

Balance Scorecard: A Strategic Control Model for Increased Performance in Masara Flour Mills Kano

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Abstract

Balance scorecard is a management control system that enables companies to clarify their strategies, translate them into action, and provide quantitative feedback as to whether the strategy is creating value, leveraging core competencies, satisfying the company's customers, and generating a financial reward to its shareholders. With a set of four measures directly linked to a company's strategy: financial performance, customer's related issues, internal business processes and learning and growth. The aim of the paper was to ascertain the level of awareness of KPI tool, balance scorecard among staff of masara flour mills Kano, also to determine the relationship between adaption of balance scorecard and return on investment at masara flour mills Kano. The study is empirical and adopted the survey design research methodology. Sample size was determined using Taro Yamane's statistical formula. Copies of the designed questionnaire were distributed to the selected respondents in the company. Our findings report that, staff at masara flour mills Kano have adequate knowledge of balance scorecard, positive relationship exist between return on investment and the adoption of balance scorecard at masara flour mills Kano. Conclusively balance scorecard is a good strategic control tool. It is recommended that organization should fully educate their staff about balance scorecard and its purpose; balance scorecard should be adopted by all organizations private or public because of its relationship on return on investment, any company that wants to adopt balance scorecard should start implementing gradually.

Keywords: balance scorecards, performance, key performance indicators

INTRODUCTION

By the 1980s, many executives were convinced that traditional measures of financial performance didn't let them manage effectively and wanted to replace them with operational measures, arguing that executives should track both financial and operational metrics, (Light, 1998). (Kaplan and Norton, 1990) suggested four sets of parameters. First, how do customers see your company? Find out by measuring lead times, quality, performance and service, and costs. Second, what must your company excel at? Determine the processes and competencies that are most critical, and specify measures, such as cycle time, quality, employee skills, and productivity, to track them. Third, can your company continue to improve and create value? Monitor your ability to launch new products, create more value for customers, and improve operating efficiencies. Fourth, how can the companies satisfies its shareholders? Measure cash flow, quarterly sales growth, operating income by division, and increased market share by segment and return on equity Internal and supplier performance scorecards are mission - critical components of any continuous improvement strategy. (Light, 1998), quality management systems that do not include flexible scorecard capabilities are generally insufficient to overcome the challenges facing today's lean manufacturing industry. Manufacturers and suppliers alike utilize scorecards as a means to monitor key performance indicators (KPIs) versus target values, (Lust, 1986). The question that manufacturing enterprises must answer is how to develop scorecards to yield maximum value added data. The philosophy governing lean manufacturing principles seeks to eliminate waste in all forms, including inefficiencies in internal business processes. Actionable, value - added performance metrics are key to the entire process. Knowing which KPIs to include in scorecards could mean the difference between success and failure.(www.iqs.com)To mitigate the risk of deploying inadequate scorecards, companies should adopt a balanced scorecard approach, which focuses on financial data, customer data, internal business processes and resulting lessons learned. With respect to supplier scorecards specifically, companies must be able to identify KPIs that affect quality, product delivery, responsiveness and cost. Supplier scorecard features are arguably some of the most useful tools of integrated quality management systems, (Young and Saito, 1993). Furthermore, companies must establish the scope of supplier evaluation data. Paper - driven quality management systems are likely inadequate for handling such a large, continuously expanding data set. Deploying agile quality management software can solve this problem,

but buy - in from management personnel is equally as important as leveraging IT resources (Sim and Koh, 2001). For scorecard strategies to work, management must buy into the concept and foster cross functional decision - making. Each relevant department or employee must have a voice in developing scorecard metrics, or else companies risk creating scorecards that yield few value - added data. Smart companies can avoid such a pitfall by starting with a "short" scorecard to test the value - added potential of KPIs, (Kaplan and Norton, 1990)

If smartly developed and deployed, balanced scorecards can provide manufacturers with a wealth of rich quality management data. Leveraging these data into successful cost reduction initiatives requires that companies focus tightly on their quality. Without an integrated IT infrastructure that allows manufacturers to continuously monitor and improve quality metrics, scorecards will be difficult and therefore costly to optimize. Ideally, all KPI metrics included in a scorecard must align with a manufacturer's business goals, (Maiga and Jacobs, 2003). Business decision - makers need actionable information from quality management system scorecards to maximize their effectiveness. For instance, advanced quality planning metrics can help differentiate the reliability of one supplier from another. Since scorecards allow companies to view quality management from a broader perspective, cost is not the sole determining factor. Integrated quality management systems afford manufacturers the luxury of increased internal and supplier visibility, (Light, 1998). The ability to develop and share quality - related metrics within large supplier networks serves as a boom in an uncertain global economy. Score carding and lean manufacturing principles go hand - in - hand, so as more companies adopt the lean mindset, scorecards will continue to evolve likewise. One overlooked risk of scorecards is the issue of data overload. Scorecards can potentially become as large as to yield little value - added information. Rather than clarifying data, bloated scorecards can muddle any actionable information, (Ittner and Larcker, 1998). (Hassabelnby and Wier, 2003), the benefits of developing scorecards far outweigh the risks, however. The key facet of score carding that companies must keep in mind is that KPI metrics should yield as many value - added data as possible.

STATEMENT OF THE PROBLEMS

The traditional tool for assessing and measuring financial performance of organizations are not explicit and does not allow chief executives and managers to realize organization's set objectives. Hence the need for us to investigate whether the adoption or implementation of the balance scorecard in Masara flour mills Kano will lead to an increased in the performance of the organization

OBJECTIVES

The objectives of the study are aimed at:

1. To ascertain the level of awareness of KPI measurement tool, the balance scorecard amongst the staff of masara flour mills Kano.
2. To determine the relationship between adoption of balance scorecard and return on investment at masara flour mills Kano.

RESEARCH QUESTIONS

1. To what extent does the KPI tool, the balance scorecard are in the knowing of the staff of masara flour mills Kano.
2. To what extent does a positive relationship exist between an adopted balance scorecard and return on investment at masara flour mills Kano.

RESEARCH HYPOTHESES

1. H₁: Staff of masara flour mills Kano have adequate knowledge of KPI tool, balance scorecard.
H₀ Staff of masara flour mills Kano have no adequate knowledge of KPI tool, balance scorecard.
2. H₁ Positive relationship exists between the adoption of balance scorecard and return on investment at masara flour mills Kano.
H₀ Positive relationship does not exist between the adoption of balance scorecard and return on investment at masara flour mills Kano.

METHODOLOGY

The study was carried out primarily through the survey method. Primary data was collected through the use of a design instrument questionnaire and interview guide, the secondary data was obtained from relevant texts books, journals and the internet. A sample size of 222 was obtained from the population of 500 employees at 5% error tolerance and 95% level of confidence using Taro Yamane's statistical formula. The reliability test was done using test-retest method. A computer aided Microsoft special package for social science (SPSS) was used to aid the analysis of 222 copies of the questionnaires distributed. Two hypotheses were tested at 0.05 level of

significance Chi-square statistical tools was used to test the hypotheses.

REVIEW OF RELATED LITERATURE

Conceptual Framework

Balance scorecard is an attempt to combine a range of both qualitative and quantitative indicators of performance which recognize the expectations of various stakeholders and relates performance to a choice of strategy as a basis for evaluating organizational effectiveness. The balance scorecard can also be used in the public sector where there is an increasing need for organizations to improve their performance and to be seen as more business like in the delivery of services, (mullins, 2007).

Balance scorecard is a management control system that enables companies to clarify their strategies, translate them into action, and provide quantitative feedback as to whether the strategy is creating value, leveraging core competencies, satisfying the company's customers, and generating a financial reward to its shareholders. With a set of four measures directly linked to a company's strategy: financial performance, customer's related issues, internal business processes and learning and growth, (Pearce and Robinson, 2011). The balance scorecard approach was intended to provide a clear prescription as to what companies should measure in order to "balance" the financial perspective in implementation and control of strategic plans, to provide feedback around both the internal business processes and external outcomes in order to continuously improve strategic performance and results, (Bryant and Widener, 2004). When fully deployed, the balance scorecard is intended to transform strategic planning from a separate top management exercise into the nerve center of an enterprise, (Anderson, Fornell and Lehmann, 1994).

The balance scorecard methodology adapts the total quality management (TQM) ideas of customer's-defined quality, continuous improvement, employee empowerment, and measurement-based management/feedback into an expanded methodology that includes traditional financial data and results, (Hoque and James, 2000). (Droge, Jayaeam and Vickery, 2000), the balance scorecard incorporates feedback around internal business process output, as in TQM, but also adds a feedback loop around the outcomes of business strategies. This creates a "double-loop feedback" process in the balance scorecard, in doing so, it links together two areas of concern in strategy execution-quality operations and financial outcomes-that are typically addressed separately yet are obviously critically intertwined as any company executes its strategy. A system that links shareholder interests in return on capital with a system of performance management that is linked to ongoing, operational activities and processes within the company is what the balance scorecard attempt to achieve. The balance scorecard suggests that we view the organization from four perspectives and to develop metrics, collect data and analyze it relative to each of these perspectives: (Pearce and Robinson, 2011)

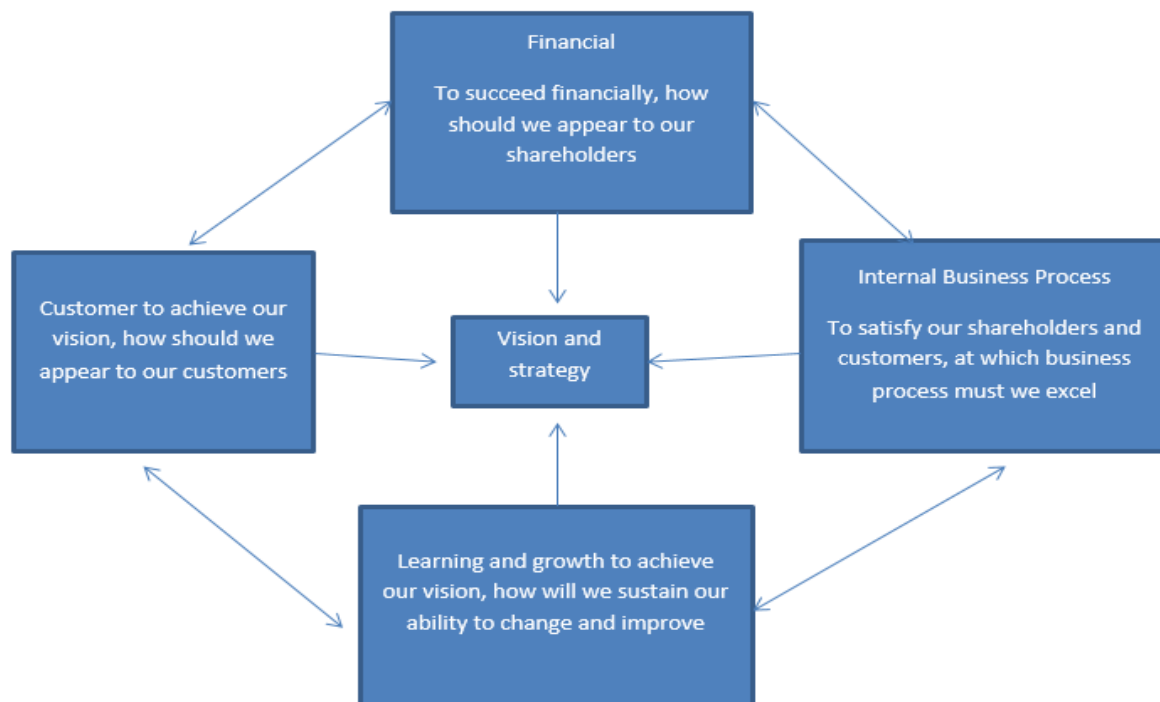
The opportunity to react, take action, ask questions, and so forth approaches real time with the advent of the dash board software options. That is, of course, when there is a high level of confidence in the reliability of the data that appear, both CEO and the mangers might expect a question or expression of concern, (Sim and Koh, 2001).

Strategic control and comprehensive control programs like the balance scorecard bring the entire management task into focus. Organizational leaders can adjust or radically reposition their firm's strategy based on feedback from a balance scorecard approach as well as other strategic controls. Other, similar approaches like six sigma, can also be a source of information and specific measurable outcome useful in strategic and operational control effort, (Perera, Harrison and Poole, 1997). The over ridding goal is to enable the survival and long term success of the business. In addition to using controls, leaders are increasingly embracing innovation and entrepreneurship as a way to accomplish this overriding goal in rapidly changing environment. (Pearce and Robinson, 2011) Strategies are forward looking; usually design to be accomplished over several years into the future. They are often based in part on management assumptions about numerous events and factors that have not yet occurred. Strategic controls are intended to steer a company towards its long term strategic goals under uncertain, often changing, circumstances.

Premise control, strategic surveillance, special alert controls, implementation controls are four types of strategic controls. All the four types are design to meet top management needs to track a strategy as it is implemented; to detect underline problems, circumstances, or assumptions surrounding that strategy; and to make necessary adjustments. (Pearce and Robinson, 2011)

The Balance Scorecard

- The learning and growth perspective: how well are we continuously improving and creating value? The scorecard insist on measures related to innovation and organizational learning to gauge performance on this dimension-technological leadership, product development cycle times, operational process improvement, and so on.
- The business process perspective: what are our core competencies and areas of operational excellence?
Internal



The balance scorecard

Source: adopted from Harvard business review 1996

business process and their effective execution as measured by productivity, cycle time, quality measures, downtime, and various cost measures, among others, provides scorecard input here.

- The customer perspective: how satisfied are our customers? A customer satisfaction perspective typically adds measures related to defect levels, on-time delivery, warranty support and product development, among others, that come from direct customer input and are linked to specific company activities.
- The financial perspective: how are we doing for our shareholders? A financial perspective typically uses measures like cash flow, return on equity, sales, and income growth.

Through the integration of goals from each of these four perspectives, the balance scorecard approach enables the strategy of the business to be linked with shareholder value creation while providing several measurable short-term outcomes that guide and monitor strategy implementation, (Kaplan and Norton, 1992).

Empirical Framework

The relationship between BSC and organizational performance can be inferred through several other similar studies; (Hoque and James, 2000) have found that there is relationship between BSC and performance. Moreover, (Sim and Koh, 2001) pointed out that there is relation between growth perspective, learning, and financial, with result displaying innovative technique, new manufactured goods development time and customer oriented performance measures are associated to lower manufacturing costs, higher sales, and greater market share.

(Maiga and Jacobs, 2003) revealed that there is a significant positive effect of Activity Based Costing System, when joint with BSC and organizational performance. Meanwhile, (Davis and Albright, 2004) confirmed the relationship between the internal performance measures and the implementation of BSC in banking industry. However, the effects of BSC on organizational performance are closely examined using the BSC framework. There are several studies which focus on the relationship between the practice of multiple performance measurements systems and financial performance. (Droge, Jayaeam and Vickery, 2000) Uses time-to-market new products as a fundamental measure, and frequently leads to higher initial prices, with constant customer loyalty and a greater market share as well as noteworthy cost benefits. On the other hand, it is seen, as a positive association between customer satisfaction measures and future accounting performance.

Meanwhile, (Littner and Larcker, 1998) proved that the leading indicators of nonfinancial performance (customer purchase behavior and growth in the number of customers) and accounting performance (profit margins and return on sales) are measurable customer satisfaction. (Bryant and Widener, 2004) in his report found that they would gain benefit more than the firms that rely exclusively on financial measures when firms implement a performance measurement system that contains both financial and non-financial measures. Said, (Hassabelnby and Wier, 2003) their study showed that future accounting and market-based returns can be linked to the use of non-financial measures although the previous studies show some positive relationship between the

use of non-financial measures and performance, several other studies revealed the opposite. In the year 2008,

(Rozita, Ibrahim and Zainuddin, 2008) found in the context of Malaysian manufacturing industry, that there is a relationship between the usage of multiple performance measurements and organizational growth. They discovered that there is a positive relationship in the use of non-financial measures, particularly, internal business process and innovation and learning measures, and organizational performance. Additionally, (Anderson, Fornell and Lehmann, 1994) supported that typically, customer satisfaction is positively related to contemporaneous accounting return on investment. (Abernethy and Lilis, 1995) discovered that greater reliance on non-financial manufacturing measures had a greater positive consequence on perceived performance in flexible firms than in non-flexible firms. (Perera, Harrison and Poole, 1997) found in a study that there is no specified association between the use of perceived performance and non-financial measures in plants that follow a customer-focused manufacturing strategy. In addition, (Ittner and Larcker, 1998), study recommends that the inability to link non-financial performance measures with economic performance does exist. Their study establish that the ability of executives to relate customer satisfaction measures to accounting or stock price returns is only about 28 and 27 per cent respectively.

(Young and Selto, 1993), found modest evidence that the use of non-financial measures in business facility was connected with differences in manufacturing performance. Considering the capabilities of financial indicators to measure performance, findings from (Govindarajan, 1988), specify that deemphasizing budget evaluative style is positively and significantly associated with strategic business unit effectiveness. Budget evaluative style is a control system design, which emphasizes on short-term profit measures, and thus is not adequate to reflect effectiveness and competitiveness. (Khan, Halabi and Masud, 2011) empirical results published in *Asia-Pacific Management Accounting Journal*, Vol. 5, No. 2, show an evidence that companies that have improved their ROE and ROA had increased their efforts towards characteristics that involve the learning and growth perspective. This research has shown that Bangladeshi companies that apply a BSC model benefit from increased performance, and these findings have a number of important implications for managers and customers and contribute to our knowledge of the BSC in developing countries.

(Neely, Kennerly and Martinez, 2009) findings in *Journal of Finance and Accounting* 2014; 2(3): are interesting because at first sight the data suggest that implementation of the balanced scorecard has had a positive impact on Electrician's performance. Further investigation, however, reveals that the observed changes in Electrical's performance are not significantly different from observed changes in Sister's performance in terms of sales growth and gross profit growth. Clearly further analysis needs to be carried out on these data and similar studies need to be replicated in other settings. (Mahmoud, 2000) in his report at Centre for Business Performance, Cranfield School of Management, Cranfield, Bedfordshire, MK43 0AL, UK, found statistically that there are differences between Bahraini manufacturing firms in adopting the balanced scorecard. Also the study found that there is effect of the firm's size with the growing use of non-financial measures by the BSC adopters. (Saha, Sahay and Anand, 2009) finds that the implementation of the Balanced Scorecard as a performance management tool has led to the identification of cost reduction opportunities in the organization, which, in turn, has resulted in the improvement in the bottom line. The performance of the Balanced Scorecard as a management tool in terms of identifying the areas for further improvement has not been found to be significantly different in ABCM and non-ABC systems

In their study published by Indian journal of management accounting practices vol.14(53) Indian firms, (Anderson and Lanen, 1999) found that information on customer expectations and satisfaction, competitors' performance, and internal information on process variations (e.g., quality measures, on time delivery, unit product cost, and product quality failure) has assumed greater significance for strategy formulation in the post-reform India. The organizational performance models of the Indian firms not only have more external perspectives but are also equally important as traditional measures for increasing productivity

RESULT AND DISCUSSION

This section analyses the data collected in the course of this study. Data were presented in tables for analysis. Hypotheses were tested by chi-square test statistics using SPSS.

H₁: Staff of masara flour mills Kano have adequate knowledge of KPI tool, balance scorecard.

Table (1) Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.056 ^a	2	.048
Likelihood Ratio	5.525	2	.063
Linear-by-Linear Association	6.029	1	.014
N of Valid Cases	222		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 2.43.

Table 1 is the output of the computed chi-square values from the cross tabulation statistics of observed and expected frequencies with the response options of yes and no. chi-square computed value ($x^2_c = 6.056$) is greater than chi-square tabulated value ($x^2_t = 5.991$) with 2 degree of freedom (df) at 0.05 level of alpha ($x^2_c = 6.056$, $p < .05$)

Decision Rule

The decision rule is to accept alternate hypothesis if the computed chi-square value is greater than tabulated chi-square value otherwise reject the null hypothesis.

Decision

Since the pearson chi-square computed ($x^2_c = 6.056$) is greater than chi-square table value ($x^2_t = 5.991$), the null hypothesis is rejected and alternate hypothesis accepted. Thus, we conclude that staff of masara flour mills Kano are have full knowledge of KPI, balance scorecard.

H₁ Positive relationship exists between the adoption of balance scorecard and return on investment at masara flour mills Kano.

Table (2) Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.152 ^a	2	.017
Likelihood Ratio	7.300	2	.026
Linear-by-Linear Association	8.073	1	.004
N of Valid Cases	222		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 2.70.

Table 2 is the output of the computed chi-square values from the cross tabulation statistics of observed and expected frequencies with the response options of yes and no. chi-square computed value ($x^2_c = 8.152$) is greater than chi-square tabulated value ($x^2_t = 5.991$) with 2 degree of freedom (df) at 0.05 level of alpha ($x^2_c = 8.152$, $p < .05$)

Decision Rule

The decision rule is to accept alternate hypothesis if the computed chi-square value is greater than tabulated chi-square value otherwise reject the null hypothesis.

Decision

Since the pearson chi-square computed ($x^2_c = 8.152$) is greater than chi-square table value ($x^2_t = 5.991$), the null hypothesis is rejected and alternate hypothesis accepted. Thus, we conclude that significant relation exist between balance scorecard integration and return on investment at masara flour mills Kano.

DISCUSSION OF FINDINGS

It was found that balance scorecard is a good control tool which can be implemented in any manufacturing company. Staff of masara flour mills Kano have full knowledge of KPI tool, balance scorecard as indicated by the calculated chi-square value of 6.056 against the tabulated value of 5.991 with 2 degree of freedom (df) at 0.05 level of alpha. The researcher found out that for balance scorecard to be effective staff concern must be carried along in its planning and implementation. Also balance scorecard can be applied in any organization be it big or small, private or public, profit making or non profit making. Adaptions of Balance scorecard easily lead to the detection of any deviation from the right strategy so that corrective measure can be taken at the right time, finally there is no doubt that there is positive and remarkable relationship between KPI tool, balance scorecard implementation and return on investment, as shown by the calculated chi-square value of 8.156 against the

tabulated value of 5.991 with 2 degree of freedom (df) at 0.05 level of alpha.

CONCLUSION

The researcher concludes that staff of masara flour mills Kano are fully educated with KPI tool, balance scorecard. Balance scorecard as a strategic control measure exposes CEOs and managers to a better and understandable procedure of realizing objectives of the organization. The incorporation of both financial and non financial variables in assessing how an organization is performing, gives a better and more comprehensive approach towards identifying how an organization is doing. Clearly there is positive and significant relationship between return on investment and the adoption of KPI tool, balance scorecard at masara flour mills Kano.

RECOMMENDATION

Based on our findings we recommend:

- Organization should fully educate their staff about KPI tool, balance scorecard its purpose and how to be implemented.
- Balance scorecard should be adopted by all organizations big or small, private or public because of its relationship with return on investment.
- Any company that wants to adopt balance scorecard should start the implementation in a gradual form.

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