

## **AN ASSESSMENT OF BUSINESS PERFORMANCE MEASUREMENT AT A PETROLEUM REFINING BUSINESS UNIT IN NDOLA**

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### **Abstract**

This study involved the assessment of business performance measurement at a refining business unit, in Ndola, Zambia. The goal of the study was to assess the current business performance measurement at the business unit, its significance on organisational performance and how it could be enhanced. This was done by using a survey method through a questionnaire distributed to a sample that was selected by stratified sampling and analysing the collected data to assess the knowledge, opinions and attitudes of the respondents as regards business performance measurement in the selected organisation. The research found that while business performance measurement exists in the organisation, the business unit concentrates more on business performance measures that enable it communicate business results to shareholders and industry regulators than measures which facilitate improvements in efficiency and business competitiveness. To enhance business performance measurement, the business unit should modify its current business performance measurement system, aligning it with a framework that will enhance internal business processes, satisfy multiple stakeholder needs and achieve greater growth and competitiveness.

**Key Words:** Assessment, Business Performance, Petroleum, Refining, Business, Organization, Competitiveness, Communication, Efficiency, Industry, Regulators

### **Introduction**

This study proposes to assess the business performance measurement of a Petroleum Refining Business Unit in Ndola, Zambia. This chapter will present the background to the problem, research questions and the research objectives. Further, the significance of the study, its aim and the format of the study are discussed.

### **Aim of the Study**

The study aims to assess the business performance measurement of a Petroleum Refining Business unit in Ndola Zambia.

### **Objectives of the Study**

- To assess the current business performance measurement (BPM) at the petroleum refining business unit.
- To assess the significance of the business performance measurement (BPM) for organisational performance.
- To make recommendations to enhance business performance measurement (BPM) at the refining business unit.

### **LITERATURE REVIEW**

#### **Overview of Business Performance Measurement**

Since the '80s, companies manifested a growing need for controlling production processes and in general, business (Taticchi, Cognazzo and Botarelli, 2008). Companies have understood that for competing in continuously changing environments, it is important to understand and monitor firm performances. Measurement has been recognised as a crucial element to improve business performance (Sharma, Bhagwat, Dangayach, 2005) This has also been exacerbated by a heightened awareness of corporate governance matters which has increased pressures for effective monitoring and measurement of organisational performance (Cascio and Boudreau, 2008)

#### **Definitions and Objectives of Business Performance Measurement**

According to Gianaccarro, Ludovico and Triantis (2007), performance measurement is a topic often discussed but rarely defined. There is little consensus on the definition of performance measurement (Franco-Santos, Kennerley, Micheli, Martinez, Marr and Neely, 2007). However, Neely, Gregory and Platts (1995) defined performance measurement as the process of quantifying the efficiency and effectiveness of actions. On the other hand, a performance measure is defined as a metric used to quantify the efficiency and/or effectiveness of action. A performance measure is a numeric description of work and the results of that work; a quantifiable expression of the amount, cost or result of activities that indicate how much, how well, and at what level of products and services are provided to customers during a given period. Neely, Adams and Kennerley (2002) defined a performance measurement system as a balanced and dynamic system that enables support of decision-making processes by gathering, elaborating and analysing information. Taticchi, Tonelli and Cagnazzo (2010) further elaborated this definition by commenting on the concept of 'balance' and 'dynamicity'. Balance refers to the need of using different measures and perspectives that tied together to provide a holistic view of the organisation. The concept of 'dynamicity' refers instead to the need of developing a system that continuously monitors the internal and external context and reviews objectives and priorities. A performance measurement system therefore, is a set of metrics put to use for the quantification of the efficiency and effectiveness of actions (Kennerly and Neely, 2000).

De Waal and Coevert (2007) adds that a performance management system is formal and is characterised by information-based routines and procedures used to maintain or alter patterns in organisational activities. Financial and non-financial information that has an impact on decision making and managerial action-taking stems from this system. The recording, analyzing, and distributing of this information is embedded in the rhythm of the organization and is often based on predetermined practices and at preset times within a business cycle. These systems are designed specifically to be used by managers.

Implicit in the above definition is the fact that ‘what gets measured gets done’ (Drucker, 2004). Objectives of organisations is achieved through a sequence of actions. And unless these actions are measured, they cannot be managed in such a way that they result in either planned results or at least provide an opportunity for learning when the planned results are not achieved.

Chearskul (2010: 27) asserts that researchers argue that performance measurement in and of it, is quite incomplete because measurement alone cannot lead to improved performance. Chearskul (2010) quoting Slizyte and Bakanauskiene (2007), for example, says that they argue that “organizations manage performance through performance measurement. Performance measurement is the comparison of actual levels of performance to pre-established target levels of performance. To be effective, performance measurement must be linked to the organisational strategic plan. Performance management essentially uses performance measurement information to manage and improve performance and to demonstrate what has been accomplished.”

Before the 1980, measurement of business performance was predominantly financial in nature. Neely (2008) however indicates that research has demonstrated that financial measures alone are beset by a barrage of short comings. Citing various scholars, he stated that financial measures encourage short-termism, and thus may delay capital investments (Kennerley and Neely, 2000), are historically focused (Dixon, Nanni and Vollmann, 1990), lack strategic focus and fail to provide data on quality, responsiveness and flexibility (Kennerley and Neely, 2000). They encourage local optimisation such as “manufacturing” inventory to keep people and machines busy (Hall, 2008). In addition, he asserts that they encourage managers to minimise the variances from standard rather than seek to improve continually and fail to provide information on what customers want and how competitors are performing (Kaplan and Norton, 1992).

Performance measurement literature from 1990, advocated a balanced portfolio of measures (Kaplan and Norton, 1992; EFQM, 1999; Neely, Adams and Kennerley, 2002). This measures-set is a combination of both financial and nonfinancial measures. This was because the financially-based performance measurement systems fail to measure and integrate all the relevant factors critical to business success. Business has evolved into global organisations with automated business processes and the factors critical for success has also changed. Increasingly, research evidence is demonstrating that companies that use balanced performance measures outperform and have superior stock prices than those not measure-managed (Neely et al., 2002)

Table 1 below summarises how performance measurement has evolved over time from the traditional accounting based measures to enhanced systems that provide a balanced view of the organisation (Kurien and Qureshi, 2011).

**Table 1: Evolution of performance measurement system in an organisational context**

Period	Characteristics of business Organisation	Characteristics of PMS
Before 1980	Systematic large organisation	(i). Cost Accounting orientation. (ii).Retroactive approach and results used to promote organizational efficiency, facilitate budgeting and attract capital from external entities (iii).Performance measurement dominated by transaction costs and profit determination

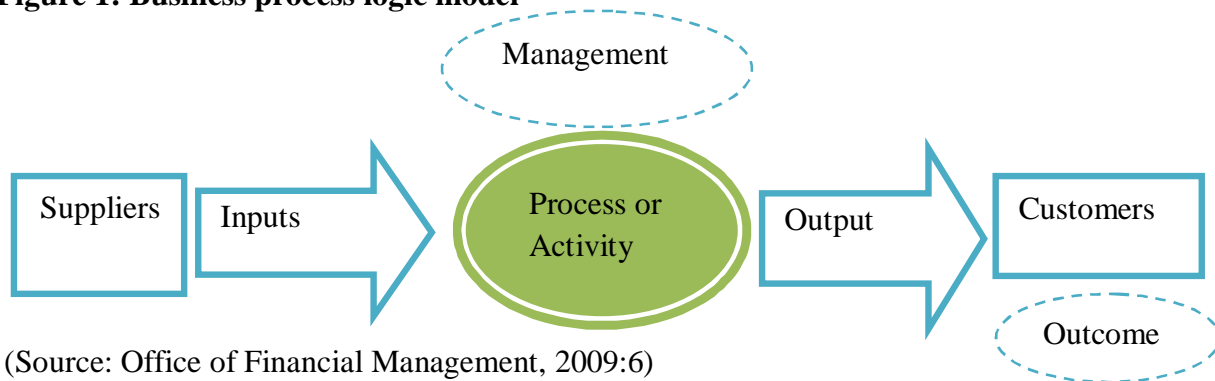
1980 - 1990	Business organisations became global	(i). Cost Accounting orientation (ii).Retroactive approach and results used to promote organizational efficiency. (iii).Enhanced to include operations and value adding perspectives.
1990 - 2000	Automation of business processes	(i).A mixed financial and non-financial orientation. (ii).A mixed retroactive and proactive approach. (iii).Results is used to manage the entire organization. (iv).PMS enhanced to include process, quality & customer focus
2000 - 2010	e-commerce and borderless business activities	(i) A balanced and integrated orientation. (ii).A more proactive approach (iii).Results is used to enhance organizational responsiveness. (iv).Performance measurement enhanced to give a balanced view of the organization and included the supply chain & inter-process activities.

(Source: Gomes et al., 2004 and Morgan, 2007.)

**Types of Business Performance Measures**

According to the Office of Financial Management (2009), in the best performance management systems, actions and results are logically related to one another by a theory of causality, or “logic model.” Potential measures come from understanding the purpose of the organization and what is being done to accomplish the organisation’s mission. Logic models are a useful tool for this. Organisations exist to conduct certain lines of business or activities. Each activity is accomplished through a business process. Any business process can be modelled as depicted below.

**Figure 1: Business process logic model**



(Source: Office of Financial Management, 2009:6)

This is sometimes called a “SIPOC” model: Supplier, Input, Process, Output, and Customer. Two additional elements of the model are management, the individuals in the organisation who are responsible for the process, and outcomes, what the customer wants to accomplish with the product (Office of Financial Management, 2009:6).

Suppliers are the groups and organisations that provide materials, equipment, and information needed to do the work. Inputs are things used by the business process to create products. Examples of inputs are people, buildings, tools, data and computer systems. Another input to a process is customers or clients, sometimes called workload or caseload. Outputs, or “widgets,” are tangible, specific products produced by the business process activity. Customers are people who receive the products (Office of Financial Management, 2009:8).

Outcomes are, in general, the purpose or the result that customers want from the product or service. Several types of outcomes can be distinguished. Immediate outcomes are what the customer wants the product or service to do (e.g., customers do not want electricity; they want light or heat). Intermediate outcomes describe longer-term changes as a result of the work. Ultimate outcomes are broad social goals that the work is supposed to accomplish such reliable transportation or improved public safety (Office of Financial Management, 2009:8).

According to Ammon’s (2007), performance measures can be divided and categorised in different ways. Although performance measurement categorisation typologies developed in the past have been lengthy and sometimes dubious, a simple and practical list isolates three key measures most relevant to tracking and improvement of business performance. These are output (workload) measures, efficiency measures and outcome (effectiveness) measures (Ammon’s, 2007).

### **Output Measures**

When functional departments or process areas in an organisation report how much they produced, they are basically indicating what their output was. These would include such things as the amount of product produced both at corporate and operational level, the number of work orders completed by maintenance or the number of purchase orders raised by procurement. Counting and tabulation of numbers is still the most common form of performance reporting (Ammon’s, 2007). However, its use for policy and management is limited. With raw output measures alone, the only message is ‘we are busy.’

### **Efficiency Measures**

Measures of efficiency report the relationship between output and the resources utilised. This relationship is most often expressed in cost per unit and any other appropriate ratios and average numbers. The key is to find measures that tabulate the operational efficiency of an organisation (Ammon’s, 2007). According to Office of Financial Management (2009:8), efficiency measures are attributes of the business process.

### **Business Performance Measurement Characteristics**

Through a systematic literature review of different definitions of performance measurement systems, Franco-Santos et al., (2007) observed that a performance measurement system three characteristics:

- (1) Features i.e., elements of a performance measurement system;
- (2) Roles i.e., purposes of a performance measurement system; and

(3) Processes i.e., series of actions that constitute a performance measurement system.

In so far as the features are concerned, Franco-Santos et al.,(2007) contend that the minimum requirements of a performance measurement system are (1) the use of performance measures and (2) supporting infrastructure which can be an information system or a set of processes or personnel required to support them. They argue that having a set of processes to review performance measures would establish enough evidence of a performance measurement system (Franco-Santos et al., 2007). Nonetheless, they note that the linkage between performance measures and an organisation's strategies could also be argued as another requirement (Franco-Santos et al., 2007). Further, they observe that although many definitions include characteristics of performance measures such as multi-dimensional, leading/lagging, efficiency/effectiveness, internal/external, vertically and horizontally integrated or multi-level; there is no consensus on generic types or characteristics performance measures (Franco-Santos et al., 2007).

As regards the performance measurement processes, Franco-Santos et al.,(2007) identify thirteen performance measurement processes:(1) information provision; (2) measures design/selection; (3) data capture;(4) data analysis; (5) target setting; (6) identify stakeholders' needs and wants; (7) strategic objectives specification; (8) planning; (9) interpretation; (10) decision making; (11) performance evaluation; (12) reward; and (13) review procedures. Later, they categorized these processes into a set of five key processes, i.e., the selection and design of measures, the collection and analysis of data, the management of information for decision making, performance evaluation and rewards, and system reviews (Franco-Santos et al., 2007). Nevertheless, they contend that only the first three processes, i.e. "information provision," "measure design/selection" and "data capture" are a minimum requirement of a performance measurement system (Franco-Santos et al., 2007). Taken together, it could be argued that to be considered as having a PM system, an organisation needs to have at least a set of procedures to design and select a collection of performance measures and to collect, review, and disseminate

### **Petroleum Refining Business Unit in Ndola**

The Indeni Refinery is a 23 kilo-barrel per day (kbpd)/1.1 million metric tonnes per annum (mtpa) refinery that was built approximately 40 years ago on an Ente Nazionale Idrocarburi (ENI) design believed to be based on the Sannazzaro refinery, in Italy. It is a simple refinery with the following main units: Atmospheric Distillation, Vacuum Distillation, Reforming unit, Naphtha and Kerosene Hydrotreater, Asphalt Blower (INDENI Strategic Plan, 2011)

Current throughput is limited to 850,000 metric tonnes per annum due to reconfigured commingled stock to meet market demand. It currently produces 90% of Zambian Petrol demand And 85% of diesel demand.

Crude oil, spiked with 25 % Heavy Naphtha and Gasoil, is purchased from Oman by the Government of the Republic of Zambia (GRZ) and shipped to jetty storage at Dar-as-Salaam port in Tanzania. At Dar-as-Salaam there are 3 x 35,000m<sup>3</sup> tanks and 3 x 45,000 m<sup>3</sup> tanks. There are two 'custody' transfer meters. Indeni have limited control over the mixing of the spiked crude before it is transferred into the Tanzania–Zambia Mafuta) TAZAMA pipeline. This pipeline, 1,700 km long, is 75% owned by Zambia and 25% by Tanzania. The pipeline runs to Indeni, at up to 1100m high, boosted by 6 pump stations, 4 in Tanzania and 2 in Zambia. Transport fees are

US\$7 /tonne. The pipeline is rated to run at 160m<sup>3</sup>/hr. but is currently only able to run at 100 m<sup>3</sup>/hr. due to pump and pipeline problems. The refinery requires 130 m<sup>3</sup>/hr. pipeline capacity is 117,000m<sup>3</sup>.

Crude oil is received into one of three 20,000m<sup>3</sup> crude storage tanks. At any one time, one tank is receiving, one settling and one feeding the refinery. After processing, products are stored in the finished product tank farm which has a capacity of 84,000m<sup>3</sup>. Product specifications for Gasoline and diesel are: 91 Octane minimum and 47 Cetane index minimum with 500 parts per million (ppm) sulphur max. There is no intermediate storage between process units but some the tanks are used for intermediate product storage. From Indeni products are taken by pipeline to TAZAMA's Ndola Fuel Terminal (NFT), which has a capacity of 75,000m<sup>3</sup>, and then by road tankers to the Oil Marketing Companies (OMC) or to strategic storage (INDENI Strategic Plan, 2011).

Liquified Petroleum Gases (LPGs) are mainly for industry or are exported for domestic use in East Africa. LPG and Fuel oil are taken by trucks over the weighbridge. Gases are sulphurous and are used for refinery fuel. Processing fees are US\$53/tonne.

Indeni would like to become a hub refinery exporting fuel to neighbouring countries and working to international standards. New project planned or in progress include: a Power station, which can be fuel oil powered, and a Bitumen plant. New projects planned include: Diesel Hydrotreater (DHT) (9,000 bpd), Isomerisation unit (ISOM) (3,000 bpd) and Hydrocracker. Budget cost for the DHT and ISOM is US\$60 million and for the HDC US\$350 million. The Control and Safety systems and field instrumentation were replaced in 2006. These systems are modern, working well and capable of much more.

Indene's vision is to be rated among the best refineries in Africa. The energy needs of the Zambian economy are growing year-on year. This demand is driven by new investment in the mining industry and a general increase in transportation and agricultural activity in the country (INDENI Strategic Plan, 2011).

Indene's strategy is therefore focused on growth primarily in terms of refinery output and therefore profitability. Currently, operating below design capacity, the first phase of investment is meant to increase output to the design capacity by implementing the DHT and ISOM projects. The second phase will be to develop a completely new refining unit parallel to the existing one.

An active business performance measurement system is a requisite precondition for the achievement of the objectives associated with this growth strategy both in terms of improving on current operations and monitoring the strategy implementation process. From the stakeholder perspective, a performance measurement system improves communication and improved relations with the shareholder (Government of the Republic of Zambia-GRZ), industry regulators Energy Regulation Board (ERB), the customer (TAZAMA) and the employees and Suppliers, among others.

## **RESEARCH METHODOLOGY**

### **Target Population**

The target population is a group or individual to whom the survey applies (Kitchenham and Pfleeger, 2002). It is those groups or individuals who are in a position to answer the questions and to whom results of the survey apply. Ideally, a target population should be represented as a finite list of all its members.

For this study the target population was composed of 18 senior managers, 36 middle managers and 10 employee representatives. These respondents were selected since they were more familiar with the internal business processes of the organisation and were therefore more informed on business performance measurement.

### **Pilot Study**

Openheim (1992) strongly emphasized the importance of pilot testing of the questionnaire. Pre-testing is essential to avoid unnecessary errors or confusions before the questionnaire is sent out to the selected sample.

A pilot study is used as a small scale version or trial run in preparation for a major study (Polit, Beck and Hungler, 2001). Backer (1994) noted that a pilot study is a pre-test of a research instrument. A sample size of 10-20 percent of the sample of the actual study is a reasonable number of participants to consider enrolling in a pilot (Polit, Beck and Hungler, 2001). A pilot study increases the likelihood of success in the main study.

A pilot study is used to check:

- That instruction are comprehensible
- the wording of the survey
- The reliability and validity of the results
- Statistical and analytical processes to determine if they are efficacious

For this study, a pilot test was conducted with the 10 respondents. Most of the respondent understood the questions and were able to answer the questionnaire within the 30 minute period. 1 respondent answered questions which related to their functional area only. To prevent this from happening, the word 'organisation' was underlined where it occurred on the questionnaire to emphasise that the questions related to the entire organisation and not the functional areas.

### **Limitation of the Research**

The basic limitation of this research was that the results could not be generalised to other organisations as the sample size was not sufficient for that purpose. It was however, generalizable to the population.

Results were limited as they provided numerical descriptions rather than detailed narrative and generally provided less elaborate accounts of human perception. Preset answers would not reflect how people necessarily felt about the subject of business performance measurement and in some cases could just have been the closest match. The development of the standard questions by the researcher could have led to structural bias where the data actually reflects the researchers view as opposed to that of the respondents.

## **RESULTS, DISCUSSION AND INTERPRETATION OF RESULTS**

### **Response Rate**

The total sample comprised of 54 staff members from the selected organisation. These staff members comprised of senior managers, middle managers as well as employee representatives. Therefore, a total of 54 questionnaires were administered in the study. The response rate generated from the questionnaires was 96 %.

### **Data Analysis**

A total of 52 copies of the questionnaires were collected from respondents and entered into both Microsoft Excel and the Statistical Package for Social Scientists (SPSS).

The data captured from the questionnaires were analysed and converted into percentages and collated into graphical illustration to make the data meaningful.

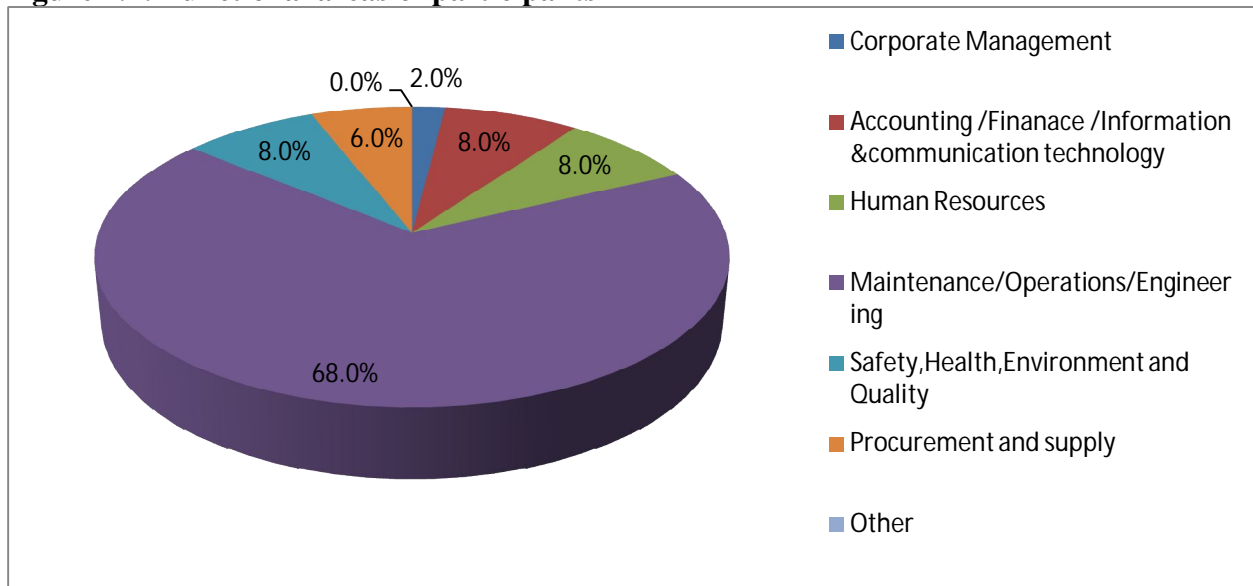
The analysis of the data followed the layout of the questionnaire distributed. The following is a discussion of the analyses of the data collected.

**Analysis of Data**

**Functional Areas of Participants**

The participants in the study arose from different functional areas within organisation. Figure 4.1 below, depicts the functional areas that participants represented within the organisation. Sixty eight per cent were from operations, engineering and maintenance. Eight per cent were from human resource. A further 8 % were from accounts, finance and information and communication technology. Yet another 8 % were from the safety, health environment and quality functional area. Procurement and supply was 6 % while corporate management was 2.0%. It can be argued that all the functions of the organisation were represented to get an inclusive assessment of business performance measurement in the organisation. The proportion of the participants from operations, engineering and maintenance was the highest because the refining business requires more staff with technical skills.

**Figure 4.1: Functional areas of participants**



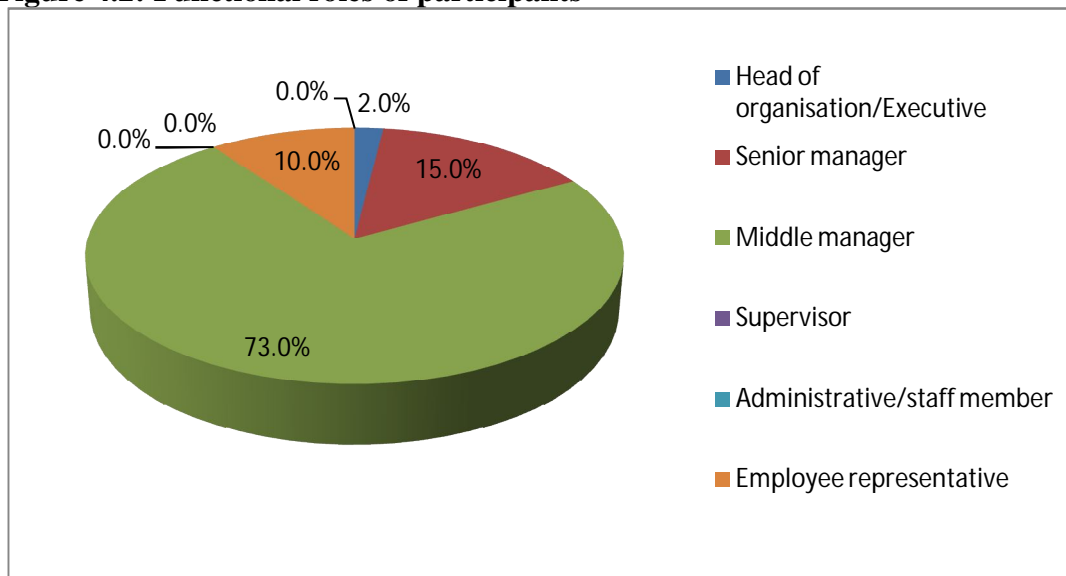
**The Functional Role of Participants**

The Figure 4.2 below illustrates the roles of the participants within the organisation. Seventy three per cent were middle management staff members while, 15% were senior managers. Ten per cent were employee representatives and 2.0% executives. No participant fell in the roles of supervisors and administrative staff members.

**Duration of Participants in their Current Role**

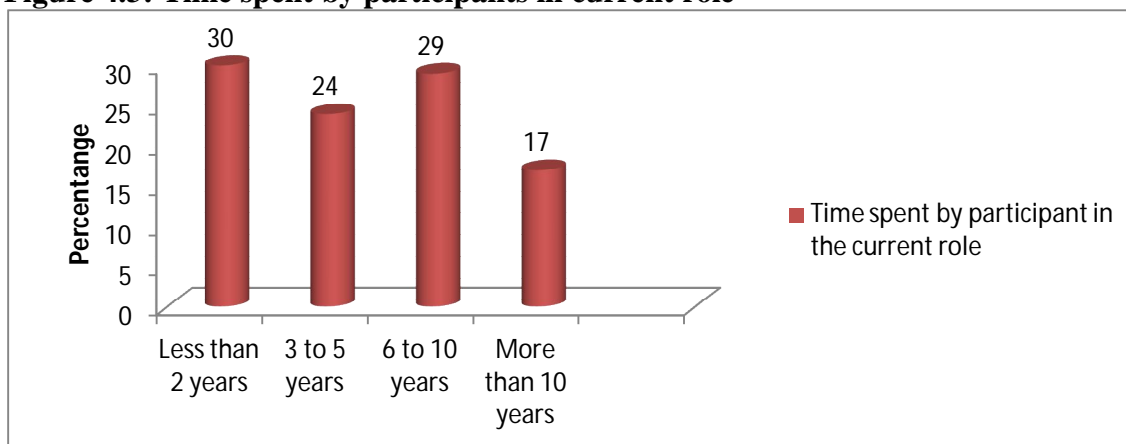
Figure 4.3 below, shows the amount of time in years participants have spent in their current role. Thirty per cent have been in their role for less than 2 years. Twenty four per cent have spent between 3 to 5 years in their current role while 29% had spent 6 to 10 years in their current role. Only 17% had spent more than 10 years in their current role.

**Figure 4.2: Functional roles of participants**



However, although the 30% of participants, had been in their current role for less than 2 years, it can be argued from the nature of their functional roles (figure 4.2), that they had undergone reasonable training on business performance measurement as they were either senior managers or middle managers, supervisors and workers representatives. Their responses on the assessment of the current business performance measurement in the selected organisation were therefore considered.

**Figure 4.3: Time spent by participants in current role**



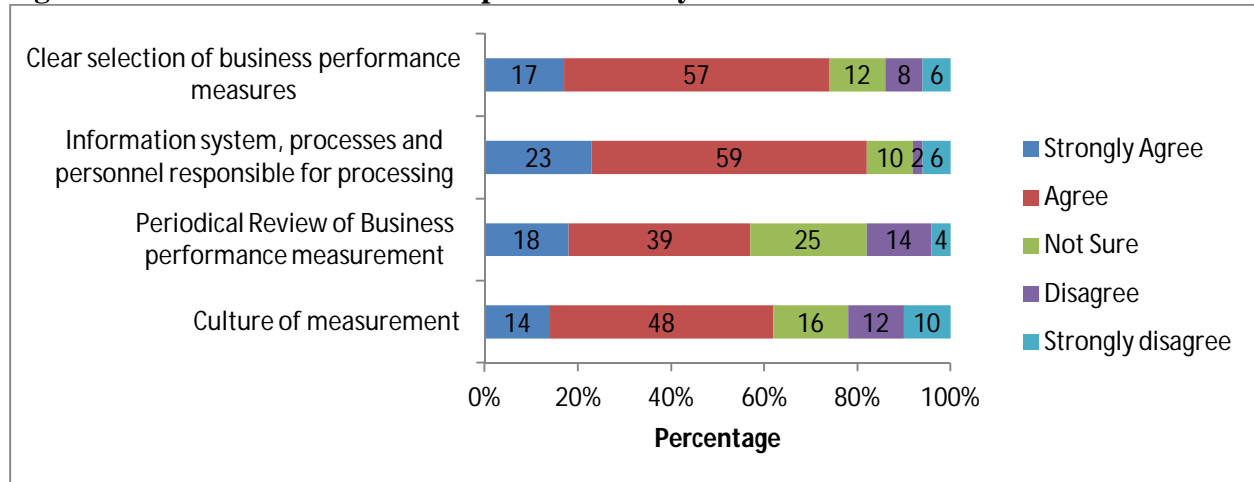
**The Existence of a Business Performance Measurement System**

According to Franco-Santos et al.,(2007) an organisation needs to have at least a set of procedures to design and select a collection of business performance measures. Further, to collect, review as well as disseminate data pertaining to the business performance measures. Figure 4.4 below, illustrates the results of the data collected with regards to this aspect. Participants were provided with four statements and had to provide their level of agreement to the statements (Refer to Annexure 1, Section 2).

Seventeen per cent strongly agreed with the statement that there is a clear selection of business performance measures within the organisation. Fifty seven per cent agreed while 12 % were not

sure. Eight per cent of the respondents had disagreed that there was a clear selection of business performance measures, while 6 % strongly disagreed.

**Figure 4.4: Existence of a business performance system**



However, simply having a selection of business performance measures is insufficient. Therefore, an organisation requires an information system, processes as well as personnel for the processing of business performance measures.

Twenty three per cent of the participants strongly agreed that there is an information system, processes as well as personnel responsible within the organisation for processing business performance measures. Fifty nine per cent agreed, while 10 % were not sure about the statement. 2% disagreed and 6% strongly disagreed.

Further, respondents were asked whether there was a periodic review of the business performance measurement system within the organisation, to keep the organisation abreast with the changing business environment. Eighteen per cent of the respondents strongly agreed, while 39% agreed with the statement. However, 25% were not sure and a further 14% had agreed while 4% strongly disagreed. It can be argued that approximately 57% of the participants believed that the organisation conducts periodic reviews of the business performance measurement.

Respondents were also asked if there was a culture of measurement. 14% of the respondents strongly agreed, while 48% agreed. Only 16% of the respondents was not sure, 12% of the respondents had disagreed and a further 10% strongly disagreed. Therefore, it can be argued from the data generated that a business performance culture of measurement exists.

The performance review meeting for tracking strategy implementation is essential therefore staff members within the organisation need to attend meetings on a regular basis.

From the above, the positive responses to the four statements, it can be concluded that the organisation possess the requisite aspects that qualifies it as an organisation that has a performance measurement system in place. This set the ground for a more detailed analysis to be carried out on the measures that are used, what they are used for and what outcomes accrue to the organisation on account of their use.

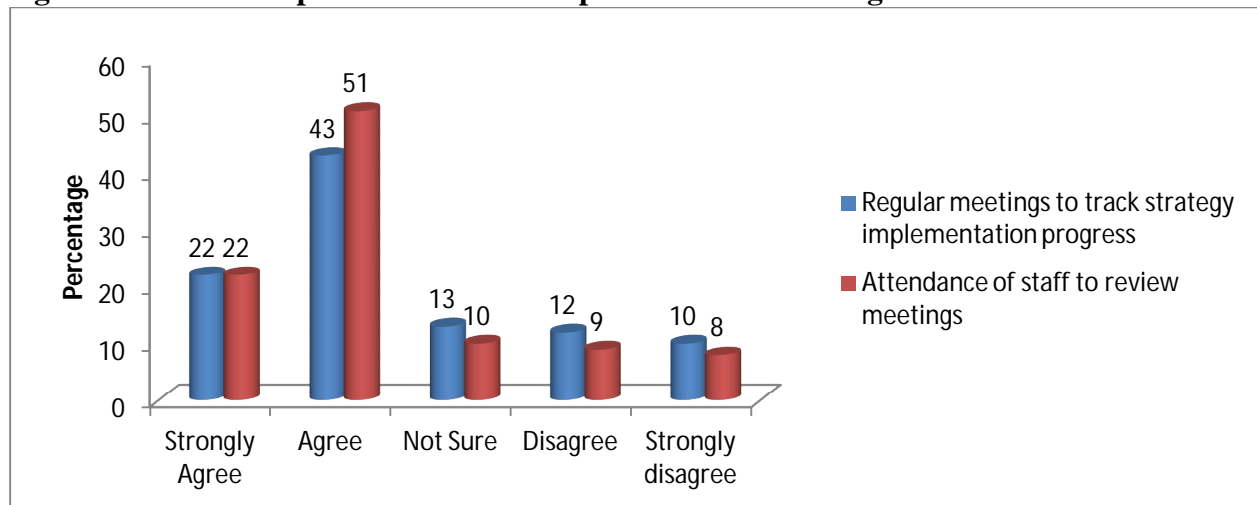
**Business Performance Review Process**

To be effective, business performance measurement must also be linked to implementation of the strategic plan. Figure 4.5 illustrates the responses from participants to two statements. (Refer to Annexure 1, Section 2, and item 5). The first statement makes reference to whether meetings are

held to review the organisations business performance measures to track progress on strategy implementation. According to the data generated 22% of the participants strongly agreed while 43 % agreed. Fourteen per cent of the participants were unsure. Twelve per cent of the participants had disagreed while 10% of the participants strongly disagreed that regular meetings were held to review the business performance measures. Therefore, it can be argued that 65% of the participants responded positively that regular meetings were held.

Further, participants were asked whether the staff responsible for the business performance measures attended the regular meetings that were held. Again, participants responded positively, with 51% of the participants agreeing that staff responsible is attending review meetings. Ten per cent of the participants responded as being not sure, while 10% disagreed and 8% had strongly disagreed.

**Figure 4.5: Business performance review process at selected organisation**



From the above responses, it can be argued that regular meetings are held to track the progress of strategy implementation. It is further evident from the responses generated, that staffs within the organisation that are accountable are attending the review meetings.

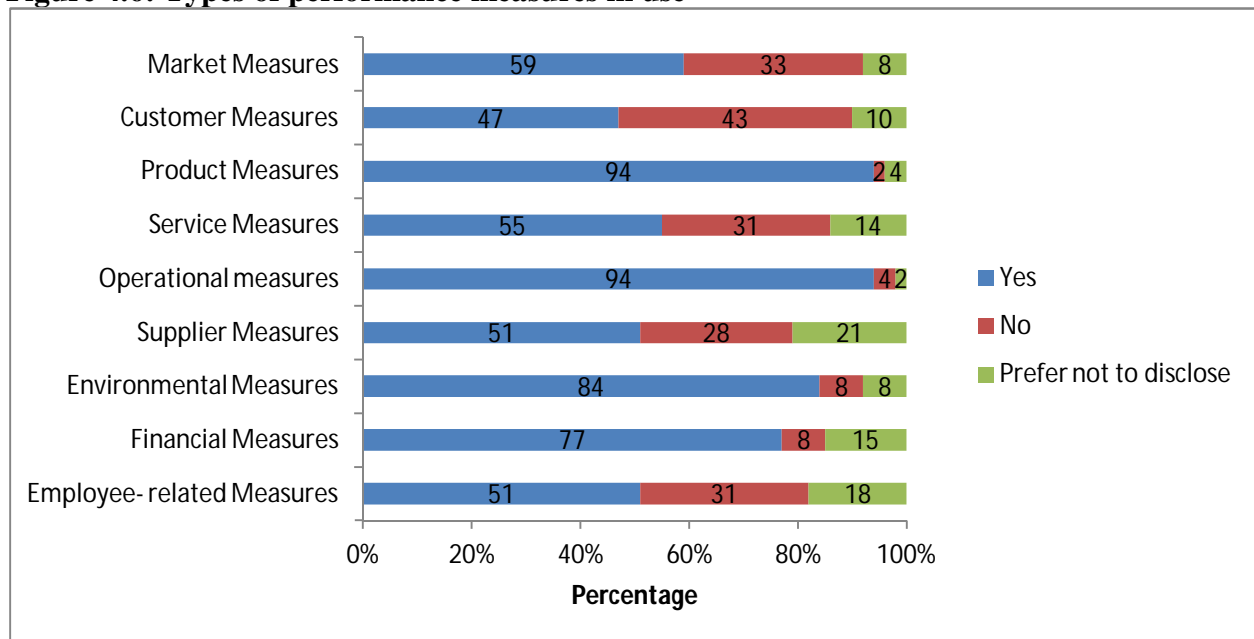
**Types of Business Performance Measures Used**

Respondent were asked whether the various types of business performance measures are being used within the organisation. A total of 9 business performance measures were selected (Refer to Annexure 1, Section 2, and Item 6). For each of these items that participants were asked to respond with a ‘yes’ if they believed that particular type of measure was in use within the organisation or ‘No. The participants also had the option of ‘prefer not to disclose’. Figure 4.6 below depicts the data generated.

According to the results generated, 94% of the respondent responded positively that product and operational measures were used. Eighty four per cent of the respondents also responded positively that environmental measures were used, while 77% agreed that financial measures were used.

Further, a high percentage of respondents disagreed that certain measures were not being used. Forty three per cent responded negatively that customer measures were used. Thirty one per cent of the respondents stated that service and employee related measures were not used, while 33% stated that market measures were not used.

**Figure 4.6: Types of performance measures in use**



Therefore it can be argued that there was general agreement that product and operational measures were in use in the organisation. Operational measures included product quality measures, technology measures such as equipment performance measures and measures for internal operational processes such as product output (Ammon's, 2007). The evidence on operational and product measures suggests that the organisation is more product- focused than customers focused in terms of its business performance measurement approach. This could be partly attributed to the fact that it is a processing plant for petroleum products. Demand for these products is inelastic and therefore operational measures such as production quantity, for example, are more important than customer measures such as customer satisfaction.

Although the inelastic demand petroleum products can cover for some customer dissatisfaction, the trend of not placing enough emphasis on customer measures, can lead to the business not performing well in the event that, for example, competition is introduced in the industry by a government policy, that allows oil marketing companies to import finished petroleum products instead of just depending by those produced by crude oil processing which is the core business of the selected organisation. Employee- related measures have a bearing on employee productivity. Internal processes, work methods, procedures are improved using data derived from employee-related business performance measurement. The selected organisation may be losing out on opportunity to have a basis for developing core competences (Thompson, Gamble and Strickland, 2004).

Further, for better supply chain management with its associated impact on competitiveness, organisations regard suppliers as partners. Internal business processes such as quality assurance and management, hinge on good relationships with suppliers. Measures related to how these suppliers are performing are therefore an important aspect of business performance measurement with its attendant benefit of better monitoring of strategy implementation. Supplier measures are therefore an important aspect for the organisation to focus on fully.

Service measures are also less used relative to operational measures in the selected organisation. For all- round competitiveness and increased customer satisfaction in terms of such parameters as product availability and timely deliveries of products, these are measures that need to be given greater impetus by the organisation.

**Financial Business Performance Measures**

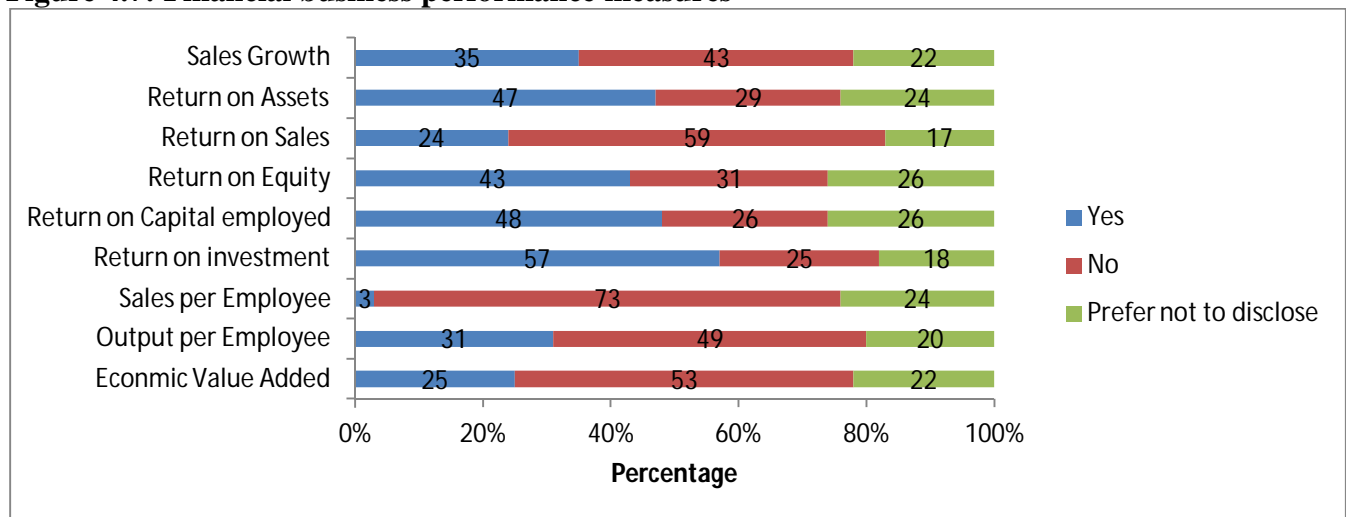
Business performance measurement has always been underpinned by the financial performance measures. The results below (figure 4.7) illustrate a selection of financial measures that are used within the organisation.

Thirty five per cent of the respondents responded positively that sales growth was used as a financial performance measure while 43% responded negatively and 22% preferred not to disclose.

On return on assets as a financial measure for business performance measurement, 47% indicated yes with regard to its use while 29% indicated no and non-disclosure was 24%. The return on sales, 24% indicated yes. 59% responded negatively, while 17% of the respondents preferred not disclose.

Forty three per cent indicated that return on equity was used as a business performance measure within the organisation. Thirty one per cent and 26% of the respondents respectively, stated that return on equity was not used as a financial business performance measure.

**Figure 4.7: Financial business performance measures**



Forty eight per cent of the respondents indicated that return on capital employed was used as a financial business performance. Further, 57% of the respondents indicated that return on investment was also used as a financial business performance measure. However, 26% and 25% of the respondents negatively responded indicating that return on capital employed and return on investment respectively were not used as business performance measures. Twenty six per cent of the respondents preferred not to disclose as regards the use of return on capital employed, while 18% preferred non-disclosure as regards the use of return on investment.

When asked whether Sales per employee was used as a financial business performance measures, only 3% of the respondents indicated that it was used. 73% said it was not used, while 24% preferred not to disclose, Respondents were also asked whether output per employee (labour

productivity) was used as a financial performance measure. Thirty one per cent of the respondents indicated that it was used. Forty nine per cent indicated that it was not used, while 20% preferred not to disclose.

Further, respondents were asked if economic value added was used as a financial business performance measure. Twenty five per cent of the respondents indicated that it was used, while 53% indicated that it was not used. Twenty two per cent of the respondents preferred not to disclose.

Therefore, from the data generated it can be argued that sales growth, return on sales, sales per employee, output per employee as well as economic value added are not used as financial business performance measures within the organisation.

On the other hand return on assets, return on equity, return on capital employed and return on investment are used. There seems to be an emphasis on performance measures that are required by external users such as the shareholders and little emphasis on measures that enhance improved internal business performance and efficiency.

Figure 4.7 shows that financial measures that are tied to the sales are less used in the organisation. This is in addition to the fact that there is less emphasis on customer measures in relation to say, operational measures. Clearly, this lack of focus on the customer and on building revenue does not only have an adverse effect on the competitiveness of the organisation but also on its potential for business growth, particularly in revenue terms. It must be pointed out that part of the reason for this is that the organisation is a parastatal company. As a result, the price of its products is not determined by their market value but rather by the government and the energy industry regulator. This does not only fix the price but also the potential for revenue growth. It follows therefore that not much emphasis is placed on sales related business performance measures.

Furthermore, labour productivity and efficiency are not measures in use within the organisation. This has implications on the optimisation of the head count in the organisation as were as competitiveness in terms of having a good talent pool when employee reward is tied to overall business performance.

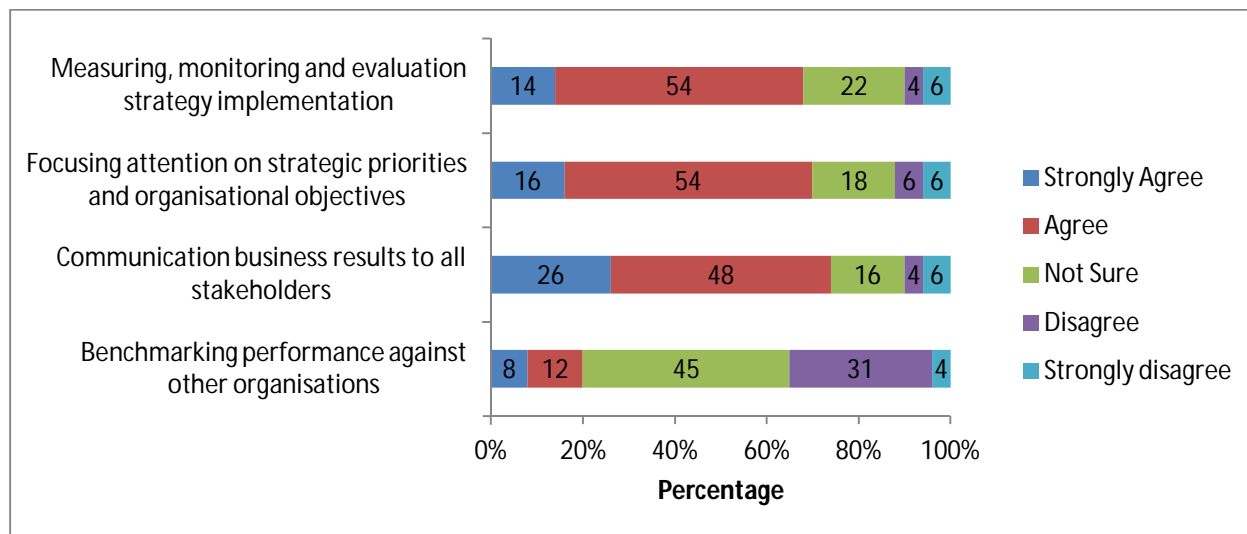
Additionally, economic value added could be less used because it is not easy to estimate and its sensitive high levels of inflation (Dumitru and Dumitru, 2009). More importantly it varies significantly across industries and as a measure, the organisation may not find a suitable comparator. This is compounded by the fact that as depicted in the illustration (Figure 4.8a) below, benchmarking is not one of the uses of business performance measurement in the organisation.

#### **4.4.8 The Uses of Business Performance Measurement within the Organisation**

Business performance measurement is used for a number of purposes within an organisation. Respondents were asked using a rating scale to rate statements with regards to the uses of business performance measurement.

Figure 4.8a below is a summary of some of the first 4 important uses of business performance measurement within the organisation under study.

#### **Figure 4.8a Uses for business performance measurement in the organisation**



Fourteen per cent of the respondents strongly agreed that the performance measures arising from the performance measurement system are used for measuring, monitoring and evaluation of the implementation of the business strategy. Fifty four per cent agreed, while 22% were not sure. 4% disagreed that performance measures arising from the performance measurement system are used for measuring, monitoring and evaluation of the implementation of the business strategy and 6% strongly disagreed. Approximately 68% of the participants indicated in the affirmative that the information from business performance measurement was used for measuring, monitoring and evaluation of strategy implementation in the organisation.

With regards to focusing on the strategic priorities and organisational objectives, 16% of the respondents strongly agreed with the statement. Fifty four per cent agreed, 18% were not sure, 6% disagreed and 6% strongly disagreed. The greater majority of the participants (70 %) were in agreement that the strategic priorities and objectives were being focused upon in the organisation on account of the fact that there was information emanating from the business performance measurement system.

Further, as regards the use of business performance measurement to facilitate communication of business results to all stakeholders, 26% of the respondents strongly agreed that business performance measurement enabled the communication of business results to key stakeholders. 48% of the respondents agreed while 16% were not sure. The proportions of those that disagreed and strongly disagreed were 4% and 6% respectively. Again there was general consensus among the participants that business performance measurement results are used for communication to internal and external stakeholders (74%).

The use of business performance measurement for benchmarking performance against other organisations received 8% strongly agree responses from the respondents, 12% agreed and 45% were not sure. The proportion of those who disagreed was 31% and those who strongly disagreed were 4%. Approximately 20 % provided a positive response indicating that business performance measurement was used for benchmarking however, approximately 35% were dissenting. Clearly, there was a general agreement that business performance measurement was not being used for benchmarking it with the business performance of other similar organisations in the industry.

Comparing Figure 4.8a to Figure 4.7, seem to suggest that there could be a concentration on financial measures that communicate business results to external stakeholders. In other words, it can be argued that external stakeholders are of particular importance to the organisation in so far as the business performance of the organisation is concerned.

Secondly, benchmarking does not seem to receive enough attention in the organisation. The lack of a similar facility elsewhere due to old technology ( therefore different processes), limited access to business performance measurements results from comparable business units ( Kaplan, 2005) and the little focus by management on this aspect can account for the fact that business performance measurement is not used for this purpose.

Figure 4.8b illustrates the results of the responses for the last 4 statements of item 8 in Annexure A. With regards to compliance to regulations and legislation is concerned, 28% strongly agreed that business performance measurement was used for this. Sixty three per cent agreed while 7% were not sure 2% disagreed and there were no respondents that strongly disagreed. Approximately 91% of the participants endorsed the fact that business performance measurement was used for ensuring that there was appropriate information that is used to demonstrate that the organisation was complying with both legislation and regulatory requirements of the industry.

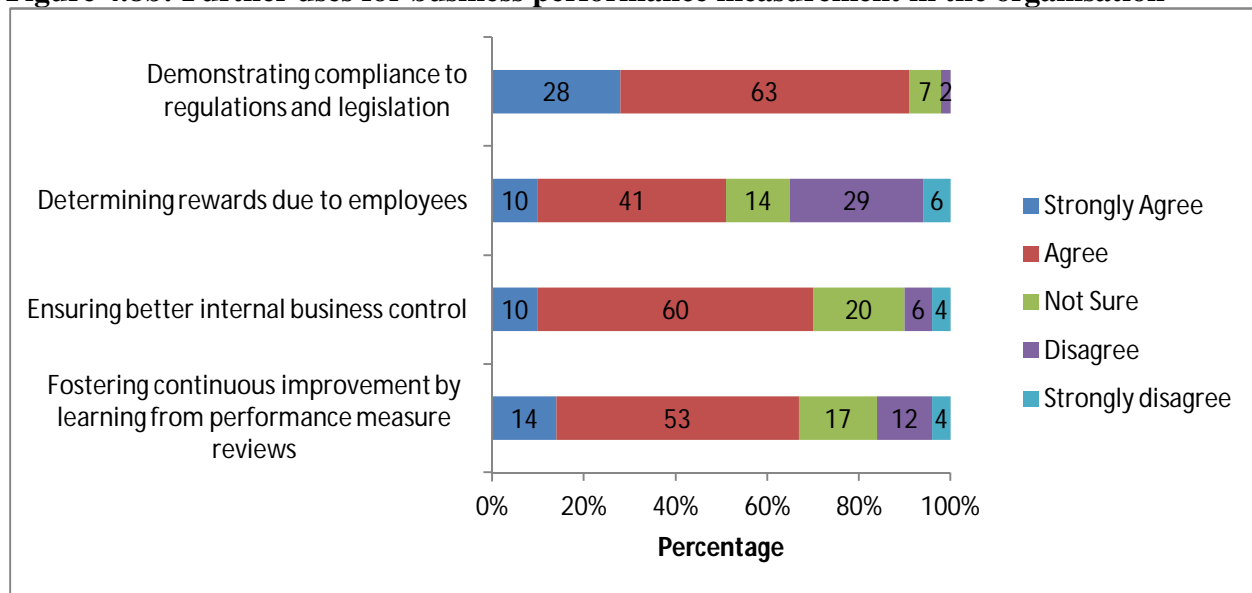
Ten per cent strongly agreed, 41% agreed, 14% were unsure, while 29% and 6% disagreed and strongly disagreed that employee rewards were a result of business performance measurement.

Further, 10% strongly agreed and 60% agreed that business performance measurement was used for ensuring better internal business control. Approximately 70% of the participants therefore positively responded that business performance measurement was used for this purpose. This can be compared to 20% who were not sure and 6% and 4% who disagreed and strongly disagreed respectively.

Lastly, concerning fostering continuous improvement by learning from the performance measure reviews, 14% of the participants strongly agreed that business performance measurement was used 53% agreed and 17% were not sure. Further, 12% disagreed and 4% strongly disagreed. It follows therefore that approximately 67% of the participants responded positively on this aspect. The dominant uses of business performance measurement were the communication business results to internal and external stakeholders and demonstration compliance to regulation and legislation.

The use of performance measurement for the determination of employee rewards also had a relatively higher proportion of people who responded negatively concerning the use of business performance measurement for that purpose within the organisation. Coupled with no employee productivity measures as illustrated in figure 4.6, rendered employee -related measure usage marginal.

**Figure 4.8b: Further uses for business performance measurement in the organisation**



Based on the foregoing the predominant use of business performance measurement is in ensuring compliance to legal and regulatory requirement. This is followed by communication to internal and external stakeholders, internal business control and focusing attention on strategic priorities, then fostering continuous improvement and measuring, monitoring and evaluation of strategy implementation.

It goes without saying that the impetus for business performance measurement use seems to firstly emanate from the need for the organisation to satisfy external stakeholders. This is in line with the submission that business performance measurement must reflect the context in which it is applied (Neely, 2008). The energy sector in which the selected organisation operates is a highly regulated sector and compliance is an important aspect. This is augmented by the second most important use of business performance measurement for this organisation which is communication with internal and external stakeholders. Compliance related business performance measures, must be adequately communicated to the relevant external stakeholders. This is in addition to the financial performance information alluded to in section 4.7 above. It seems that for this selected organisation, business performance measurement starts with the stakeholders (Neely et al., 2002). The downside to this is that drawing impetus from external stakeholders blind-sides the organisation from the other performance measurement uses that form the basis for better strategy implementation, process efficiency, talent retention and ultimately future business growth. In other words, responding to external stakeholder in business performance measurement implementation encourages short-termism. For example, for the selected organisation, measuring, monitoring and evaluation of strategy implementation and performance driven employee rewards rank relatively lower as ways in which business performance measurement is used when in the long term these can make the business more competitive.

**Outcomes of Business Performance Measurement within the Organisation**

Business performance measurement is meant to achieve a number of technical system outcome and social outcomes. Figure 4.9a below, illustrates the impact of business performance

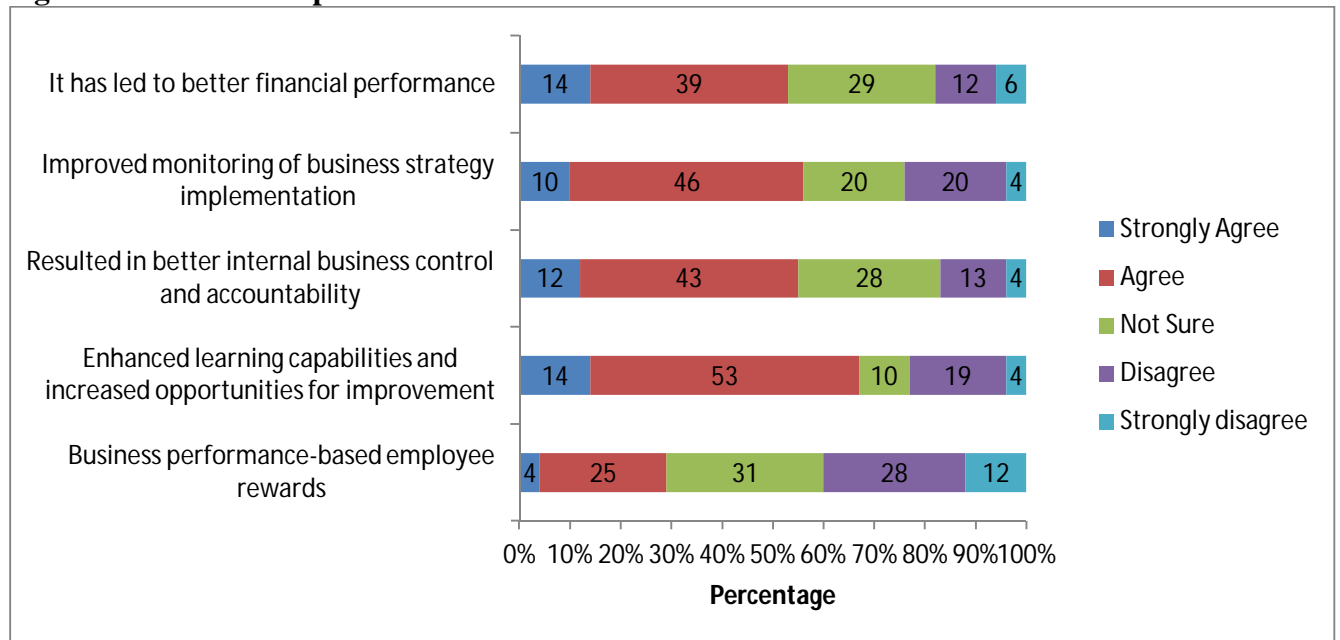
measurement on different aspects of the business management of the organisation (Refer to Annexure 1, Section 3, items 12 -14 and 16 -17). Figure 4.9b below depicts how business performance measurement has affected communication with the various stakeholders (Refer to Annexure 1, Section 3, and item 15).

**Business Process Outcomes**

Figure 4.9a, below, depicts the business process outcomes of business performance management within the organisation. With reference to figure 4.9a below, 14% of the respondents strongly agreed that business performance measurement had resulted in better financial performance for the organisation. Thirty nine per cent of the respondents agreed and 29% were not sure. Twelve per cent disagreed while 6% strongly disagreed. Considering that 53% of the participants were more positive about the statement compared to approximately 18% who were negative regarding whether business performance measurement led to better financial performance within the organisation, it can be argued that there was agreement that financial performance was enhanced by business performance measurement.

It is clear that 10% strongly agreed that business performance measurement improved the monitoring of strategy implementation within the organisation. Forty six per cent of the respondents agreed while 20% were not sure. Twenty per cent disagreed and 4 % strongly disagreed. Fifty six per cent of the participants were positive that the organisation had improved its strategy monitoring process as a result of business performance measurement.

**Figure 4.9a: Business process outcomes**



When respondents were asked about the internal business control and accountability within the organisation, 12% strongly agreed with the statement, while 43% agreed. The proportion of participants who were uncertain was 28%. Participants who disagreed and strongly disagreed were 13% and 4% respectively. It is evident that approximately 55% of the participants believed that the organisation s internal control and accountability had improved.

Concerning enhanced learning capabilities and increased opportunities for improvement, 14% strongly agreed that it was there while 53% agreed. Ten per cent were not sure, 19% disagreed

and 4% strongly disagreed. With approximately 67% of the responses in the affirmative there is every indication to the effect that better learning capabilities and identification of opportunities for improvement has been an off shoot of business performance measurement.

Business performance-based employee rewards as an outcome of business performance measurement received 4 % strongly agree responses, 25% agree responses and 31% not sure responses. The proportion of those who disagreed was 28% and those who strongly disagreed were 12%. Approximately 29 % provided a positive response indicating that business performance measurement contributed to business performance-based employee rewards. However, approximately 40% were dissenting. Clearly, there was general agreement that business performance measurement did not positively contribute to the employee- reward system.

Overall the current performance measurement system had a positive impact on financial performance, the monitoring of the strategy implementation process, internal business control and accountability and learning and discovering opportunities for continuous improvement. It however, had a negative impact employee reward system.

The fact that the current performance measurement system seems to place less emphasis on its linkage to the employee reward system, limits its impact in terms of yielding the expected technical/social and business outcomes. This can undermine the competitiveness of the business. This lack of emphasis on the employee- related performance measures is also evident in the financial measures that are used at the organisation. So it not only revenue figures which are not measured per employee but the reward system is also not based on business performance measurement.

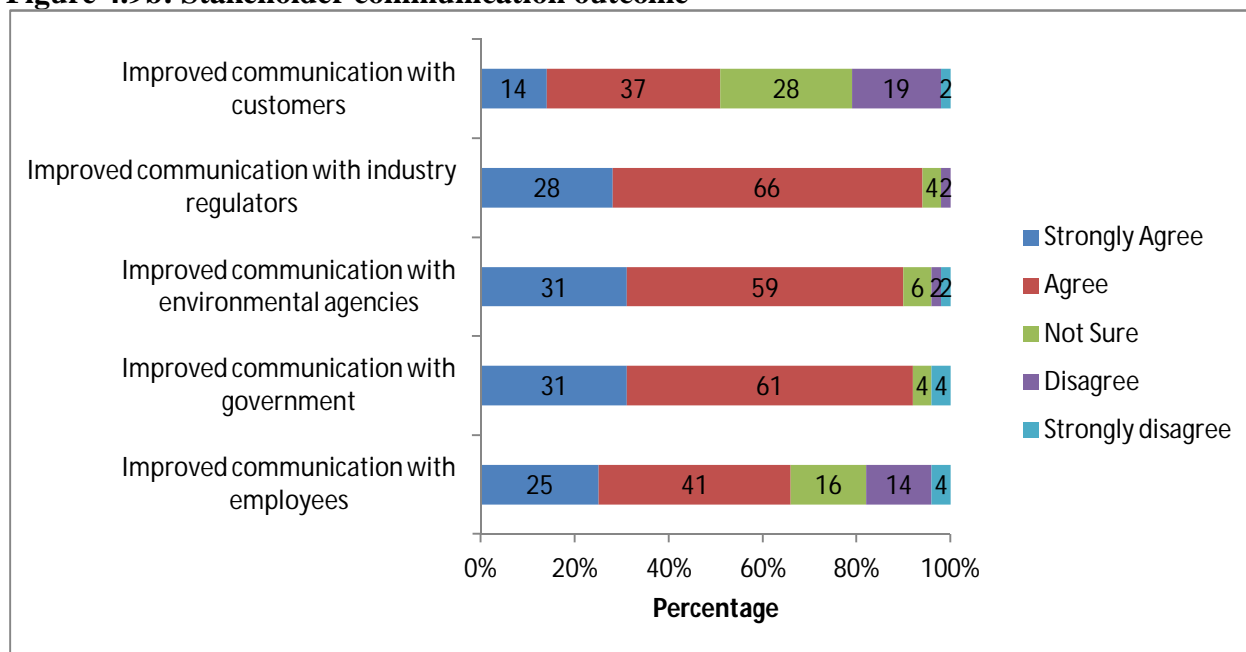
#### **Stakeholder Communication Outcome**

With regard to outcomes that are related to communication figure 4.9b depicts the results of the analysis.

Fourteen per cent strongly agreed that results from the performance measurement system improved communication with the customers. Thirty seven per cent agreed. Twenty eight per cent were uncertain while 19% disagreed with 2.0% who strongly disagreed. The affirmative responses were 51%.

Concerning improvement in communication with the industry regulators, 28% strongly agreed. 66% agreed. 4% were not sure while 2.0% disagreed. No one strongly disagreed. These results constitute a 94% affirmative response that business performance measurement improved communication with the industry regulators. This is consistent with the other findings about business performance measurement use which strongly suggested that external stakeholders were the drivers of business performance measurement in the selected organisation.

**Figure 4.9b: Stakeholder communication outcome**



With respect to improved communication with the environmental agencies, 31% strongly agreed. Fifty nine per cent agreed. Six per cent were not sure while 2% disagreed. Two per cent strongly disagreed. The positive responses accounted for 90% of the participants. These are the stakeholders who are responsible for environmental compliance and are again an important stakeholder in the industry the selected organisation operates.

Thirty one per cent strongly agreed that results from the performance measurement system improved communication with the Government. Sixty one per cent agreed. Four per cent were uncertain while none disagreed. Four per cent strongly disagreed. The affirmative responses were 92%.

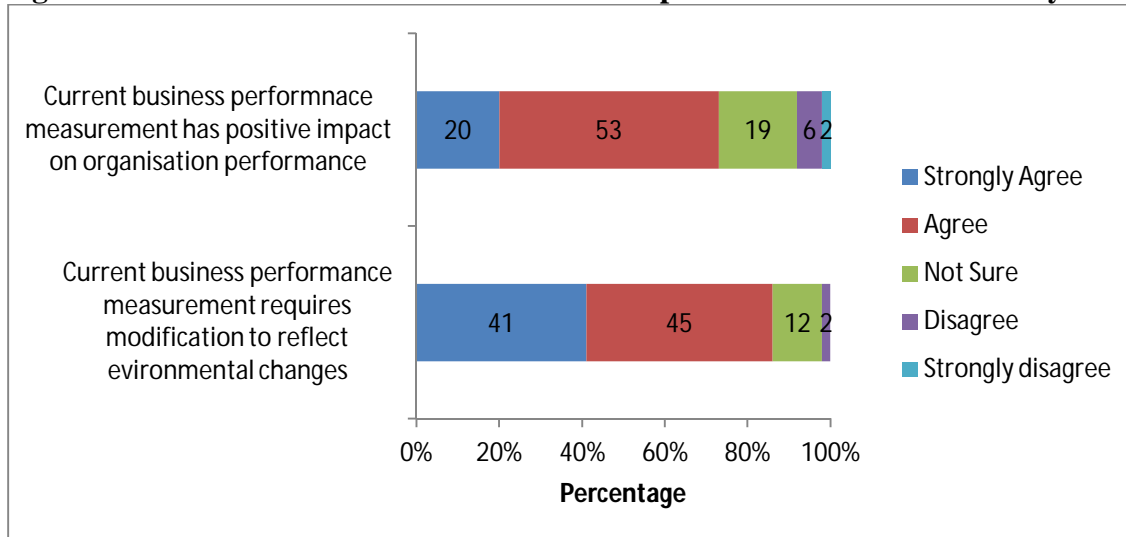
That there was improved communication with the employees was strongly agreed by 25% of the participants. Forty one per cent just agreed. The proportion of those who answered in the affirmative was therefore 66%. On the other hand, 16% were not sure and 14% and 4% disagreed and strongly disagreed respectively. The proportion of positive responses 66% and those that dissented were 18%.

Communication with the industry regulators, the shareholders (Government) and environmental agencies was found to have improved on account of business performance measurement. In fact, as is evident above, all these stakeholders scored above 90.0% in terms of the affirmatives responses on whether or not business performance measurement improved communication. This is in stark contrast to the impact of performance measurement on communication with employees and customers whose respective positives responses are 66% and 51%. This pattern emerges even when the financial performance measures used by the organisation are considered. It is clear that returns on equity and return on capital employed, as measures are more pronounced in the organisation compared to sales growth or employee productivity measures. However, the selected organisation needs to embrace these measures if it is to survive as a business and remain competitive in the long term.

**Current Business Performance Measurement System Assessment**

Figure 4.10 below illustrates the results of the analysis for the current business performance measurement system with respect to the participants perception regarding both its impact on organizational performance and the need for modification to align it with the changing business environment (Refer to Annexure 1, Section 3, items 10 -11).

**Figure 4.10: Assessment of the current business performance measurement system**



When the respondents were asked whether the current business performance measurement system has impacted organizational performance positively, 20% of the respondents strongly agreed. Fifty three per cent agreed, while 19% were not sure. While 6% disagreed, 2.0% strongly disagreed. The combined affirmative percentage was 73% compared to a meagre dissent proportion of 8%. Without doubt then, the majority of the participants positively responded that the current business performance measurement system had an overall positive impact on the performance of the organisation.

However, responses were solicited to see whether the responses of the participants as regards whether the current business performance system required any modification to reflect the dynamic business context. Forty one per cent strongly agreed that a modification to the current business performance measurement system was important. Forty five per cent also agreed. While 12% were not sure, 2.0% disagreed and no one strongly disagreed. At 86% the proportion of people who responded in the affirmative was overwhelming.

The need for a modification was almost unanimous. From the survey results, some of the areas of modification that are apparent relate to the business performance measurement system addressing measures for customers, suppliers and employees more aggressively than is the case at the moment. The implication of this is that there is need to have a more balanced portfolio of measures than is currently the case (Kaplan, 1992; Neely et al., 2002).

**Conclusion**

The findings of the study are discussed and interpreted in this chapter. Business performance measurement was found to be in use at the organisation. Both financial and non-financial measures were in use. However, the financial measures focused mostly on shareholder indicators and neglected the internal business efficiency measures. Conversely, the non- financial

measures –set available at the organisation revolved around the operational measures with relatively less emphasis on customers, suppliers and employees. This notwithstanding, it was observed that the current performance measurement system still had a positive impact on the organisation's business performance.

## **CONCLUSIONS AND RECOMMENDATIONS**

### **Findings from the Literature Review**

Below, the findings for the study are compared to the body of knowledge highlighted in the literature reviewed especially in this study.

### **Minimum Requirements for a Business Performance Measurement System**

The organisation had a selection of performance measures and a supporting infrastructure of an information system, a set of processes and personnel to support the business performance measurement system (Franco-Santos et al., 2007). The dynamicity of the business performance measurement system was evident, as the organisation had a review process that continuously monitored the internal and external context and reviewed objectives and priorities (Taticchi et al., 2010).

There was culture of measurement in the organisation. Strategy implementation was tracked using business performance measurement and staff members responsible for taking critical decisions and action attended the periodic review meetings. The recording, analysing and distribution of business performance information were embedded in the rhythm of the organisation with business performance measurement system in use by managers (De Waal, 2007).

### **Types of Business Performance Measures**

Both financial and non-financial business performance measures were in use within the organisation. The concept of balance, whereby different measures and perspectives are used to provide a holistic view of the organisation, exists in the organisation (Taticchi et al., 2010; Neely and Kennerly, 2000; Kaplan and Norton 1992). Additionally, output, efficiency and effective measures were available within the organisation (Ammon's, 2007).

However, although different measures are used, some measures are more emphasised than others. Financial, product/operations measures and environmental measures were emphasised. Customer and employee measures were relatively less emphasised. Being a monopolistic parastatal, the organisation is more accountable to the shareholders and the industry regulators than it is to the customers and the employees. In the face of competition, the organisation is likely to lose customers or fail to develop the requisite core competences. Further, it would have high staff attrition due to rewards that are not tied to performance. The organisation's approach, conflicts with the assertion that selecting a strategy first and aligning it with stakeholder needs is more crucial for business performance measurement than seeking to address multiple stakeholder needs first ( Kaplan,2010). It can be suggested that, inelastic demand for the petroleum products produced by the organisation, negated the need to concentrate on customer measures and market measures.

The study revealed that financial business performance measures are still important for this organisation (Gianaccarro et al., 2007). However, the profitability measures, namely, return on assets, return on equity, return on capital employed and return on investment were prominently used. This highlighted the importance of stockholders to the organisation.

Conversely, efficiency measures such as sales per employee and output per employee were less emphasised. Arguably, not tracking efficiency measures that relate to business processes may lead to inadvertent utilization of more resources per unit of output. Opportunities for incremental or continuous improvement of internal business processes would as a result be lost (Ammon's, 2007).

### **The Uses of Business Performance Measurement**

From the data generated in this study, it can be argued that business performance measurement is used to assess strategy implementation within the selected organisation. It enables attention to be focused on strategic priorities and objectives (Bourne et al., 2000). It is used for reporting the business results to stakeholders; communicating business results to shareholders, industry regulators, employees and management (Melchers and Willoughby, 2005). Business performance measurement is also used for demonstrating compliance to legislation/regulations as well as for internal business control.

According to De Waal and Coevert (2007), financial and non-financial business performance information impacts decision making, managerial action-taking, internal business control, fostering improvement through learning and the determination of employee rewards. This was found to be so for the organisation under study. However, business performance measurement did not result in benchmarking (Chearskul, 2010). Lack of a similar facility elsewhere due to technological obsolescence and limited access to business performance measurement results from comparable business units, might account for this (Kaplan, 2005).

### **Outcomes of Business Performance Measurement**

Business performance measurement should achieve a number of technical system outcomes and social outcomes (Chearskul, 2010). The findings of this study suggest that business performance measurement has resulted in better internal business control and accountability; particularly accountability to the stockholders, environmental agencies and regulators.

In addition, there was learning and continuous improvement implying that the organisation has relevant and comparable business performance measures; telling the organisation if business performance is improving, getting worse or remaining the same (Ammon's, 2006).

The results of the findings of the study further suggest that the financial performance of the business was enhanced by business performance measurement (Neely, 2002). However, the little emphasis on business performance-based employee rewards could affect employee motivation (De Cieri et al., 2010; Giannaccaro et al., 2007; Ham, 2009).

It can be argued from the data generated that business performance measurement improved communication with customers, industry regulators, environmental agencies, government as well as employees (Chung et al., 2006; Martinez and Kennerly, 2005; Melkers and Willoughby, 2005; Poiter and Streib, 1999). The improvement in communication was greater for external stakeholders especially industry regulators, environmental agencies and the government than it was for customers and employees.

Overall, the findings of this study suggest that business performance measurement has a positive impact on the performance of the selected organisation (Ittner, 2008).

### **Findings from the Primary Research**

#### **Non- financial Business Performance Measures**

The organisation has a clear selection of business performance measures with an information system, processes and personnel responsible for collection, evaluation, review and dissemination of the business performance information.

Review meetings are used to track strategy implementation and are attended by staff members who have the responsibility to make decision and carry out the required action. It can be concluded therefore that a business performance measurement culture exists.

With regards to non - financial measures, evidence suggests that the organisation has greater focus on the product measures than customers and the market measures as far as business performance measurement is concerned. This may be attributed to the fact that the demand for petroleum products is inelastic and the organisation is monopolistic. The only indirect competition arises from Oil marketing companies, and only if, allowed to import finished products by deliberate government policy. Therefore, product quality and quantity are of greater importance than customer satisfaction or market share. Not emphasising customer and market measures, does not enable the business to develop essential core competences within its internal business processes to be able to compete effectively in an event that the business environment dynamics shift into a competitive mode.

Further, the business unit does not track employee-related measures consistently. The business unit loses opportunities to improve on internal processes, work methods and procedures. Opportunities for developing core competences as a base for competitive advantage are lost.

Supply chain management affects competitiveness. Product quality is assured by partnerships with suppliers. Supplier measures assist in tracking supplier business performance. The organisation must therefore also pay attention to supplier measures, to a greater degree, than is the case now.

Finally, service measures such as product availability and timely delivery of products are likely to be affected if these measures are not emphasised with the associated adverse effect on competitiveness. Therefore, the organisation should treat service measures as important.

#### **Financial Business Performance Measures**

The organisation also uses financial measures for business performance measurement. From the data generated it can be argued that sales growth, return on sales, sales per employee, output per employee as well as economic value added are not used as financial business performance measures. Conversely, return on assets, return on equity, return on capital employed and return on investment are used as business performance measures.

There appears to be greater emphasis, therefore, on performance measures that are required by external users such as the shareholders than there is on measures that bring about improvements in internal business performance and efficiency.

The findings review that financial measures that are tied to customers and sales are less used within the organisation in relation to say, operational and product measures. Clearly, this lack of focus on the customers and revenue growth does not only have an adverse effect on the competitiveness of the organisation but also has a stifling effect on business growth. The pricing mechanism for processing finished petroleum products is such that the processing fee is fixed by the Energy Regulation Board. It can be argued that as a result of this, the organisation may not have any incentive for measuring its performance with respect to revenue growth.

Additionally, labour productivity and sales per employee are not measures in use within the organisation. Opportunities for the optimisation of the staff head count within the organisation can be missed in an era when competitiveness is based on flatter organizational structures. Further, retention of talented employees is usually a product of a reward system based on overall business performance. Employee efficiency measures would assist in providing the requisite data for these strategic decisions.

Economic value added (EVA), is not in use as a financial business performance measure. It is not only complex to determine but is also not easy to estimate and it varies significantly across industries. It would be therefore be difficult for the organisation to find a suitable comparator.

### **How Business Performance Measurement is Used within the Organisation**

The data generated from the study seem to suggest that business performance measurement is used for measuring, monitoring and evaluation of strategy implementation. In the same vein, the organisation uses business performance measurement to focus employee attention on what the strategic priorities and objectives are. Further, business performance measurement is used for communication of business results to both internal and external stakeholders in the organisation. Business performance measurement is, in addition, used for demonstrating compliance to regulations and legislation and, to a lesser degree, determination of rewards due to employees within the organisation. Further, ensuring better internal business control and fostering continuous improvement after drawing lessons from business performance measure reviews are also uses of business performance measurement. However, business performance measurement is not used for benchmarking the organisation's business performance against other organisations.

Business performance measurement is predominantly used for communication of business results to internal and external stakeholders and demonstration compliance to regulation and legislation. However, benchmarking does not seem to receive enough attention within the organisation. This can be attributed to the lack of a similar facility elsewhere as the technology within the organisation is relatively old. Another usage that did not stand out from the data generated is the use of business performance measurement for determining of employee rewards.

External stakeholders seem to have a high influence on what business performance measurements is used for in the organisation. The energy sector is drives the economy. This is the sector in which the selected organisation operates. This is highly regulated sector and compliance to regulations and legislation is an important aspect. This could partly explain why communication with internal and external stakeholders is such a prominent use of business performance measurement. Compliance related business performance measures, must be adequately communicated to the relevant external stakeholders.

Secondly, the organisation uses business performance measurement to ensure that the strategic priorities and objectives are the focus of all the important players in the ensuring that they are achieved. Since the staff members that are responsible for taking action are in attendance in business performance measure review meetings, it is easy to see how this is achieved.

The other business performance measurement use that should be an offshoot of the business performance review process is the realization of continuous improvement within the organisation. Reviewing the performance measures fosters learning and the implementing the actions from this learning, can ultimately lead to improvements in performance.

Internal business control relates to ensuring that the procedures, plans and policies are sustainably implemented to ensure the organisation operates efficiently and effectively. Business performance measurement has made internal business control better within the organisation. This means that internal systems controls are available to test, evaluate, and validate all aspects of the firm's operations and administration to ensure that management objectives/decisions are being fulfilled and established administrative, operational, and financial policies and procedures are being followed.

#### **Impact of Business Performance Measurement on Organizational Performance**

From the data generated in this study, the current performance measurement system had a positive impact on financial performance, the monitoring of the strategy implementation process, internal business control and accountability and learning and discovering opportunities for continuous improvement. It however, had a negative impact employee reward system.

There is notable less emphasis on its linkage to the employee reward system. The competitiveness of the business can be adversely affected by this. The long term ramification of this could be that the organisation fails to retain talented staff and stifles innovation. As a result it can begin losing the gains realised from the used of business performance measurement as a spring board for both incremental and continuous improvement.

The other impact of the current business performance measurement system was that, overall, it improved communication with the industry regulators, the shareholders (Government) and environmental agencies. Although to a lesser extent, communication with employees and customers was also affected positively by the business performance measurement system. In terms of the impact of business performance measurement on communication with both internal and external stakeholders therefore, it was evident that, overall, the impact was positive although the scale tipped towards greater communication with the governments, environmental agencies and industry regulators than the customers and employees.

#### **Conclusions**

From the data generated in this study it was established that the petroleum refining business unit had an active business performance measurement system. This business performance measurement system makes use of both financial and non-financial performance measures. The financial performance measures are more inclined towards reporting to external stakeholders particularly to the shareholders. Further, economic value added (EVA) and sales per employee are relatively unused as financial measures.

The predominant uses of performance measurement include demonstrating compliance to regulations and legislation, ensuring internal business control, fostering continuous improvement and tracking strategy implementation. It is also used for communicating business results to both internal and external stakeholders and for determining employee rewards. However, its use as a benchmarking tool for business performance is limited.

The outcomes arising from business performance measurement have been enhance learning capabilities within the organisation increasing the opportunities for continuous improvement and improved monitoring of strategy implementation. Further, it has resulted into better internal business control and increased accountability among the staff members. The financial performance of the organisation has also been improved. On the whole, business performance measurement has led to improved communication of business results with customers, industry regulators, environmental agencies, shareholders (Government) and the employees albeit to

varying degrees. However, the generated data does not indicate that employee rewards have been business performance based.

While the current business performance measurement system is working relatively well, there was general agreement that it could work even better if it was modified to reflect the changes in the business environment.

### **Recommendations**

Firstly, it is clear, from the data generated in this study, that the business performance measurement system requires modification. Market, customer, supplier and employee measures are not accorded as much attention compared to product, operational and financial measures. For the modification to take these stakeholders into account, an appropriate business performance measurement framework needs to be adopted. It is recommended, in this case, that the performance prism be adopted as the tool to use to upgrade the existing scorecard (Neely, Adams and Crowe, 2001)

The alternative to this would be the balanced scorecard. Undeniably, this scorecard was pioneering when it first appeared because it addressed the need for a balance between financial and non-financial measures (Kaplan and Norton, 1992).

However, the business world has evolved and the business environment, more now than then, demands that multiple stakeholder needs be addressed. The performance prism framework meets this challenge. Its five facets are stakeholder satisfaction, strategies, processes, capabilities and stakeholder contribution. Stakeholder satisfaction and stakeholder contribution are of particular interest in this study.

Stakeholder satisfaction is a facet that is deliberately broader than the balanced scorecard view of stakeholder, which encompasses only customers and shareholders. The performance prism's view encompasses customers and shareholders but also employees, suppliers, alliances partners, intermediaries, regulators, the local community and pressure groups. All these parties have a substantial impact on the performance and success of an organisation. Stakeholder contribution, on the other hand, is a recognition that while the organisation should deliver value to stakeholders; the organisation enters into a relationship with them. This relationship involves stakeholders also contributing to the organisation.

The performance prism can therefore, be used to modify the current business performance measurement system so that it includes a selection of measures that address the market, customers, suppliers and employees. This will transform business performance reviews from just discussions of detailed operational and financial performance, into a debate about the fundamental challenges and issues facing the business.

Secondly, communication of the business results within the organisation needs to be enhanced further. This is especially so because from the data generated in this study there was always a proportion of participants who were not sure or preferred not to disclose.

Business performance measurement should permeate the organisation to such a level that everyone knows both their contribution to business success and the benefits that will accrue to them as a result. This encourages team work, improves inter-departmental communication and rallies for commitment to the business unit strategy. Enhance communication can be achieved in two ways. To start with, business performance measurement information needs to be graphically

displayed and posted at key locations. A good, easy to interpret, visual display encourages information sharing on essential measures that drives decisions, actions and ultimately results.

The other way, is to ensure that employee rewards are tied to business performance measurement. Meeting specific milestones connected to an aggregate of operational, customers, market, employee and financial measures should be what determines periodic employee rewards such as annual bonuses. The need for employees to know the status of the business performance measures, at set times in the business cycle, will provide impetus for enhanced communication of these results.

#### **Areas for Further Research**

Use the qualitative approach to find out why business performance measurement within the organisation. The objective would be to do a detailed case study of the organisation and explore most of the aspects that have arisen in this study such as whether performance measurement is strategy driven or stakeholder driven in detail.

It would be interesting to find out what stakeholders really want to know about the business performance on the organisation and why that is important to them. This can create greater understanding of the stakeholder needs and how the business unit can address them.

#### **Conclusion**

The study as a whole discussed the findings on how the current business performance measurement system at the refining business unit is carried out. It was established that both financial and non-financial performance measures are used in the organisation. These include monitoring of strategy implementation, communication of business results and demonstrating compliance, among others. However, business performance measurement is not used for benchmarking.

The outcomes of business performance measurement are better financial performance, improved monitoring of strategy, continuous improvement and better communication with stakeholders. However, business performance-based rewards were not an outcome of business performance measurement. Further, it was established that the current business performance measurement system has had a positive impact on the organisation's performance. However, it still requires to be modified to reflect the business environmental changes.

It was recommended that the business performance measurement should be modified based on the performance prism as the framework as this takes all the relevant stakeholders into consideration.

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