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Measuring Performance in Small and Medium Scale Enterprises in the Manufacturing Industry in Ghana

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ABSTRACT

There is lots of evidence that many organizations have attempted to implement performance measurement systems (PMS) and have not been successful. The evidences identified the low success rate as a lack of guidance on implementation. The study looked at measuring the performance in Small and Medium Scale Enterprises in the Manufacturing Industry in Ghana. Performance measurement systems are useful tools in assessing and measuring the success of strategy implementation. It is also an effective tool for developing a Learning Organization, empowering employees, and enhancing employee accountability and motivation. This research adopted the survey methodology. The population of this research includes all the top and line managers of the ten companies randomly selected from Greater Accra Region of Ghana. The total population amounted to eighty (80) and all were used in the study because of the small nature. The primary instrument used for the collection of data is the questionnaire. This is designed to collect and gather information from all the eighty (80) respondents. After receiving the copies of the questionnaire fully completed, the data were coded and entered into a computer using the Statistical Package for Social Sciences (SPSS). From the findings, it is obvious that both internal and external factors affect organizational performance greatly. The two most used performance measurement systems from the findings are personnel performance and customer satisfaction. Testing the hypothesis statistically, it was concluded that, there is a positive relationship between internal factors and organizational performance. The correlation coefficient between the two variables is 0.640, indicating that there exist a positive relationship between the internal factors and performance which is indeed strong.

Keywords: Performance, Small and Medium Sized Enterprises, Manufacturing Industry, Ghana

INTRODUCTION

The rapid environmental changes that companies face today affect not only the production system, equipment and technology usage but also organizational performance and management philosophies. In the new economy, small and medium sized enterprises (SMEs) play a critical role. For example, in Australia SMEs represent 97 percent of all private sector businesses and provide 49 percent of all private sector employment (Australian Bureau of Statistics, 2002). In Ghana, SMEs provide about 80 percent of manufacturing employment, accounting for 90 percent of existing businesses in Ghana, and contributed to 49 percent of the country's Gross Domestic Production (GDP) in 2012. Among SMEs, the fastest growth in the last several years has occurred in the manufacturing industries. A lot of researchers have given various definitions to SMEs, but there has not been a single, harmonious and gratifying definition of SMEs. This is as a result of many researchers basing their definition on capital and employment basis. The exact definition of small and medium scale enterprise varies depending on a number of factors. Such factors include; the number of employees, the amount of revenues and the specific industry in which it belongs. The Ghana Statistical Service in 2010 considered firms with less than 10 employees as Small Scale Enterprises and their counterparts with more than 10 employees as Medium and Large-Sized Enterprises.

Performance measurement is a strategic and integrated approach to increasing the effectiveness of organizations by improving the performance of people who work in them and by developing the

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capabilities of teams and individual contributors (Armstrong & Baron, 1998). Performance measurement is both necessary and vital. An organization operating without performance measurement is likened to a chief executive officer (CEO) operating without a strategic plan. Performance is not only measured to know how a business is performing but mostly to enable it perform better. The ultimate aim of conducting the measure of performance of an organization and or its workers is to improve performance to provide better customer satisfaction, conducive working environment for employees and growth for the owners and other stakeholders. Performance measurement enables an organization to plan, measure, and control its performance according to a pre-defined strategy. Thus, it enables a business to achieve its desired goals and to create shareholder value (Johnson, 2007).

Because of the role of SMEs in the new economy, a lot of researches focus on their performance and critical success factors. Studies show that historic financial data is not enough to satisfy performance measurement in the new economy because of the increasing complexity of organizations and the markets in which companies compete (Kennerley & Neely, 2002). This is because the financial reports are less indicative of shareholder value. As pointed out by Cumby and Conrod (2001), sustainable shareholder value is instead driven by non-financial factors, such as customer loyalty, internal process, employee satisfaction and on organizations innovation. Hence, a series of performance measurement frameworks have been brought to light during the last two decades, some of which are; the performance prism (Neely et al., 2001), the Balance Scorecard, the EFQM Excellence model and the integrated performance models (Nanni, et al., 1992) among others.

In recent times, companies may have performed poorly due to the fact that they lack effective and efficient performance management frameworks and strategies to adequately and judiciously allocate resources to meet organizational goals. It is identified that good performance measurement systems must consist of two basic components; thus, performance management feedback for individuals as well as teams and the second is, reward packages. Organizational factors such as job definitions, adequate job evaluation, designs and feedbacks are theoretical instead of being practical, and SMEs have contributed immensely to the disintegrated approach to personnel management use within an organization. This is due mainly to the absence of clear definition, monitoring, measurement and feedback on performance. Small and Medium Scale Enterprises are still faced with lots of limitations such as their contribution to industrial employment, their ability to survive and contribution to industrial production as a result of their propensity towards these mechanisms. It is not in doubt that majority of these SMEs prefer rather cheaper labour to employing labour that possesses the necessary skills to perform the tasks efficiently. This results in the improper matching of people to jobs

Financial performance in some SMEs are nothing to write home about which accounts to the numerous constraints they faced including the rate of survival, contribution to industrial employment and contribution to industrial production as a result of bias towards these mechanisms. SMEs face several obstacles including small size, limited access to business opportunities and information, inability to get credit, financing and insurance, inappropriate government regulations and lack of managerial staff and skills. Formal performance measures sometimes yields disappointing results. There is however, no commonly accepted method or efficient approach to evaluating the effectiveness or success of the measurement of the performance of an organization based on a well set of variables in the manufacturing industry. Identifying and organizing the most important variables in performance measurement has proved to be a challenging task to both researchers and practitioners. The challenge for organizations today is how to match and align performance measures with business strategy, structures and corporate culture, the type and number of measures to use the balance between the merits and costs of introducing these measures and how to deploy these measures so that the results are used and acted upon. The objectives of the study are;

1. To identify effective performance measurement systems for SMEs in the manufacturing industry.
2. To determine the relationship between internal factors and performance.
3. To examine the weaknesses and problems of the current performance measurement models

The addition of knowledge is basically the aim of every research and this research seeks to achieve just that. More importantly, this research was necessary to answer the question of 'what is an effective performance measurement framework for SMEs in the manufacturing industries'. This is as a result of what Meyer (2002) stated 'what should we measure and what can we measure cannot be well solved without practical quantitative analysis'.

LITERATURE REVIEW

Definition of Performance

Performance is a widely used concept in many areas. Mostly, it is a measurement of how well a mechanism or process achieves its purpose. Moullin (2003) defines an organization's performance as 'how well the organization is managed and the value the organization delivers for customers and other stakeholders'. It is also the measurement of the effectiveness and efficiency of both the organization and the workers (Neely et al.,) where effectiveness refers to the extent to which stakeholder requirements are met, while efficiency is a measure of how economically the organizations resources are utilized when providing a given level of stakeholder and customer satisfaction. Hence, performance can be defined as the use of resources both efficiently and effectively in the achievement of its expected objectives.

Performance Measurement

Although much research has been conducted on performance measurement, its definition is still widely debated. 'Performance measurement is a set of systems of metrics used to quantify both the efficiency and effectiveness of actions' (Neely et al., 2000). Moullin (2003) defined performance measurement as 'the evaluation of how well organizations are managed and the value they deliver for customers and stakeholders'. He argued that his definition clearly shows the purpose of performance measurement and emphasizes both the value the organization gives to its stakeholders and the way the organization is managed. Amaratunga and Baldry (2002) provided a more specific definition of performance measurement; 'Measurement provides the basis for an organization to assess how well it is progressing towards its predetermined objectives, helps to identify areas of strengths and weaknesses, and decides on future initiatives, with the goal of improving organizational performance'. This definition entails both the role and process of performance measurement clearly from different aspects. Performance measurements are said to be appropriate when the measures are those which enables the organization to direct their actions towards achieving their strategic objectives (Dixon et al., 1990).

Functions of Performance Measurement

To function successfully in the present competitive business environment, an organization depends upon the decision making ability of its managers, who in turn, depend upon the availability of usable information. Information about performance is useful and important in different ways to the various stakeholders of the company. For example, managers look at the performance measurement as a way of keeping an organization on track in achieving the organizations objectives. In other words, it is a monitoring mechanism employed by the organization for the formulation and implementation of business strategy.

The function of performance measurement can be categorized into four aspects as by Neely, 1998;

1. Checking position; it is the establishment of current status and monitoring of progress over time and against benchmarks.
2. Communicating position; this deal with communicating with the shareholders, customers, or employees by releasing annual reports or calling for general meetings, etc.
3. Confirm priorities; performance data provide insights into what is important to a business, thus by exposing shortfalls that allow organizations to identify priorities.
4. Compel progress; the measures can help the organization to focus on specific issues and encourage people to search for ways to improve performance. This measure communicates priorities and can form the basis for reward.

Godner and Soderquist (2004) summarized the role of performance into four groups based on Kerssens-Van and Bilderbeek's (1999) study of 19 uses of performance on four different organizational levels;

- Use of performance measurement results for personal evaluation, promotion and incentives (bonuses).
- The use of performance measurement results for resource allocation (forming of teams and assigning them to new projects).

- The use of performance measurement results for control or correction.
- The use of performance measurement results for learning and continuous improvement.

Therefore, the role of performance measurement is to control, processes and to enforce continuous performance improvement by quality improvement teams. That is, measures should supply information about how well people and processes perform to aid management make better decisions, the goal of which is to motivate better future performance.

The Evolution of Performance Measurement

Performance measurement has its roots in early accounting systems of how a pre-industrial organization could maintain a good account of external transactions and stock. Thus, before the 1980's, performance measurement was largely evolved within the large industrial firms focusing on the achievement of a limited number of key financial measures (Johnson & Kaplan, 1987). But by the early 1980's, as the increasing complexity of organizations and the markets in which companies compete, it was no longer appropriate to use financial measures as the sole criteria for assessing success (Kennerley & Neely 2002). According to Ghalayini and Noble (1996), the literature concerning performance measurement evolved in two phases, the first which began in the late 1880's and concluded in the 1980's. In this phase, the emphasis was on financial measures such as profit, return on investment, and productivity. The second phase started in the late 1980's as a result of changes in the world market, specifically in the corporate environments. These organizations discovered that performance measurement, as traditionally practiced, is limited. Yeniyurt (2003) and Gomes, Yasin and Lisboa (2004) summarizes the major inadequacies of traditional metrics in their literature review. These weaknesses include:

- Traditional performances were too historical and backward looking (e.g. Ittner and Larcher, 2003).
- They do not link non-financial metrics to financial numbers (e.g. Kaplan and Norton, 1992).
- They lack predictive ability to explain future performance (e.g. Ittner and Larcher, 2003).
- They do not consider intangible assets (e.g. Lehn and Makhija,1996)
- They are inadequate for strategic decisions (e.g. Kaplan and Norton, 1992).

In response to this change in theory, a series of performance measurement systems were introduced, such as the; Balanced Scorecard (Kaplan and Norton, 1992), EFQM Excellence Model, Performance Prism (Adams and Neely, 2002), the ABPA (Activity-based Performance prism) (Meyer, 2002), and Performance Pyramid (Lynch and cross, 1991).

Nevertheless, researchers up to date have not adopted a universally accepted best-practice due to certain requirements on Performance Measurements (Gomes et al., 2004). A few of these reasons are;

1. They think performance measurement should be based on organizational objectives and customer needs and should monitor both financial and non-financial aspects (Manoocheri, 1999).
2. Financial and non-financial measures must be aligned and fit within a strategic framework (Drucker, 1990; Mcnair and Mosconi, 1987).
3. Performance measurement should be implemented as a means of clearly defining one's strategy and monitoring business results (Grady, 1991).
4. Performance measurement must make a link to the reward system (Tsang et al., 1999)
5. It must reflect relevant non-financial information based on key success factors of each business (Clarke, 1995).

Balanced Scorecard

The balanced scorecard was developed by Norton and Kaplan (1992) and is perhaps the most well-known performance measurement framework. It is formulated to include financial measures that report results on customer satisfaction, internal processes, and the improvement activities – operational activities or measures that are drivers for the future financial performance (Kaplan and Norton, 1992). The Balance Scorecard suggests that managers should view organization's performance from four perspectives, namely; customer perspective, financial perspective, internal perspective and innovation and learning perspective.

Customer Perspective

This perspective will aid the company in addressing the important concerns of the customers and build continued patronage. Hence, to put the balanced scorecard to work, core measures ought to include overall indicators such as customer satisfaction, customer complaints, production of new products, retention of customer, customer profitability, on-time delivery etc. This can be summarized under clearly defining goals for time, quality, performance and service and converting these goals into specific measures. In view of all this, organizations must yet still remain sensitive to the cost of their products (Kaplan and Norton, 1992).

Financial Perspective

The financial measurement of performance is the traditional and most commonly used tool as a measure of an organizations performance. Financial measures are typically focused on profitability, market value of the firm, return on assets, investment and equity, liquidity and various other ratios.

Internal Business Perspective

This perspective aims at the identification and improvement of critical internal business processes that yield a competitive edge and result in greater customer satisfaction. The internal business perspective is based on the assumption that to satisfy customers and earn a financial return, the organization must be efficient and effective at what it does. Thus, this perspective's measurements are typically based on the objective of producing products and providing services that meet customer satisfaction efficiently and effectively.

Innovation and Learning Perspective

Innovation has become a key factor in the knowledge economy. This innovation and learning perspective can be measured in a variety of ways, these may include; the speed of transactions, IT usage, training and development, new product and services development and strategic alliance and partnership. An organizations ability to innovate and learn, improves its operating efficiency causing the organization to grow and thereby increase shareholder value (Kaplan and Norton, 1992).

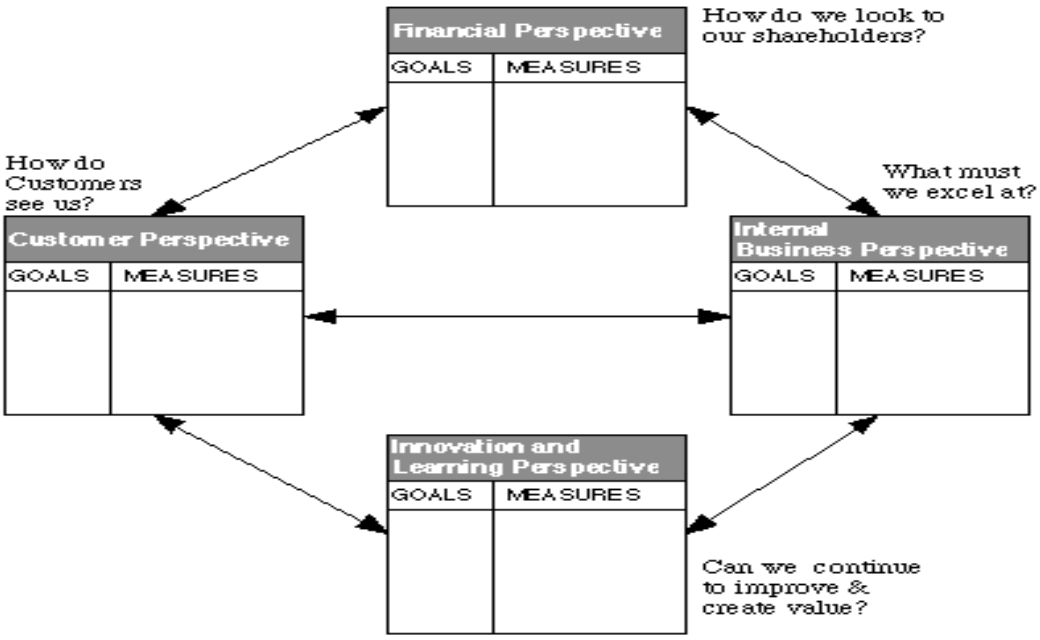

Figure1. *The Balanced Scorecard*

Source: *Kaplan and Norton (1992)*

The four perspectives in the Balance Scorecard model are regarded as a chain of cause-and-effect. For example, financial performance depends on a customer's loyalty, which is influenced by an enterprise's internal/business processes. Similarly, internal business processes are dependent on employee's skills (leaning and growth). A good Balanced Scorecard should have an appropriate mix of outcomes (lagging indicators) and performance drivers (leading indicators) of the business unit's strategy (Kaplan & Norton 1996).

METHODOLOGY

This research adopted the survey methodology. The population of this research includes all the top and line managers of the ten companies randomly selected from Greater Accra. The total population amounted to eighty (80) and all were used in the study because of the small nature. The primary instrument used for the collection of data is the questionnaire. This is designed to collect and gather information from all the eighty (80) respondents. After receiving the copies of the questionnaire fully completed, the data were coded and entered into a computer using the Statistical Package for Social Sciences (SPSS).

MAJOR FINDINGS

Table.1. *Gender*

	Frequency	Percent
Male	55	68.8
Female	25	31.2
Total	80	100.0

Sources: *Field data 2015*

Gender distribution for the company selected for this research stood at 68.8% for males, and 31.2% for females. The outcome is an indication that, males are more dominant in management positions in the selected small and medium scale enterprise for this research.

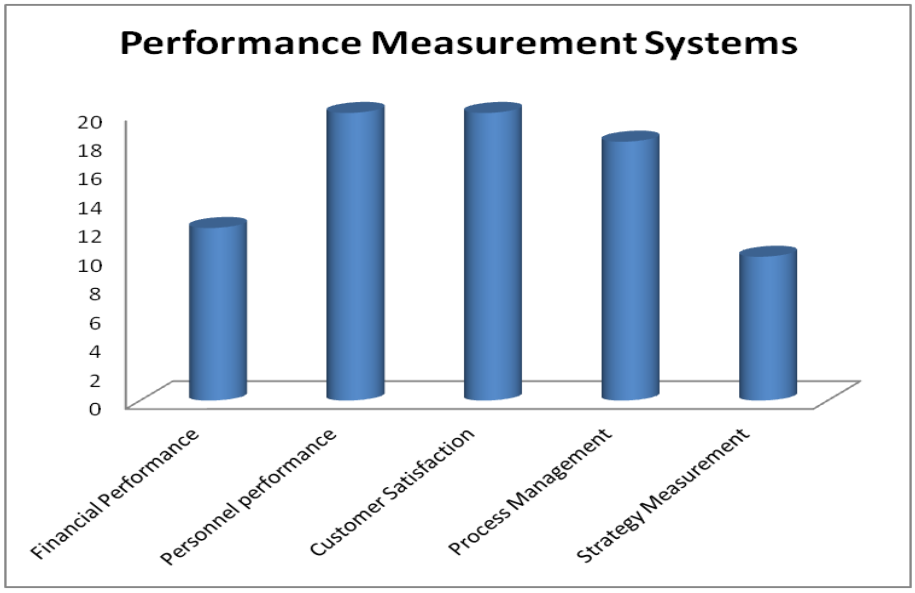

Figure2. *Types of Performance Measurement Systems*

Sources: *Field data 2015*

The figure above shows the types of performance measurement systems used by the respondents. Twelve (15%) of the respondents indicated that they use financial performance system, 20 (25%) indicated personnel performance, a further 20 (25%) said customer satisfaction, whilst 18 (22%) and 10 (13%) of the remaining respondents indicated process management and strategy measurement respectively. The two selected performance measurement systems (personnel performance and customer satisfaction) are in line with the views expressed by (Westerveld 2003; Wongrassamee et al., 2003). All the respondents (100%) agreed that, performance measurement tools do improve their job effectively. According to Amaratunga and Baldry (2002), performance measurement tools provides the basis for an organization to assess how well it is progressing towards its predetermined objectives, helps to identify areas of strengths and weaknesses, and decides on future initiatives, with the goal of improving organizational performance'. The success of this implementation is an enhancement on the overall performance of the company. It is also noted that performance measures should be developed from strategy. Therefore, performance management integrates both a top-to-bottom and a bottom-up approach for strategic formulation, implementation, and monitoring for organizational effectiveness, efficiency, and successful output.

Table2. *Factors Affecting Performance*

	Frequency	Percent
Internal	20	25.0
External	22	27.5
Both	38	47.5
Total	80	100.0

Sources: *Field data 2015*

Factors that affect performance in the organization can be internal such as personnel's attitudes, financial, culture, lack of inputs and human resources. For external, it can be political, environmental, competitors, and natural disasters. Twenty (25%) of the respondents indicated internal and 22(27.5%) indicated external. Thirty eight (47.5%) on the other hand indicated both internal and external. It is obvious from the above table that both internal and external factors affect the organizational performance greatly.

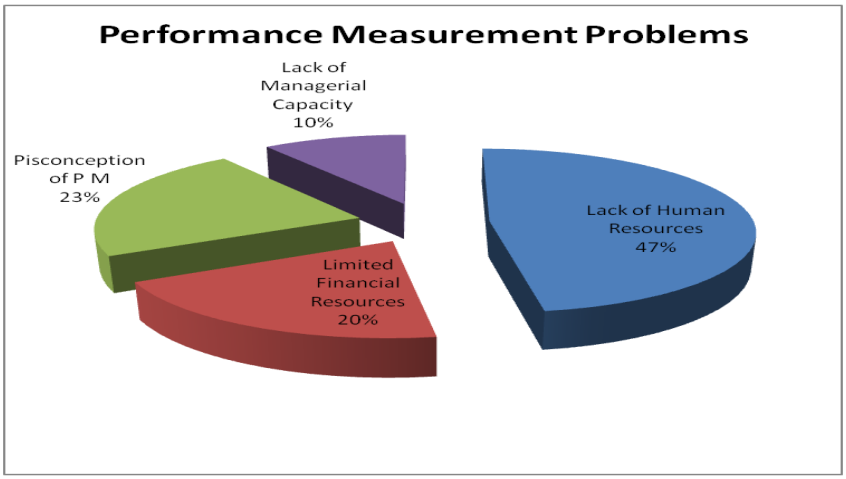

Figure3. *Performance Measurement Problems*

Sources: *Field data 2015*

In trying to find out the performance measurement problems, 38(47%) of the respondents indicated lack of human resources, 16(20%) of the respondents also indicted limited financial resources, another 18(23%) of the respondents indicated misconception of performance measurement whilst 8(10%) of the respondents indicated lack of managerial capacity. It is obvious from the figure above that most of the companies sampled, face the problem of lack of human resources.

Hypotheses Testing

Hypothesis is a specific statement of prediction. It describes in concrete (rather than theoretical) terms what the expectation will be in the study. A single study may have one or many hypotheses (Ankrah, 2013). The chi-square statistic was used to test the two hypotheses. The chi-square statistic was used to test the hypotheses because the study was testing for goodness of fit or better still relationships.

Hypothesis One

Ho: There is no relationship between internal factors and organizational performance

Ha: There is a positive relationship between internal factors and organizational performance

Where **Ho** is the null hypothesis and

Ha is the alternative hypothesis

Significance level

The significance level (α) for this test is 0.05.

Critical value

From the chi-square distribution table, a significance level of 0.05 with one degree of freedom gives a critical value of 3.841.

Decision rule

The researchers cannot accept Ho, if chi-square calculated is greater than 3.841 and conclude that, there is a positive relationship between internal factors and organizational performance else the researchers will fail to reject Ho and conclude that, there is not relationship between internal factors and organizational performance .

Test statistic

The test statistic is a chi-square, χ^2 with (I-1)*(J-1) degrees of freedom.

$$\chi^2 \text{ value} = \sum_{i=1}^{I}\sum_{j=1}^{J} \frac{(O_{ij} - E_{ij})^2}{E_{ij}} \quad \text{with} \quad df = (I-1)*(J-1)$$

Where **Oij** are the observed values

Eij are the expected values and

df is the degrees of freedom

Now, the calculated chi-square from Table 2 is as follows;

$$\chi^2 = \frac{(51 - 40.6)^2}{40.6} + \frac{(4 - 14.4)^2}{14.4} + \frac{(8 - 18.4)^2}{18.4} + \frac{(17 - 5.0}{5.0}$$

$$= 2.6640 + 7.5111 + 5.8783 + 28.8000$$

$$= 44.8534$$

Table 3: Relationship between Internal Factors and Performance

N = 80			Performance		Total
			Yes	No	
Internal Factors	Yes	Count	51	4	55
		Expected Count	40.6	14.4	55.0
	No	Count	8	17	25
		Expected Count	18.4	5.0	28.0
Total		Count	59	21	80
		Expected Count	59.0	21.0	80.0

N = 80 *P-Value = 0.000* *COR = 0.640*

The chi-square calculated is equal to 44.8534 and the critical value is equal to 3.841. Since the chi-square calculated is greater than the critical value, thus, Ho cannot be accepted. Therefore, there is a positive relationship between internal factors and organizational performance. The correlation coefficient between the two variables is 0.640, indicating that there exist a positive relationship between the internal factors and performance which is indeed strong.

CONCLUSION

There is lots of evidence that many organizations have attempted to implement performance measurement systems (PMS) and have not been successful. The evidences identified the low success rate as a lack of guidance on implementation. There has been considerable academic and business interest in the subject of performance measurement in recent years as evidenced by the many academic papers and articles on the subject in recent times. The performance appraisal process though successful, it is important for management to take a critical look at these outcomes so as to maintain a successful performance measurement system. The performance appraisal system should be fully integrated into existing management systems and processes. To ensure the sustainability of the process, training should be integrated into routine monthly review meetings held between management and the employees. Even though the findings of this research can be conclusive for all Small and Medium sized manufacturing firms, there is the need to extend this study to the other sectors of the economy.

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