# A SURVEY OF PERFORMANCE MEASUREMENT SYSTEMS USED IN COMMERCIAL BANKS OPERATING IN KENYA.

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BY

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A Research projected submitted in partial fulfillment of the requirements for the award of the degree of Master of Business Administration Faculty of Commerce University of Nairobi.

2005

## DECLARATION

I declare that this is my original work and has not been presented for a degree in any other University.

**Signature** ..... ...01.../ .....12..... / **2005**

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This project has been submitted for examination with my approval as University supervisor.

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## DEDICATION

I would like to dedicate this paper to my lovely wife Christine for her consistent inspiration and encouragement and our beloved late daughter Chelsey.

## ACKNOWLEDGEMENT

Several people have contributed to the success of this project either through constructive contributions, suggestions and continuous feedback. This space is not enough for me to thank all of them personally but their efforts shall remain forever recognized.

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## LIST OF ABBREVIATIONS

ATM Automated Teller Machine.
BSC Balance Score Card
CBK Central Bank of Kenya
JIT Just in Time
PMS Performance Measurement System
PM Performance Measurement
TQM Total Quality Management

## ABSTRACT

This study aimed at identifying the performance measurement systems used by commercial bank operating in Kenya. The study sought to identify the performance measurement systems and the factors influencing the choice of a particular system. The systems are both modern and traditional.

The study instrument was the questionnaire; the questionnaire was distributed to 38 of the 43 commercial banks operating in Kenya out of which 36 were returned. Several approaches were then used to analyze the data after coding them; these included a regression function and descriptive analysis. From the results, identification of the various traditional and modern measurement systems that are used by commercial banks operating in Kenya was made.

The findings from descriptive and discriminant statistical analysis established the various performance measurement systems used by commercial banks operating in Kenya and the factors influencing the choice of such systems. Findings suggest that, banks are still using the traditional performance measurement systems like profitability, liquidity and ratio analysis in their day to day operations. Some banks have also complemented the traditional systems with the modern performance measurement systems such as the balanced scorecard which is frequently used in operations. The factors influencing the choice of such systems depended on the company culture, management belief, company size among others.

# CHAPTER ONE: INTRODUCTION

## 1.1 BACKGROUND

Performance measurement was used throughout the ages to describe the activities of most institutions. Its importance was observed mainly in the manufacturing set-up. As firms developed, it was necessary to ascertain that resource use was optimal; this ensured that raw materials for production were always in abundance. As organizations developed and began competing for the same scarce resources, it became necessary to avoid wastage. All this developments laid important frameworks for firms to want to consider the use of performance measurement in the management of scarce resources.

Firms increasingly started to measure output and this laid an important framework for work related measurements (Ghalayini and Noble 1996). Performance measurement was widely used in all sectors of the economy including the service industry. Banks formed an important component of this sector because of their constant interaction with customers; customers on the other hand had become more knowledgeable and were time conscious hence, service delivery had been a factor of extreme importance to them. All this arguments stressed the fact that performance measurement was very important in the service sector, both profit-making as well as non-profit making set-ups.

### 1.1.1 Concept of performance measurement

Tangen (2004) pointed out that, measurement of performance and productivity had garnered significant interest recently among both academics and practitioners, with much progress made on establishing performance management systems (PMSs), which include a portfolio of measures aimed to balance the more traditional, single focus view on profitability. Neely (1999) noted that business performance measurement has for a long time been on the management agenda, but argues that, what is not immediately obvious is why business performance measurement is on the agenda. It has long been recognized that performance measures are an integral part of the planning and control cycle (Barnard, 1962) and managers must have been planning and controlling the deployment of resources since the first organization was established.

Neely et al. (1995) defined performance measurement as the process of quantifying action, where measurement is the process of quantification and action correlates with performance. They further propose that performance should be defined as the efficiency and effectiveness of action. On the basis of these definition, Tangen (1999) proposed three definitions of performance measurement: the process of quantifying the efficiency and effectiveness of action; a metric used to quantify the efficiency and/or effectiveness of an action; and the set of metrics used to quantify the efficiency and effectiveness of an action.

Conclusively, Performance measurement can be defined as is the process of defining expectations for performance, measuring, evaluating, and recording performance relative to those expectations, and providing feedback. Some of the concepts of performance measurement include quality improvement, process improvement, efficiency and, for compensation purposes. All these contribute in the successful measurement of performance. Performance measurement is a broad concept that helps us determine the systems to use in organizations. Performance measurement systems are important in all organizations and their study can give an indication of the extent of their use.

### 1.1.2 Structure of the Banking Industry in Kenya

Beecham (1986) defines a bank as an institution that accepts deposits and gives out loans. Banks accept these deposits as a way of mobilizing their liquidity. Banks in turn use these deposits to enter into investments, which earn for them profits. According to the Banking Act chapter 488 of the laws of Kenya year 2002, a bank is a company, which carries on or proposes to carry on banking business in Kenya. Most of these banking activities have a bearing on the effective working of market forces. These are the forces of demand and supply that maintain a state of equilibrium in the market place. These activities are of a commercial nature, hence the naming of banks as commercial enterprises. At the end of January 2005, the banking sector in Kenya comprised of 43 commercial banks, several non–bank financial institutions, mortgage finance companies and building societies (CBK report January 2005). There are also smaller financial institutions classified as building societies. Their cheques are cleared through other bigger banks.

Finally, we have in the same category smaller Saccos which are not governed by prudential guidelines but operate as bankers for specific people e.g. farmers, teachers etc.

Needly (1999) attributes the sudden change and interest in performance measurement to seven main reasons: the changing nature of work; increasing competition; Specific improvement initiatives; quality awards; changing organizational roles; changing external demands; and the power of information technology. The banking industry has become very competitive as seen in the various strategies they have adopted to outdo each other. These strategies are dependent on several factors some of which the study will seek to find out. Banks have also been in the forefront of looking for better ways of doing things. This is with the intention of increasing operational efficiency.

With Internet banking, customers are able to send files containing salary advices of employees at the click of a button. This method is very fast and reliable thereby leading to faster turnaround times. The Kenswitch is another product that enables banks to share resources owing to the fact that Automated teller machines are quite expensive. In this approach, several banks put their resources together to buy Teller machines for use outside the Bank. This approach has seen banks cashing in on extra revenues, hence more profits. Examples of banks that are members of the kenswitch facility include, Consolidated bank, Equity bank, Family finance and K-rep bank.

Resources are quite important hence avoidance of wastage is key. By doing so, a framework was developed which allowed measurements in terms of speed, efficiency, reliability and performance. This achieved the important point of ensuring that performance was measurable and comparable to others. Banks would like to know whether all these changes mentioned above are giving them increased operational efficiency hence, this study.

## 1.2 STATEMENT OF THE PROBLEM

The study attempted to examine performance measurement systems with a view of identifying the various performance measurement systems used in the banking sector and their associated roles. Various approaches have emerged and have been used to measure performance. The

emergence of these systems has been prompted by various criticisms leveled against traditional performance measurement systems; amongst them their emphasis on quantitative/financial measures, they are more focused on the past (McNair et al., 1990); they do not provide adequate information for productivity measurement and improvement programs (Banker et al., 1989); and are lagged performance indicators as they are largely historical in nature, thus by definition, reporting on activities that have occurred already (Clinton and Hsu, 1997; Eccles and Pyburn, 1992; McNair et al., 1990); traditional measurement systems have also been argued not to be externally focused (Kaplan and Norton, 1992); are inappropriate in modern operating (environmental) settings (Drucker, 1990); and have been accused of saying nothing about critical factors, such as customer service innovation, the percent of first-time quality, and employee development, that actually help grow market share and profits (Birchard, 1995). The modern approaches therefore are geared towards addressing these weaknesses of the traditional measurement systems and looking at the organization in totality by embracing key factors that determine productivity.

Some of the measures of performance that the study will use will assist in the identification of the performance measurement systems. Key among them is the balanced scorecard (Kaplan and Norton, 1996); SMART (Lynch and Cross, 1991); Performance Measurement Matrix (Keegan et al, 1989); Integrated Dynamic PMS (Ghalayini et al., 1997). These measurement systems attempt to link performance of individuals by looking at it from several perspectives i.e. Financial, customer, business and the learning and growth perspective. Measures of performance are both financial and non-financial. Financial measures examine issues such as profitability and rate of capital employed. The non-financial measures include measures of efficiency, customer satisfaction, among others.

Hence, there is need to explore ways of measuring this productivity while taking care of individual operational productivity From the foregoing, it is necessary to conduct a study that will be able to measure performance effectively. The operating environment for banks has changed such that there is a need to understand the performance measurement systems used in the competitive environment, changing banking sector and the systems being used.

A Number of researches in the area of performance measurement have been conducted in the past; Makori (2002) examined strategic performance measurement within a manufacturing context. He postulated that while measuring performance, certain models were key namely the smart systems, performance measurement questionnaire, the balanced scorecard and the six sigma. Odadi (2002) was another attempt to measure performance; generally, he dwelt on financial as opposed to operations performance measurement. His argument was that firms need to be measured from the financial perspective which includes the financials, i.e. costs, capital employed etc. Thuku (2002) subscribed to the same views as Odadi (2002) only that he listed down the accounting financial measures of performance plus an examination of the contemporary measures of corporate performance.

Another contribution in this research area came from Nyamwange (2001) he stressed that firms in their quest to improve performance, have to look at basic operations principles; these principles include quality, cost, delivery/speed, time, reliability, flexibility and innovativeness. Amimo (2003) took Nyamwange's argument further to incorporate other principles of performance management. This range from performance improvement, employee development, needs satisfaction and communication. His main point was that performance management should be done under strict ethical considerations.

Githaiga (2003) touched on the financial measures of performance and the themes of total quality management. Another research conducted by Muthungu (2003) evaluated the financial performance of commercial banks in Kenya. He studied such terms as the banking sector, business and capital. He stressed some factors as influencing the performance of the banking sector as the economic situation, political-legal system, levels of employment, technology and management style.

Most of the research in the banking sector has not been conducted locally but outside the country and has touched on performance measurement systems as applied in the banking environment. Banks that are managed using integrated balanced performance have superior stock process (Gates, 1999). Goodman et al (1994) posit that the traditional cost accounting systems of measuring performance were not reliable enough to provide richness of information to allow

companies to remain competitive in the market place. Dixon et al (1990) also subscribed to the above view. Geanuracos and Meiklejohn (1993) took this argument further by stressing that financial indicators only show where a company has been, not where it is headed.

From the foregoing, no research has been done on performance measurement systems in the commercial banking sector in Kenya. This study therefore sought to establish the systems used by commercial banks in measurement of performance in the banking sector of Kenya. It also sought to establish the factors influencing choice of the performance measurement system.

## 1.3 OBJECTIVES OF THE STUDY

a. To establish the Performance measurement systems used in banking operations in Kenya and
b. To identify the critical issues influencing the choice of a performance measurement system to be used.

## 1.4 IMPORTANCE OF THE STUDY

This study will be useful to the following groups:

a. Academicians/ Researchers.

   Findings from this research will assist academicians in broadening of the syllabus with respect to this study hence providing a deeper understanding of the systems used.

b. Individual Banks.

   Banks which are lagging behind in this system implementation may have a chance to re-evaluate their present systems while other banks may use this findings in the development of better models.

c. Central Bank.

   Since it is vested with the role of ensuring uniformity in service delivery, Central Bank can use the findings in the development of standards to be used while measuring performance of commercial Banks.

d. Government.

The government can use findings from this research to assist in policy formulation and development of a framework for measuring the performance systems.

e. Individual Companies.

Such findings on the choice of performance measurement systems may assist the individual companies in aligning the systems to their vision and mission statements. This will assist in goal congruence, hence higher profit maximization.

# CHAPTER TWO: LITERATURE REVIEW

## 2.1 OVERVIEW

Performance is a measurement of relative investment and is relative to assets, capital adequacy, liquidity and liability (Walter, 1999). McAdam and Bannister (2001) studied performance measurement within a Total Quality Management framework; they insisted that within the Quality framework, "measures must include hard and soft parameters and that both management and their subordinates perceive measures".

Performance measures expressed this way almost always convey more information than the single-dimensional or single-unit performance measures. Ideally, performance measures should be expressed in units of measure that are the most meaningful to those who use or make decisions based on those measures. Most performance measures can be grouped into one of the following six general categories depending on the organizations mission: Effectiveness, Efficiency, Quality, and Timeliness, Productivity, Safety.

Kennerly and Neely (2002), summarize this concept quite clearly, they stress that measurement systems should be dynamic; a lot of attention has been paid to find out what should be measured today as opposed to what should be measured tomorrow. By doing so, managers find themselves preoccupied with activities that are not value adding. Kuwait (2004) co-joined the two terms, Performance and measurement while examining the design of newly created organizations. His main argument was that the two were interlinked operationally especially when in collaboration with other processes.

Other modern writers have also written on performance measurement from a manufacturing and financial set up; Shah and Ward (2003) looked at manufacturing from a lean perspective and the effect of lean bundles on operational performance. The lean bundles include: Just In Time, Total Quality Management and Human Resources Management. Ahmad and Schroeder (2003) concentrated their studies on human resources management by pegging it to operational performance.

Most Banks nowadays have an audit template that is used for assessing branch performance. Bauer et al (2004) were the first to develop an audit template from performance measurement. This has an overall effect of increasing the quality of results. The study of Hwang-boon (2003) can be seen to elaborate on this point. By adopting electronic channels, banks are able to deliver funds to customers with a lot of ease and convenience. This was with respect to personal computers and Automated Teller Machines. By measuring the service rates, it is easy to ascertain whether the processes are improving. Cooper et al (2001), developed a model of measurement that assisted 41 Taiwanese banks to be easily evaluated on the basis of efficiency. Efficiency increases when measurements are done since one can be able to look at the error rates and take corrective actions. Measurements give an indication to management on the level of performance attained in a bank. This then provides a yardstick for compensation of the achievers.

## 2.2 PERFORMANCE MEASUREMENT SYSTEMS

### 2.2.1 Definition.

A performance measurement system is a system that enables banks to monitor the relevant performance indicators of new products in the appropriate time frame(Lynch and Cross, 1991). Performance measurement systems should be dynamic, so that performance measurement remains relevant and continues to reflect the issues of importance to the business (Lynch and Cross, 1991). In order to ensure that this relevance is maintained, organizations need a process in place to ensure that measures and measurement systems are reviewed and modified as the organization circumstances change (Dixon et al, 1990).

The frameworks for performance measurement systems are multi dimensional, explicitly balancing financial and non- financial measures. Globerson (1985) studied the various attributes of effective performance measurement systems and concluded that there is need for measures to relate directly to the organization's mission and objectives. It should also reflect the company's external competitive environment, customer requirements and internal objectives. The strategies, action and measures must also be consistent (Lynch and Cross, 1991). The measurement systems must also reflect the context to which they are applied (Neely, 1999).

### 2.2.2 Evolution of performance measurement systems

As was noted earlier on, various approaches have been used to measure performance. The industrial and agrarian revolutions were the key milestones that shaped the pattern of performance measurement. This is because firms' discovered better and cheaper ways of accomplishing stated tasks. Firms were evaluated on the quantities of output as well as the profitability achieved in a trading period. The measures that were used to evaluate firms at that time-included profitability, rate of capital employed and return on investment. It can be seen that these measures were purely financial and dealt with quantity only. This created a problem in terms of other factors. For example, the figures were stated in absolute terms but no attempt was made to consider other factors such as quality. If for example two firms produced the same output during a given period, it was assumed that the two firms were operating at par. This may not have been the case since the quality levels of the same output may differ.

Such thoughts led researchers to want to study other factors beside the financials that played a role in performance measurement. This trend has been observed particularly in the last fifteen years. Firms have gone a step further and are now using other principles such as quality, time, cost and flexibility in performance measurement. This has brought about a revolution in terms of the systems of measuring performance. The financials are still used to date but in conjunction with the modern approaches of performance measurement.

### 2.2.3 Typical banking operations

Banks had an operations department that controlled all the transactions that were debited or credited into any account. The operations department as the name suggests, controlled all the internal company operations that result in banks internal books being balanced, on a daily basis. When customers walked into the banking hall, they expected a service. This service was in the form of request for statements, application for an unsecured personal loan, transfer, withdrawal or deposit of money and processing of cheques. Customer demanded to be served in the shortest time possible. The challenge for banks was to have internal procedures that reduce delays in

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service delivery. For this reason, banks often used to measure the service delivery rate, loan processing rate and turn-around times.

Banks had an operations manual, which stipulated the procedures to be followed when dispensing service. The rules and regulations ensured that all processes and procedures were conducted within the laid down manual. When a customer needed to deposit some money, he or she was to follow certain steps; fill in a deposit form and then queue before finally being served at the cashiers. For Loans, a customer will fill in an application form, come back to the bank after two or three days once processing has been done, sign a letter of acceptance, receive a cheque and deposit the same into his account after which he was to get value after four days. The challenge for operations managers is to reduce the delays that occur in every stage of dispensing service.

### 2.2.4 Components of a performance measurement system

The components of a performance measurement system include; customer satisfaction survey, organizational climate surveys, financial ratios for self-supporting business affairs operations and benchmarking surveys(Bititci, 2000).

Bititci (2000) in his study of measurement systems stated that performance measurement systems should be dynamic enough to reflect changes in the internal and external environment. This will assist in review and prioritization of objectives as the environment changes. A performance measurement system should also deploy changes in objectives and priorities and ensure gains achieved through improvement programmes are maintained.

A dynamic performance measurement system should have, an external monitoring system, an internal monitoring system, which raises warning and action signals when certain performance limits and thresholds are reached, a review system which uses information provided by monitors to set priorities and an internal deployment system to revise objectives and priorities to critical parts of the system.

### 2.2.5 Importance of performance measurement systems

It assisted in experiencing new opportunities and the improvement of communication within the banking operating environment. It also helped to build teams and in having a marketing competitive advantage.

De Toni and Tonchia (2001) suggested that performance measurement has its importance in the efficient and effective management of organizations, banks included. This would be made possible once questions relating to what and how to measure were dealt with. They stated that traditional performance measurement systems are based on costs and efficiency, are a trade off between performances, they assist in profit determination, are functional and assist in evaluating investment decisions.

The systems also encouraged innovation and value addition in the service industries. This resulted in compatibility in performance measurement. Other major importance of performance measurement systems was that they promoted team measures, are customer focused and encouraged prevalence of long term monitoring.

### 2.2.6 Components of performance measurement

Bititci (2002) outlines the components of performance measurement as consisting of financial and non-financial measures. The financial measures include profit, ratio analysis and rate of capital employed. Non-financial measures include efficiency, effectiveness, and customer satisfaction, amongst others.

Performance measures in the past were mainly the financial ones. These looked at issues such as profitability, working capital ratios and liquidity. These variables were measured and these would translate into increased financial performance. The tendency has been to rely on these historical costs as a means of measurement.

The shortcomings of traditional measurement systems have triggered a performance measurement revolution (Eccles& Nelly, 1991). Attention in practitioner, consultancy and

academic communities has turned to how organizations can replace their existing traditional cost based measurement systems with ones that are more objective to the current operating environment. Focus has shifted to how organizations can design more appropriate measurement systems. Numerous processes have consequently been started which specify design and implementation, (Bourne et al, 1999). The components of a performance measurement system include individual measures and supporting infrastructure (Neely, 1999).

There is no disagreement amongst the various researchers about the need to measure performance systems and highlight its crucial role in the organization; differences only exist in the mode of study and findings. Several tools have been continuously used in these approaches, key being the balanced scorecard. Bititci et al (1997) define a Performance measurement system as an information system, which is at the heart of the performance measurement process. Najmi and Kehoe (2001), however shared a different view of these standards. They argued that there was a lack of an appropriate performance measurement system and this increased the over-dependence on the standards, which had serious disadvantages.

Tangen (2004) summarized the key characteristics of evolving performance measurement systems. He noted that they: should support firm's strategic objectives; have an appropriate balance of all-important aspects representing the success of a firm; should guard against sub-optimization (Skinner 1986 argued that it was not rare that an improvement in one area leads to a deterioration in another, even resulting in a decline in overall performance); should have a limited number of performance measures (hence cost of producing information should not be higher than its expected benefit Bernolak, 1997); should be easily accessible; and should consist of performance measures that have comprehensible specifications (have a clear purpose and be defined in an unambiguous way along with details of who will use the measure). Performance measurement systems should be dynamic so that performance measures remain relevant and continue to reflect the issues of importance to the business (Lynch & Cross, 1991). In order to ensure that this relevance is maintained, organizations need a process in place to ensure that measures and measurement systems are modified as the organizational circumstances change, (Dixon et al, 1990).

His was to approach the issue from a quality perspective namely quality focused systems and linkages. He argued that division of plant according to strategies to adopt played an important role in enhancing these relationship (Bititci et al, 2000). They identified the need for performance measurement systems to be dynamic to reflect changes in the internal and external environment; this called for review and prioritization of objectives on the environmental changes. They developed a model that was able to identify current knowledge and techniques as being sufficiently able to create a dynamic performance measurement system.

Bititci (2002) writing with some other researchers extended his earlier dynamism concept to include a web enabled performance measurement system; this was possible with the integration of a fully backed information technology system that had managerial implications in decision-making. Bititci et al (2002)pointed out that a dynamic performance measurement system should have an external monitoring system, internal one, a review system and an internal deployment system to deploy the revised objectives and priorities to the critical parts of the system.

Kennerley and Neely (2002) developed a framework for the factors affecting a performance measurement system. Najmi et al (2005) are the most recent researchers in the field of performance measurement systems. They did a study on a framework that would be able to review the performance measurement system. The findings pointed out that the performance measurement system was a mechanism to manage and control the organization while maintaining its effectiveness. Other similar findings were found by Bourne et al (2000) also found similar findings and developed a framework for analyzing the performance measurement system and used the same to update information on case studies.

The last group of researchers in this area considered the Just In Time Principles to accommodate them in performance measurement systems. Upton (1998) postulated that there were real benefits in adapting accounting performance measurement systems to support and enhance Just In Time implementation. Walters (1999) did a case study of Performance measurement from a customer satisfaction point of view. His study though was from a facilities perspective where he discussed management problems with a view of accounting for shareholder resources.

Attributes of effective performance measurement systems according to Globerson (1985) relate directly to the company mission and objectives, reflect on the company's external competitive environment, customer requirements and objectives, consistency of strategies to be consistent with actions and measures, and must reflect the context to which they are applied (Lynch & Cross, 1991, Neely, 1999).

Scarcity of resources was a key factor in shaping the demand and supply patterns of raw materials in the factories mentioned by Johnson previously. As raw materials started dwindling in supply, it became necessary for factories to start to measure how much output were arising from a given input level. This formed the basis of measurements and factories, which adopted the inward looking models of that time proved quite successful in their processes.

Camanho and Dyson (2005) are some of the later writers who have applied efficiency estimates with respect to bank branch assessments of productivity. Theirs involved a Data Envelopment Analysis and Wharton has written about performance measurement in Retail Banking where he stressed, technology, human relations and process management as important components in measurement.

The trend has to include the non-financial performance measures such as the performance measurement system design, Neely et al (1995). Focus was on the process of the performance measurement system rather than the detail of the specific measures. These non-financial measures of performance obviously had an implication in the operations of the banking sector, (Hussain et al, 2002). In their study carried out in a sample of Finnish Banks, they were able to identify three aspects of non-financial performance and these included, Profit driven non-financial performance, non-financial performance for long-term profit driven competitive advantage and Independent non-financial performance, which was not linked to the profitability of an organization.

A similar study on non-financial performance measurement practices was carried out in sample of Japanese Banks (Hussain and Hoque, 2002). Their study sought to give an explanation on the factors that affected the design and use of non-financial performance measurement systems in

the banks studies. They identified several institutional factors, which played a role in the smooth adoption of such systems; these factors included among others; Central Bank Control, Accounting standards, Economic constraints, Financial legislation, Bank size, Competition, Management strategic focus, Organizational and dependency to copy best practices from them (Hussain and Hoque, 2002).

The experience of commercial Banks as a result of adoption of the non-financial performance measures has been varied. Notably evident is the role played by the economic constraints mentioned earlier on. The uncertainty of economic constraints puts pressure on management to want to consider measuring Banks using financial performance measures. This is with an intention of surviving the hostile economic environments (Hussain, 2003).

The Malaysian Banking Industry is also another case in point. A study carried out by Hwang – Boon and Ming Yu (2003) examined the success factors in the electronic channels as ways and means of measuring the performance of measurement systems.

An examination of the models, characteristics and measures stress the fact that most systems were of traditional nature. De Toni and Tonchin (2001) brought this argument forth when suggesting that going forward, firms may be compelled to adopt the more innovative models such as quality, time and flexibility.

The frameworks defined; the frameworks are multi-dimensional, explicitly balancing financial and non-financial measures. Their objective is to assist Banks to define sets of measures that reflect their objectives and assess performance appropriately. Forces that drive and demand a change in the performance measurement system include, the market place, customers, information technology, legislation, new industries, nature of the work and future uncertainty. Other included management support, and web based systems development (Waggoner et al, 1999). To manage effectively the evolution of performance measures, an organization had to consider the active use of performance measurement systems consisting of individual measures and also to note that barrier existed to prevent the evolutionary cycle from taking place.

The issue of development of effective performance measures had received a lot of attention though none has adequately addressed the issue of how performance measures should evolve over time in order to remain relevant.

## 2.3 TYPES OF PERFORMANCE MEASUREMENT SYSTEMS

### 2.3.1 Kaizen

This term was coined from the Japanese in their study of Quality improvement teams and circles. Wittenberg (1994) considers Kaizen simply as the many ways of getting better. "The strategy is based on the process of gradual change bringing improvements to all areas of management production." Banks are now using this method in promoting teamwork within the organization. Examples abound in the departmental meetings formulated to counter effects of competition or when setting up projects.

### 2.3.2 Performance Prism

Neely et al (2001) looked critically at the above mentioned and pointed out that it had an adequate stakeholder orientation. This has a way of encouraging the decision makers in a bank to see the needs of all the stakeholders in the organization. This has a tendency of reducing bias since all the stakeholders' viewpoints are invoked in decision making. This is especially important when banks formulate strategic plans envisioning where they would like to be after a certain period. It is important to know the feelings of the stakeholders before developing a prism so as to invoke their ideas and thoughts.

### 2.3.3 Balanced Scorecard

This is a set of indicators, which enables firms to be looked at from four different perspectives namely the financial, customer, internal and learning perspectives.

Various researches have been carried out to support the view that the balanced scorecard is useful in organizations. Wang (2005); looked at the role of the scorecard in equity valuation. Findings support the argument that the scorecard is able to track all the key elements of a

company's strategy by examining all the four perspectives. All the progressive banks in Kenya today are using the scorecard as a means of measuring employee productivity and output.

### 2.3.4 Self –Assessment

This was important as it enabled an individual to rate his or her own performance before submission to the next line manager. This provided a person to do a self-audit and take remedial action to improve performance. It was closely associated with the balanced scorecard where a person has to first rate himself before his next line manager can ratify or amend the decision arrived at one stage below (Waggoner et al, 1999).

### 2.3.5 Bench Marking

Wang (2005) argued that benchmarking has to be concerned with innovation and new ideas so as to achieve competitive advantage. These are new ways of addressing issues and processes that touch on customers for the purposes of looking for best practices. There is need to benchmark with other firms using the total quality management approach. Advantages of benchmarking as seen by Drummond include assessment of customer requirements and the ability to learn about alternative work processes. Benchmarking can be done in the operations department by considering the best practice and calling upon others to adopt the same. The ATM machine has an uptime rate that is used to gauge the level of the machines performance in any one given month. Rates of 90% and above are considered excellent and this calls for branches with lower ATM uptime rates to benchmark themselves with the best (Drummond, 1990.

### 2.3.6 360 Degrees feedback

This is a feedback mechanism that is of a multiple nature. The way it operates is to call for feedback from different sources so as to authenticate a situation, (Brutus et al 1998). Their study was linked to several factors like, leniency, inter-rater agreement, relationships between these ratings and effectiveness. The results suggested that multiple source feedback might work differently in different types of organizations, hence the need to always consider these differences. This can be applied in the banking environment when calling for different viewpoints when starting a new project e.g. branch expansion. The management team can ask the

rest of the bank staff to give suggestions on the possible places for putting up a branch network (Brutus et al, 1998).

### 2.3.7 Six Sigma

It is a statistically based quality improvement program, which helps to improve business processes by reducing waste, costs resulting from poor quality and by improving levels of efficiency and effectiveness of the process (Hoerl & Snee, 2002).

### 2.3.8 Pareto Analysis

First developed by Vilfredo Pareto who demonstrated that 80% of total wealth of any nation was distributed among 20% of the population. Basile (1996) applied it further with the results that 20% of known variables will account for 80% of results in any study. This can be applied in the banking set up when appraising loans. 20% of successful loan applicant's account for 80% of the total funds set aside for loans. This can also be extended further to explain the regional distribution of branch networks. 20% of a bank's branches contribute about 80% of the total incomes of the bank. Pareto analysis can thus be successfully applied to explain the variations within the operating environment (Basile, 1996).

### 2.3.9 Smart Pyramid

Lynch and cross (1991) posits that the word SMART stands for specific, measurable, attainable, and realistic and time bound measurement systems. They suggested that for any system to be considered proper, the measures to be studied must meet all the defined parameters stated; Specific in the sense that it should not be general to distort the issue under study. A measurement system, which is measurable, can yield objective results, which can be tested separately but still yields the same results. This has a tendency of improving the accuracy of results. Performance should also be attainable otherwise there may not be a need to have a system of measurement since results cannot be compared to set standards. All the systems should be realistic and measured within a certain time frame.

### 2.3.10 Performance Measurement Matrix

This was advanced by Keegan et al (1991), and is almost similar to the prism. It ranks activities in matrix form hence the name. Other systems include Performance measurement matrix, Stakeholder theory, Why- Why analysis, Sphere, Capability maturity model, Integrated dynamics, Goal question metric, Critical path analysis etc.

## 2.4 CRITICAL ISSUES/FACTORS INFLUENCING THE CHOICE OF A PERFORMANCE MEASUREMENT SYSTEM

According to Robson (2004), the design of performance measurement systems can either encourage a culture of high performance or act as a barrier. In order not to be a barrier, performance measurement systems have to be designed from the outset, with the psychological consequences in mind. This is best achieved by understanding organizations in terms of different types of systems that interact with each other.

In order to encourage perceptions that are required for a culture of high performance, measurement systems have to provide the relevant local, team level and graphical information. This has to be done in a form that can assist in the process of enabling people to perceive an important part of their job as being in control of the performance of the system in which they are involved (Robson, 2004).

Crowther (1996) noted that while there are various considerations of the need for performance evaluation, which may seem disparate and incompatible, it is only by recognizing that performance exists in multiple dimensions and for multiple purposes that the needs of an organization for its measurement and reporting of performance can be addressed. He (Crowther, 1996) thus suggests three dimensions; perspective dimension; purpose dimension; and focus dimension.

### *2.4.1 Perspective dimension.*

This dimension, while based on an analysis of the wide stakeholder community, seeks to recognize that stakeholders may have more than one perspective and that different stakeholder groups may have the same perspective, and so the perspectives do not translate directly from the stakeholder analysis (Crowther, 1996). The perspectives suggested are:

- *Stewardship.* - Based on one of the traditional views of accounting and is concerned with asset conservation, with the managers acting on behalf of the owners.
- *Ownership. Reflects* one of the concerns of the owners of the business, thus concerned with shareholder value.
- *Stakeholder.* Reflects *the* recognition that an organization comprises different interest groups, each of which has an interest in the performance of the organization.
- *Employee.* Reflects *the* fact that employees are interested in the performance of the organization and that the organization is concerned with the performance of its employees in helping meet its objectives. Thus is concerned with the motivation of employees and the relationship between performance and rewards.
- *Environmental.* Both the organization and other stakeholders are concerned with the impact of the organization on the environment, such as pollution and sustainability.
- *Social.* An organization is generally recognized to be part of the community in which it operates, and so this perspective is concerned with the organization as a member of the community, and society as a whole, and with the extent of disclosure at a societal level.
- *Managerial.* The managers of a business have interests in the business, as managers, which are separate from any other interests, which they might have because of their responsibility for managing the future performance of the business and conserving the assets of that business.
- *Resource allocation.* An organization has limited resources, which need to be used to best meet the objectives of the organization. Different plans and projects compete for use of these limited resources and the resulting tensions need resolving, thus need for planning, budgeting and capital investment.
- *Worldview.* An organization can be viewed not just as the sum of its parts but also as a complete entity, and so this perspective recognizes this and is concerned with the holistic

view of the organization as an entity in its own right and continuing to exist within its environment.

### 2.4.2 *Purpose dimension.*

There is inevitably a purpose to the evaluation of performance and the informational needs of each purpose may be different, causing either different measures to be used or different evaluations to be made (De Waal, 2003). The purposes suggested are:

- *Strategy formulation.* One purpose for evaluating performance is to plan the future of the business and develop strategy – so this purpose reflects the long-term planning for the business.
- *Strategy implementation.* Strategy developed needs to be put into effect, so this purpose reflects the translation of the strategy formulation into planning and the allocation of resources needed to proceed.
- *Control.* One of the prime purposes of performance evaluation is the control of the operations of the organization and ensuring that what is happening in the organization conforms to plan together with taking action to correct deviations.
- *Accountability.* One purpose of evaluation is to enable the reporting of performance, thereby ensuring that the business satisfies the needs of the stakeholders by reporting on past performance and future plans. This inevitably includes a concern with corporate governance.
- *Valuation.* Various stakeholders are interested in a valuation of the organization. This includes current and prospective owners and investors who wish to be able to value the organization according to the criteria relevant to their needs, such as asset valuation, going concern, etc.
- *Legal.* An organization operates within a societal legislative framework; so one purpose is the satisfying of constraints regarding operating, reporting and accounting requirements.
- *Informative: public relations.* Some informational needs attempt not to meet the requirements of any particular interest grouping but attempt to raise awareness of the organization generally in terms of its existence, operational sphere and general economic and environmental stance.

- *Informative: prospective customers*. All organizations have customers and need to attract new customers. This purpose therefore involves advertising, but is particularly concerned with increasing awareness of the performance of the organization and future plans and capabilities.
- *Defensive*. While most purposes for performance evaluation are positive, there also exists another purpose, which is defensive, and involves an awareness of threats from the external environment (e.g. of acquisition, legislative changes) and preparation for contingencies.

### 2.4.3 *The focus dimension*

Crowther (1996),suggested that there are three different aspects to the focus dimension; two temporal and one organizational. The first temporal aspect is concerned with the past, present and future performance of the organization. The second temporal aspect is concerned with the short term and the long term, and hence has a future orientation, and performance may be evaluated differently according to these two criteria, depending on the purpose of the evaluation. The third aspect of the focus dimension is that of the internal and external views of the organization, and these views can vary according to purpose and perspective. Thus for a control purpose the internal view predominates while for an accountability purpose the external view is paramount. Similarly, an employee perspective is primarily internal while an environmental perspective is primarily external.

De Waal (2003) explained the factors in the form of sets of questions;
Are the results of the organization according to managers improved through the use of performance measurement systems? Are the results of the organization objectively improved through the use of performance measurement systems? Has the degree of performance measurement systems se by managers increased? Are there plans for follow- up projects? Is there a difference in management attitude towards performance measurement from project start to currently? Is there regular communication about key performance indicators? Are the key performance indicators incorporated in the regular management reports?

# CHAPTER THREE: RESEARCH METHODOLOGY

## 3.1 RESEARCH DESIGN

This was a survey study on the performance measurement systems used by commercial banks operating in Kenya. A survey was necessary for this kind of research so as to get in-depth information about the subject matter. The survey inquired into banks present and past performance measurement systems used and this was used to predict the future situations depending on the bank customer base and culture.

## 3.2 POPULATION

This constituted of all the commercial banks in Kenya. The total number of commercial banks was 43 as per the Central Bank of Kenya report for June 2005. Bearing in mind the number, the study was conducted in the form of a census. This was possible because the size of the population was not too big; this meant that the researcher was able to visit the 43 commercial banks within a very short duration of time. This entailed distribution of questionnaires to all the commercial banks, which form the population. The study was limited to commercial banks only and did not include mortgage finance companies, building societies and other institutions even though they offered banking services.

## 3.3 DATA COLLECTION

Since this was a survey study, it relied on primary data collection methods. Basic empirical evidence was collected through a field study; the survey instrument was the questionnaire, (See appendix 2). It was sent to all the commercial banks to the various respondents. The respondents for this particular survey were the heads of operations of the various banks. The questionnaires were self-administered in that involved 'drop- and -pick -later ' approach. This gave the respondents ample amount of time to think through the questions before answering them. The researcher was however supposed to be available to clarify questions.

The questionnaire had three parts containing several sets of questions. The questions were both closed and of the open ended type. The closed ended questionnaire allowed the researcher to get the pattern of responses while the open-ended bit gave flexibility for the respondent to answer. This made them provide their own view with respect to the question under consideration.

The first part of the questionnaire sought to get general information on the specific bank with respect to ownership patterns and years of existence. The second part was to get information relating to the main performance systems used and the factors influencing the choice of such systems. The final part had open-ended questions, which sought to get information from the respondents on how best to improve the present performance measurement systems in place.

## 3.4 DATA ANALYSIS

The responses from the respondents were from open and closed ended questions. For the open-ended questions, the responses were listed so as to enable proportions to be obtained appropriately; for this, descriptive statistics was used. Frequency tables were used to classify various responses and determine their percentage. This assisted in decision making in terms of finding out the expected average responses. The mode, an arithmetic measure of the most frequently identified observation, was also used this assisted in tabular representation of the responses from the various banks. Good coding with the assistance of computer programs (excel and SPSS) helped to refine the findings. Discriminant analysis was carried out to determine which factors influenced the choice of certain performance measurement system.

For the closed ended questions, a comparative analysis was conducted so as to ascertain whether there was a significant difference within the pattern of responses. Percentages and frequency tables were also used in that section. Graphical analysis was also done and this helped to improve the presentation of the analysis results and for ease of interpretation.

# CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSIONS

## 4.1 OVERVIEW

Out of 38 questionnaires that were sent to various banks, 36 of them were filled satisfactory. Results obtained were as presented below. Using frequency tables, percentages of respondents were computed and then in general, a conclusion was deduced.

### *4.1.1 Years of Existence*

From the analysis, it emerged that majority of the banks studied had been in existence for 10 – 19 years (approx. 47%). Few of the banks were in operations for over 40 years (11%), and only one bank had been operational for less than 10 years (approx. 3%). This shows that commercial banks can be assumed to have been mostly established within the last 20 years but not many had been established within the latest 10 years.

### *4.1.2 Ownership Structure*

More than half of the banks interviewed i.e. 56% were locally owned. 28 % are foreign owned with the rest being government/locally owned. None of the banks was government/foreign owned.

Table 4.1: **Ownership**

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Foreign ownership | 10 | 27.8 | 27.8 |
| Government owned | 1 | 2.8 | 30.6 |
| Locally owned | 20 | 55.6 | 86.1 |
| Government/locally owned | 5 | 13.9 | 100.0 |
| Total | 36 | 100.0 | |

### 4.1.3 *Specialization*

More than three quarters of banks (28 out of 36) specialized in corporate banking, with the remaining 8 specializing on retail banking. Corporate banking dealt with a lot of high net worth companies whose capital base was huge. Such firms were normally sensitive to changes in interest rate, prices and ledger fees. Such firms compelled the bank in question to use the quantitative measures more frequently.

Table 4.2: **Business specialization frequency**

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Retail | 8 | 22.2 | 22.2 | 22.2 |
| Corporate | 28 | 77.8 | 77.8 | 100.0 |
| Total | 36 | 100.0 | 100.0 | |

### 4.1.4 *Number of Outlets*

Majority of the banks (83%) had less than 10 outlets and hence less than 100 (size of the) work force. Most of the banks that had more than 10 outlets had above 40 branches and hence more than 200 workers. Only less than 10% have branches between 11 and 40. Results show that banks with smaller outlets had a smaller workforce and hence the speed of changing a system was relatively fast and easy; larger banks had to cope with strong unions and lethargic staff.

Table 4.3: **Frequency of number of outlets**

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Less than 10 | 30 | 83.3 | 83.3 |
| 10-19 | 1 | 2.8 | 86.1 |
| 20-29 | 2 | 5.6 | 91.7 |
| 30-39 | 3 | 8.3 | 100.0 |
| Total | 36 | 100.0 | |

### 4.1.5 *Responsibility for Performance Measurement*

In most of the banks involved in the study, unit managers and immediate supervisors were almost equally involved/responsible (approx. 56% and 44% respectively) for overseeing performance measurement, as shown in the table 5:

Banks had a clearing department which was headed by unit managers; because of the constant processing of cheques, the responsibility for performance measurement had to be assigned to both managers and supervisors because of the volumes of work.

Table 4.4: **responsibility frequency**

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Immediate supervisor | 16 | 44.4 | 44.4 |
| Unit manager | 20 | 55.6 | 100.0 |
| Total | 36 | 100.0 | |

### 4.1.6 *Rating of Performance Measurement System(s)*

All banks accepted unanimously that performance measurement added value to the organization. Majority of them also rated performance systems in their organization as good although 28% rated the system as fair. This score was attained since all banks must report their financial position at the end of every trading period as governed by central bank requirements; obviously, all of them rated performance measurement highly.

Table 4.5: **Frequency of rating PMS**

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Fair | 10 | 27.8 | 27.8 |
| Good | 26 | 72.2 | 100.0 |
| Total | 36 | 100.0 | |

### 4.1.7 *Frequency of Reviewing Performance Measurement System*

Review process on performance measurement systems was carried out annually for most banks (70%) see appendix 1. it can also be seen that 25% carry out the review semi-annually. Only a few banks reviewed on monthly or continuous bases. The review period was tied to the trading season. Most banks were observed to have been reporting their profits once every year and this was tied up with the review of performance measurement systems.

Table 4.6: **Frequency of reviewing PMS**

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Semi annually | 9 | 25.0 | 25.0 |
| Annually | 25 | 69.4 | 94.4 |
| Continuously | 2 | 5.6 | 100.0 |
| Total | 36 | 100.0 | |

### 4.1.8 *Development of Performance Measurement System*

The departments involved in performance measurement were either Finance or Operations or both. 47% of the banks interviewed agreed that they used both departments in the development of performance measurement systems.

Table 4.7: **Persons responsible for development of PMS**

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Operations manager | 5 | 13.9 | 13.9 |
| Finance | 14 | 38.9 | 52.8 |
| All the above | 17 | 47.2 | 100.0 |
| Total | 36 | 100.0 | |

### *4.1.9 Focus of Performance Measurement*

Most banks focused on (measure) output, resource use and efficiency combined. 44% of the banks measured only output and less than 10% measured either resource use or efficiency only.

Table 4.8: **Focus of PM**

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Output | 16 | 44.4 | 44.4 |
| Resource use | 2 | 5.6 | 50.0 |
| Efficiency | 1 | 2.8 | 52.8 |
| All the above | 17 | 47.2 | 100.0 |
| Total | 36 | 100.0 | |

### 4.1.10 *Method of Measuring Performance*

The measurement systems used were either qualitative or quantitative. Most of the banks (44%) that used qualitative method also used quantitative method but 50% used only quantitative method.

Table 4.9: **Methods of measuring PM**

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Quantitative | 18 | 50.0 | 50.0 |
| Qualitative | 2 | 5.6 | 55.6 |
| Both the above | 16 | 44.4 | 100.0 |
| Total | 36 | 100.0 | |

The table above shows that quantitative measures are frequently used compared to the quantitative ones. The qualitative measures include profitability, liquidity, returns on investment and ratio analysis. These measures are financial based and historical in nature. Banks studied

were found to be still using the traditional performance measurement systems. This was because of their specific nature and in line with the accounting standards which provided for their use to measure profitability. In banking operations, processing of cheques was found out to be normally governed by strict deadlines; in such an instance, the quantitative measures were crucial in assessing the success rate of cheques processed.

#### *4.1.11 Performance measurement to meet needs of various stakeholders*

Most banks agreed that performance measurement was carried out to meet the needs of owners, employees, managerial and resource allocation. They however disagreed that it is done to enhance the corporate image of the organization.

They strongly agreed that strategy formulation and information drove performance measurement. They also agreed that strategy implementation, control purpose, enhance accountability, firm valuation, legal and informative (public relations and prospective customers information) drove performance measurement in their organization. They disagreed that defense mechanism was a driver. This meant that most banks recognized the above drivers as factors which played an important role in the selection of performance measurement systems.

#### *4.1.12 Performance Measurement Information Drives*

Most banks strongly supported the fact that they focused on past information when measuring performance. They also agreed that present and future information was important when measuring performance. Short-term and long-term was also an area of focus in measurement. Banks focused on both the internal and external performances when measuring.

Discriminant data analysis was used to identify variables that influenced a bank to choose a certain performance measurement system over others. Although banks used more than one system, there were some variables that had been found to significantly influence the choice of some systems. Other systems were not attributed to any particular factor in the analysis.

Balanced scorecard, Kaizen and ratio analysis systems had no significant linkage to any of the variables at 95% significance interval. The other systems had been found to be influenced by one or more variables as follows. Tendency was to continue using the traditional measures while embracing the new ones.

### 4.2.1 Self-Assessment System

Most of the banks that used self-assessment as a performance measurement system had been found to use strategy formulation information as a driver. The more the respondents agreed that strategy formulation was a drive to performance measurement, the more likely that they used self-assessment systems. Also self-assessment system was attributed to public relations informative drive.

Table 4.10; self assessment systems

| | Entered | Wilks' Lambda | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Statistic | df1 | df2 | df3 | Exact F | | | |
| Step | | | | | | Statistic | df1 | df2 | Sig. |
| 1 | Public relations | .830 | 1 | 1 | 38.000 | 7.801 | 1 | 38.000 | .008 |
| 2 | Strategy formulation | .734 | 2 | 1 | 38.000 | 6.690 | 2 | 37.000 | .003 |

a Maximum number of steps are 66.

b Maximum significance of F to enter is .05.

c Minimum significance of F to remove is .10.

d F level, tolerance, or VIN insufficient for further computation.

### 4.2.2 Performance Prism

This system of measurement was determined by more than one factor. The more a company had been in existence, the more likely it was to use this type of system. Informative drives (public relations and customers) also contributed positively towards the choice of this system. Other factors that contributed to this type of system included strategy formulation drive and the frequency of conducting banks performance review per year.

Table 4.11; performance prism

| | Entered | Removed | Wilks' Lambda | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Statistic | df1 | df2 | df3 | Exact F | | | |
| Step | | | | | | | Statistic | df1 | df2 | Sig. |
| 1 | How they measure | | .893 | 1 | 1 | 38.000 | 4.569 | 1 | 38.000 | .039 |
| 2 | Years of existence | | .787 | 2 | 1 | 38.000 | 5.019 | 2 | 37.000 | .012 |
| 3 | Customer information | | .618 | 3 | 1 | 38.000 | 7.414 | 3 | 36.000 | .001 |
| 4 | Public relations | | .442 | 4 | 1 | 38.000 | 11.043 | 4 | 35.000 | .000 |
| 5 | | How they measure | .469 | 3 | 1 | 38.000 | 13.567 | 3 | 36.000 | .000 |
| 6 | Strategy formulation | | .418 | 4 | 1 | 38.000 | 12.166 | 4 | 35.000 | .000 |
| 7 | Frequency of measurement | | .361 | 5 | 1 | 38.000 | 12.025 | 5 | 34.000 | .000 |

### 4.2.3 Benchmarking.

The level of strategy formulation information drive influenced benchmarking systems. Other factors did not have a significant contribution to the choice of benchmarking.

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Table 4.12; Benchmarking

| | Entered | Wilks' Lambda | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Statistic | df1 | df2 | df3 | Exact F | | | |
| Step | | | | | | Statistic | df1 | df2 | Sig. |
| 1 | Strategy formulation | .875 | 1 | 1 | 38.000 | 5.429 | 1 | 38.000 | .025 |

### 4.2.4 Pareto Analysis

This system was mostly used by banks that used informative (public relations and customer) as their information drives. Most banks that used this system also used self-assessment system in their measurement.

Table 4.13 Pareto Analysis

| | Entered | Wilks' Lambda | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Statistic | df1 | df2 | df3 | Exact F | | | |
| Step | | | | | | Statistic | df1 | df2 | Sig. |
| 1 | Customers | .828 | 1 | 1 | 38.000 | 7.870 | 1 | 38.000 | .008 |
| 2 | Public relations | .738 | 2 | 1 | 38.000 | 6.562 | 2 | 37.000 | .004 |

### 4.2.5 Performance Matrix

This system was used by banks mostly to satisfy the needs of the owners and the employees. It can also be seen that it was used by large banks, which had been in existence for long, with many outlets and a high number of employees. Most of these banks specialized on corporate business and the frequency of performance measurement was high. The person involved in the

development of performance measurement system and the extent to which he used present information was of high consideration when choosing this system.

Table 4.14 Performance matrix

| | Entered | Wilks' Lambda | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Statistic | df1 | df2 | df3 | Exact F | | | |
| Step | | | | | | Statistic | df1 | df2 | Sig. |
| 1 | Owners | .831 | 1 | 1 | 38.000 | 7.718 | 1 | 38.000 | .008 |
| 3 | Labor force | .655 | 3 | 1 | 38.000 | 6.328 | 3 | 36.000 | .001 |
| 4 | No of outlets | .444 | 4 | 1 | 38.000 | 10.972 | 4 | 35.000 | .000 |
| 5 | Yrs of existence | .352 | 5 | 1 | 38.000 | 12.511 | 5 | 34.000 | .000 |
| 6 | Specialization | .291 | 6 | 1 | 38.000 | 13.394 | 6 | 33.000 | .000 |
| 7 | Present | .235 | 7 | 1 | 38.000 | 14.860 | 7 | 32.000 | .000 |
| 8 | Dvt personnel | .199 | 8 | 1 | 38.000 | 15.626 | 8 | 31.000 | .000 |
| 9 | Employee | .173 | 9 | 1 | 38.000 | 15.893 | 9 | 30.000 | .000 |
| 10 | Frequency | .148 | 10 | 1 | 38.000 | 16.711 | 10 | 29.000 | .000 |

### 4.2.6 Capital Employed and Liquidity

This system was influenced by the factor of what is measured in the organization and what kind of business they specialize in. All banks, which used capital employed as a system, also used liquidity.

Table 4.15; Capital employed and liquidity

| | Entered | Wilks' Lambda | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Statistic | df1 | df2 | df3 | Exact F | | | |
| Step | | | | | | Statistic | df1 | df2 | Sig. |
| 1 | What to measure | .881 | 1 | 1 | 38.000 | 5.145 | 1 | 38.000 | .029 |
| 2 | Specialization | .789 | 2 | 1 | 38.000 | 4.942 | 2 | 37.000 | .013 |

# CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

## 5.1 CONCLUSIONS AND RECOMMENDATIONS

From the analysis it was seen that performance measurement is of high value to banks as organizations. All banks despite their size or age find performance measurement to be of very high importance in enhancing their operations and had at least one system of measuring performance.

From the results of the study, it was possible to identify the critical issues that affected the choice of a performance measurement system. Analysis showed that banks which considered to perform performance measurement used profitability as a system of measurement without detailed consideration of factors undertaken by its operations.

Although the banks used more than one performance system, there were some systems, which were used by more than 60 % of the banks. The most preferred systems included; benchmarking, ratio analysis, capital employed and liquidity. More than half of the banks admitted that they also applied self-assessment in their system. Performance prism was the least used accounting for only 7.5% of the total respondents. Performance matrix, six sigma, balanced scorecard and kaizen were used on average by approximately 20% of banks.

The results of the study showed that traditional performance measurement systems are used more frequently compared to the modern ones. Traditional measures emphasized historical data which formed important frameworks in the development of the strategic plans for banks. The modern

systems of performance measurement have been used mostly by banks which have been in operation for a longer period of time. This was because of the learning curve] and experiences associated with the trial of new systems. Some of the systems did not have evidence of relation to any of the factors researched on, although they could be influenced by other factors that were outside the scope of this study.

Systems that were influenced by the factors under investigation were classified using these issues with 95% confidence of accuracy. Given the information of a new case of a bank, this information could be used to determine the systems to use. For example, the model below was used to determine whether a bank used benchmarking as a system with 95% certainty.

## 5.1 RECOMMENDATIONS

Banks should be objective in their choice of performance system and consider as many factors as possible in order to choose the most appropriate system. A system can be introduced in a certain bank without any consideration only to find that it adds no value to in helping the bank to achieve its goals and objectives.

New entrants into the banking environment are more likely to adopt the traditional measures of performance measurement. This is because profitability and liquidity are the two single most important factors that banks are evaluated upon by the central bank especially when enforcing the Banking act. Central bank usual has some minimum requirements which all banks must adhere to in order to be allowed to continue operations. Banks must therefore continue to use the traditional measures.

Findings from literature agree with research findings as far as the critical success factors are concerned. Performance measurement systems are dependent on among others, the ownership patterns, employees, management and various interest groups. Other factors include the legal framework, strategy implementation and control and accountability.

Firms should complement the traditional with the modern systems of performance measurement. Banks should not discard one at the expense of another but continue to adopt both since research findings suggest that more profitable companies continue to strike a balance between the two systems. Some systems were more complex than others and hence they required expertise in order to be implemented, therefore care should be undertaken when choosing these methods. Research should be carried out and cost-benefit analysis done. Those performing development of performance systems should be subjected to some training session before they are given the mandate since this was a very sensitive area which can have both negative a positive impact to the organization.

The results from the findings should be used in the determination of the strategic plan and business potential of each respective bank; the modern systems of performance measurement should be used especially when trying to build good work relations and quality circles. This is because they involve a lot of interdependence and sharing hence bolstering teamwork. The traditional systems should be employed mostly by banks which are solely dependent on the profit motive.

Findings from the research study suggest that managers should be involved at all levels of the strategy formulation phase and in coming up with the traditional and modern systems of performance measurement. This is because they play a crucial role of co-coordinating and effectively planning at all levels of the organization.

## 5.2 LIMITATIONS OF THE STUDY

The study was basically carried out in Nairobi area and hence the impact that could be influenced by banks operating outside Nairobi was not put into consideration. Each bank only filled one questionnaire from the main office and hence responses from their outlets were not put into consideration. Not all questionnaires were returned and hence this affected the accuracy of data.

## 5.3 SUGGESTIONS FOR FURTHER RESEARCH

Research should be carried out to establish if there exists a relationship between the system in place and success of the organization. It should also be investigated how various systems affect the attitudes of the employees at work e.g. motivation.More factors do have impact on the selection of performance measurement system like government regulations, financial standings, Shareholders expectations, etc which should also be researched and analyzed. Also the difference in performance between organizations that undertake measurement and those, which do not undertake the measurements.

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# APPENDICES

## APPENDIX 1: LETTER OF INTRODUCTION

Dear Respondent

This questionnaire is designed to gather information on your Bank's method of performance measurement with respect to Operations management.

The study is undertaken in partial fulfillment of the requirement for the Masters of Business Administration Degree of the University of Nairobi. All information with respect to the research will be treated with the strictest of confidence it deserves and in no circumstance will your name be mentioned in the report without your prior permission.

Kindly assist in providing the required information.

| | |
|---|---|
| John Masaba | Mr. Stephen Nyamwange |
| MBA Student | Supervisor |

# APPENDIX 2: QUESTIONNAIRE.

**Organisation Questionnaire on Performance Measurement in commercial banks operating in kenya.**

**PART ONE**

1.1 Name of Bank.....

1.2 Position of the respondent in the organization?.....

Indicate your responses by checking the boxes provided below.

1.3 For how long has your Bank been in business in Kenya?

a) Less than 9 years. [ ]

b) 10 to 19 Years. [ ]

c) 20 to 29 years. [ ]

d) 30 to 39 years [ ]

e) Over 40 years. [ ]

1.4 What is the Ownership structure of your Bank?

a. Foreign ownership. [ ]

b. Government Owned. [ ]

c. Locally owned. [ ]

d. Government/Foreign owned. [ ]

e. Govern/locally owned. [ ]

1.5 Which unit does your bank specialize in?

Corporate. [ ] Retail. [ ]

1.6 Approximately how many outlets does your bank have?

a) Less than 10. [ ]

b) 10 to 19. [ ]

c) 20 to 29 [ ]

d) 30 to 39 [ ]

e) Above 40 [ ]

1.7 What is the size of your total labour force?

a. Over 200. [ ]

b. 101 to 200. [ ]

c. Less than 100. [ ]

1.8 Which unit/department is charged with the responsibility of performance measurement? (Kindly state) _____

1.9 Who is involved in performance measurement in your organization? (Can tick more than one)

(a) Immediate Supervisor [ ]

(b) Unit Manager [ ]

(c) Human Resource Manager [ ]

(d) Personally Responsible [ ]

1.10 What deficiencies have you identified in the performance measurement systems in your organization?

_____

_____

1.11 Why do you think your organization uses the present criteria for performance measurement systems instead of others?

_____

_____

1.12 Do you think performance measurement systems add value to your organization? (Tick one)

Yes [ ] No [ ] Don't know [ ]

1.13 How would you rate performance measurement systems (s) in your organization?

(a) Good

(b) Bad

(c) Fair

1.14 How often are the performance measurements systems reviewed?

(a) Monthly [ ]

(b) Half –yearly [ ]

(c) Annually [ ]

(d) Continuously [ ]

1.15 What techniques does your organization employ to ensure that the drawbacks (challenges) facing performance measurements systems are resolved?

_____

_____

1.16 Generally what's your recommendation on performance measurement systems?

_____

_____

**PART TWO**

2.0 Who is involved in the development of performance measurement systems?

a. Operations managers. [ ]

b. Managing director. [ ]

c. Finance department. [ ]

d. Others (state) _____

2.1 What do they measure in performance?

a. Output. [ ]

b. Resource use. [ ]

c. Efficiency. [ ]

2.2 How do they measure performance measurement?

a. Quantitatively. [ ]

b. Qualitatively. [ ]

c. None of the above. [ ]

2.3 To what extent do you think your organization carries out performance measurements to meet the needs of the various stakeholders listed below?

| | Strongly agree | Agree | Disagree | Strongly disagree |
|---|---|---|---|---|
| ▪ Owners | [ ] | [ ] | [ ] | [ ] |
| ▪ Employee. | [ ] | [ ] | [ ] | [ ] |
| ▪ Managerial. | [ ] | [ ] | [ ] | [ ] |
| ▪ Resource allocation | [ ] | [ ] | [ ] | [ ] |
| ▪ Corporate image | [ ] | [ ] | [ ] | [ ] |

2.4 To what extent do the following uses of performance measurement information drive performance measurement in your organization?

| | Highly agree | Agree | Disagree | Strongly disagree |
|---|---|---|---|---|
| ▪ Strategy formulation. | [ ] | [ ] | [ ] | [ ] |
| ▪ Strategy implementation. | [ ] | [ ] | [ ] | [ ] |
| ▪ Control purposes | [ ] | [ ] | [ ] | [ ] |
| ▪ Enhance Accountability | [ ] | [ ] | [ ] | [ ] |
| ▪ Firm Valuation. | [ ] | [ ] | [ ] | [ ] |
| ▪ Legal. | [ ] | [ ] | [ ] | [ ] |
| ▪ Informative: | | | | |
| o Public relations | [ ] | [ ] | [ ] | [ ] |
| o Prospective customers | [ ] | [ ] | [ ] | [ ] |
| ▪ Defensive mechanism | [ ] | [ ] | [ ] | [ ] |

2.5 To what extent do you think your organization focuses on the following dimensions in measuring performance?

| | Highly agree | Agree | Disagree | Strongly disagree |
|---|---|---|---|---|
| ▪ Past | [ ] | [ ] | [ ] | [ ] |
| ▪ Present | [ ] | [ ] | [ ] | [ ] |
| ▪ Future | [ ] | [ ] | [ ] | [ ] |
| ▪ Short-term performance | [ ] | [ ] | [ ] | [ ] |
| ▪ Long-term performance | [ ] | [ ] | [ ] | [ ] |
| ▪ Internal focus | [ ] | [ ] | [ ] | [ ] |
| ▪ External focus | [ ] | [ ] | [ ] | [ ] |

2.6 Kindly list down the factors that influence the development of performance measurement systems in your bank? _____

_____

2.7 Which of the following performance measurement systems are used in your bank? (You can check more than one option)

a. Balanced scorecard. [ ]
b. Kaizen. [ ]
c. Self-assessment. [ ]
d. Performance prism. [ ]
e. Benchmarking. [ ]
f. Pareto analysis. [ ]
g. Performance matrix. [ ]
h. Six sigma. [ ]
i. Profitability. [ ]
j. Ratio analysis. [ ]
k. Capital employed. [ ]
l. Liquidity. [ ]
m. None of the above [ ]

**APPENDIX THREE: LIST CONTAINING THE MAIN COMMERCIAL BANKS IN KENYA.**

1. African Banking Corporation.
2. Akiba Bank Ltd.
3. Bank of Africa Kenya ltd.
4. Bank of Baroda Kenya Ltd.
5. Bank Of India.
6. Barclays Bank of Kenya Ltd.
7. CFC Bank ltd.
8. Charterhouse Bank Ltd.
9. Chase Bank Ltd.
10. Citi bank N.A.
11. City Finance Bank Kenya Ltd.
12. Commercial Bank of Africa.
13. Consolidated Bank of Kenya Ltd.
14. Co-operative Bank of Kenya ltd.
15. Credit Bank Ltd.
16. Development Bank of Kenya Ltd.
17. Diama Bank-not operational.
18. Diamond Trust Bank Kenya ltd.
19. Dubai Bank Ltd.
20. Equatorial Commercial bank.
21. Fidelity commercial bank ltd.
22. Fina Bank Ltd.
23. First American Bank Of Kenya Ltd.
24. Giro commercial bank ltd.
25. Guardian Bank Ltd.
26. Habib AG Zurich.
27. Habib Bank ltd.
28. Imperial Bank Kenya Ltd.
29. Industrial Development Bank Ltd.

30. Investments and Mortgages Ltd.
31. Kenya Commercial Bank Ltd.
32. K-Rep Bank Ltd.
33. Middle East bank ltd.
34. National Bank Of Kenya ltd.
35. National industrial Credit Bank Ltd.
36. Oriental Commercial Bank Ltd.
37. Paramount-Universal Bank Ltd.
38. Prime Bank Ltd.
39. Southern Credit Banking Corporation Ltd.
40. Stanbic Bank Kenya Ltd.
41. Standard chartered Bank of Kenya Ltd.
42. Transnational Bank Kenya Ltd.
43. Victoria Commercial Bank Ltd.

**SOURCE; Returns submitted to CBK monthly report for January 2005**

## APPENDIX FOUR: DATA CODING

| | Existenc | Ownershi | Special | Outlets | Labor | Respo | Valu | Rating | Frequen |
|---|---|---|---|---|---|---|---|---|---|
| Baroda | 5 | 3 | 0 | 1 | 1 | 2 | 1 | 2 | 3 |
| Citibank | 4 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 4 |
| NBK | 4 | 2 | 0 | 3 | 3 | 2 | 1 | 2 | 3 |
| Akiba | 1 | 3 | 0 | 1 | 1 | 2 | 1 | 3 | 3 |
| Victoria | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 3 | 2 |
| Trans-national | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 3 | 3 |
| Paramount | 2 | 3 | 1 | 1 | 1 | 2 | 1 | 3 | 2 |
| Habib | 2 | 3 | 1 | 1 | 1 | 2 | 1 | 3 | 4 |
| Guardian | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 3 | 3 |
| American | 2 | 3 | 1 | 1 | 1 | 2 | 1 | 3 | 3 |
| Fina | 3 | 3 | 1 | 1 | 1 | 2 | 1 | 3 | 3 |
| Fidelity | 2 | 3 | 1 | 1 | 1 | 2 | 1 | 3 | 3 |
| Dubai | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 3 | 2 |
| Credit | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 3 | 3 |
| City finance | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 3 | 2 |
| Southe credit | 2 | 3 | 1 | 1 | 1 | 2 | 1 | 3 | 3 |
| K-rep | 2 | 5 | 0 | 1 | 1 | 1 | 1 | 3 | 3 |
| Imperial | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 3 | 2 |
| I & M | 3 | 3 | 1 | 1 | 1 | 2 | 1 | 3 | 3 |
| IDB | 4 | 5 | 0 | 1 | 1 | 2 | 1 | 2 | 2 |
| Gin | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 3 | 3 |
| Development | 4 | 5 | 0 | 1 | 1 | 1 | 1 | 3 | 3 |
| Oriental | 2 | 3 | 1 | 1 | 1 | 2 | 1 | 3 | 3 |
| Chase | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 3 | 3 |
| Comulitate | 3 | 2 | 0 | 2 | 1 | 2 | 1 | 3 | 3 |
| Middle East | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 3 | 3 |
| CFC | 4 | 3 | 1 | 1 | 1 | 1 | 1 | 3 | 3 |
| Stabic | 4 | 1 | 1 | 1 | 1 | 2 | 1 | 3 | 3 |
| NIC | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 |
| ABC | 3 | 3 | 1 | 1 | 2 | 2 | 1 | 2 | 3 |
| Habib | 4 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 3 |
| India | 5 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 |
| Equitorial | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 2 |
| Equity | 1 | 3 | 0 | 5 | 3 | 2 | 1 | 2 | 3 |
| Africa | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 4 |
| CBA | 4 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 3 |
| KCB | 5 | 5 | 0 | 5 | 3 | 2 | 1 | 3 | 2 |
| BDK | 5 | 1 | 0 | 5 | 3 | 2 | 1 | 2 | 3 |
| Standard chat | 5 | 1 | 1 | 4 | 3 | 1 | 1 | 2 | 2 |
| co-operative | 4 | 5 | 0 | 4 | 3 | 2 | 1 | 3 | 3 |

**PART TWO**

| | Development personnel | What to Measure | How To Measure |
|---|---|---|---|
| Baroda | 1 | 1 | 1 |
| Citibank | 3 | 1 | 1 |
| NBK | 3 | 1 | 1 |
| Akiba | 4 | 4 | 4 |
| Victoria | 4 | 4 | 4 |
| Trans-national | 4 | 1 | 2 |
| Paramount | 1 | 1 | 2 |
| Habib | 1 | 3 | 4 |
| Guardian | 4 | 4 | 4 |
| American | 4 | 4 | 4 |
| Fina | 4 | 4 | 4 |
| Fidelity | 4 | 1 | 1 |
| Dubai | 4 | 4 | 4 |
| Credit | 3 | 1 | 1 |
| City finance | 3 | 1 | 1 |
| Southe credit | 4 | 1 | 1 |
| K-rep | 3 | 1 | 1 |
| Imperial | 3 | 1 | 1 |
| I & M | 3 | 1 | 1 |
| IDB | 1 | 4 | 4 |
| Gin | 4 | 4 | 4 |
| Development | 1 | 1 | 1 |
| Oriental | 3 | 1 | 1 |
| Chase | 1 | 1 | 1 |
| Comulitate | 4 | 4 | 4 |
| Middle East | 4 | 4 | 4 |
| CFC | 4 | 4 | 4 |
| Stabic | 4 | 1 | 1 |
| NIC | 4 | 4 | 4 |
| ABC | 3 | 1 | 4 |
| Habib | 3 | 4 | 1 |
| India | 3 | 1 | 1 |
| Equitorial | 3 | 2 | 1 |
| Equity | 3 | 4 | 1 |
| Africa | 3 | 4 | 1 |
| CBA | 3 | 2 | 1 |
| KCB | 4 | 4 | 4 |
| BDK | 4 | 4 | 4 |
| Stan-chart | 4 | 4 | 4 |
| co-operative | 3 | 1 | 1 |

**Performance measurement systems**

| Bsc | Kaizen | self-A | Prism | Benchmark | Pareto | Matrix | sigma | ratio | capital | liquidity |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 |
| 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 |
| 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 |
| 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 |

**Key**

| **existence** | Key |
|---|---|
| less than 9 yrs | 1 |
| 10 - 19 yrs | 2 |
| 20 - 29 years | 3 |
| 30 - 39 yrs | 4 |
| above 40 | 5 |

| **Ownership Structure** | |
|---|---|
| Foreign ownership | 1 |
| Govt owned | 2 |
| locally owned | 3 |
| govern/foreign | 4 |
| govt/ locally | 5 |

| **bank specialization** | |
|---|---|
| corporate | 1 |
| retail | 0 |

| **No of outlets** | |
|---|---|
| less than 10 | 1 |
| 10 to 19 | 2 |
| 20 to 29 | 3 |
| 30 to 39 | 4 |
| 40 and above | 5 |

| **labor force size** | |
|---|---|
| Less than 100 | 1 |
| 101 to 200 | 2 |
| above 200 | 3 |

| **Responsibility** | |
|---|---|
| immediate supervisor | 1 |
| Unit manager | 2 |
| HRM | 3 |
| Personally responsible | 4 |

| **PM of value?** | |
|---|---|
| yes | 1 |
| no | 0 |

| **Pm rating** | |
|---|---|
| Bad | 1 |
| Fair | 2 |
| Good | 3 |

| **Frequency of measurement** | |
|---|---|
| monthly | 1 |
| semi annually | 2 |
| annually | 3 |
| continuously | 4 |

| **Responsibility for developing PM** | |
|---|---|
| Operations manager | 1 |
| MD | 2 |
| Finance Department | 3 |
| All | 4 |

| **measures** | |
|---|---|
| output | 1 |
| resource use | 2 |
| efficiency | 3 |
| all | 4 |

| **type of measures** | |
|---|---|
| quantitatively | 1 |
| qualitatively | 2 |
| none | 3 |
| all | 4 |