier study in Libya, by Gumma Fakhri, Karim Menacere, Roger Pegum (2009), they have identified different contingent factors namely; organizational structure, level of competition, size of bank, and business strategy of banks as having influence on the use of performance measures in banks in Libya.

7.4 Suggestions For Further Study

One of the weaknesses of this study is the limited scope of the empirical findings. The quality of the information gathered from the seventeen rural banks participating in the study has been satisfactory, but more rural banks outside the geographical area can be studied to perhaps open up for opportunities to generalize the conclusions reached. This is a suggestion for further study.

Another aspect which could be studied more in detail is how the traditional (universal banks) banks measure the performance of their branches and compare the findings with the rural

banks. This when done will help us check whether there are differences between the two institutions' performance measures.

The balanced scorecard is not known to the rural banks, according to the study, there is the need therefore to conduct further study to find out whether the same situation applies in other firms, outside the financial services sector, in the country.

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