

Organizational performance management system: exploring the manufacturing sectors

Dr. Chandan Kumar Sahoo

Associate Professor
School of Management
National Institute of Technology
Rourkela – 769008, (Odisha), India
Email: cks_pd@yahoo.co.in
*Corresponding author

Ms. Sambedna Jena

Research Scholar
School of Management
National Institute of Technology
Rourkela – 769008, (Odisha), India
Email: moony.jena@gmail.com

To cite this document:

Chandan Kumar Sahoo, Sambedna Jena, (2012), "Organizational performance management system: exploring the manufacturing sectors", Industrial and Commercial Training, Vol. 44 Iss: 5 pp. 296 – 302.

Permanent link to this document: <http://dx.doi.org/10.1108/00197851211245059>

Organizational performance management system: exploring the manufacturing sectors

Abstract

Purpose – The purpose of this paper is to illustrate the various performance management system utilized by the manufacturing units.

Design/methodology/approach – The paper reviews the performance management literature to extract the factors that would help to explain the effect of performance management system on manufacturing units.

Findings – This research revealed important issues and practices of performance management in manufacturing sectors.

Originality/value – Understanding the different approaches utilized to manage and measure performance management system in manufacturing sector.

Keywords Performance management, Performance measures, Manufacturing sectors.

Paper type Conceptual paper

Introduction

The success and sustainability of an organization depends on performance of the organization and how their objectives are carried out to its effect. Organizations are trying to manage performance of each employee, team and process to ensure that the goals are met in an efficient and effective manner consistently. Effective utilization of performance management system is critical to enhance organizational performance, so as to achieve a competitive position in global marketplace (Kovacic, 2007; Neely, 2005; Guler et al., 2002; Neill and Rose, 2006 and Franceschini et al., 2010). With rapid introduction of new technologies and changes in the manufacturing sector, the manufacturers are struggling to measure and manage performance across their operations effectively. This need has given rise to the importance of a comprehensive performance management system, which would enable the manufacturers to improve all the facets of their operations and to attain competitive edge in the market. The purpose of this paper is to understand the various performance management system utilized by the manufacturing industries and its relevance to the pertaining changes in the economy.

Performance management system: concept and issues

In late 1970's Dr. Aubrey Daniels coined the term performance management, as a science imbedded in application methods for managing both behaviour and results within an organization. In essence, performance management is a shared process of the day-to-day management of employees based on their agreement of objectives, knowledge, skills and competence requirements. The traditional performance management system was focused on 'what gets measured gets done'. It was based on cost and accounting management techniques. It was carried out to meet the needs of expanding manufacturing industries during the 1980's. Lately, enormous changes have taken place in technology and production techniques that have made traditional performance measurement systems obsolete. There has been a shift in focus on 'how to manage what is measured'. This shift was caused for the need of new performance management system, which would assist in catering to the changing needs of the manufacturing sector. The performance measurement system forms the core of a performance management system which assists in managing the company strategy (Lebas, 1995; Neely, 2005 and Otley, 1999).

The steadily increasing maintenance related costs in manufacturing industries is emphasizing the need of a performance management system, in order to utilize the scarce maintenance resources more effectively so as to improve the overall efficiency and effectiveness of an organization (Komonen, 2002; Eti et al., 2005; Tangen, 2004; Cohen and Kaimenakis, 2007 and Tsang et. al, 1999). A performance management system is needed which is able to pursue all maintenance efforts made by the organization, which is synchronized to the organizational strategy. In a survey conducted by Cholasuke et al., (2004), on manufacturing organizations, it was found that only one-third of the organizations, with good maintenance management practices tend to realize the full benefits of their maintenance management initiatives. This has led to the utilization of innovative performance management system such as, balance scorecard, performance benchmarking, etc. instead of the traditional performance management techniques (Rouse and Putterill, 2003; Lunnan and Haugland, 2008; Gomes et al., 2004 and Yenyurt, 2003). However, it has been realized that no single performance management system can imbibe all the critical areas of business nor can provide a clear performance target. In order to manage performance effectively, top executives of the organization need to be aware of information processing

tendencies and practices within the organization to choose a suitable performance management system.

In recent time, organizations are faced with new competitive conditions and need to cope with dynamic environments. These conditions require continuous improvement. Accordingly, the companies are requiring the need of a sustainable performance management system for improvement of organizational effectiveness. However the performance management system has to be carefully considered before implementation as various factors affect the process, such as:

- *Incentives:* Performance measures can sometimes generate inappropriate behavior because of the way they are linked to formal or informal incentive structures. The incentives linked to a certain performance can create pressure to focus on the easily solved problems while ignoring more challenging problems (Bruttel, 2005). This creates a creaming and parking behavior. Therefore, the incentive structures associated with performance measures that is easy to place customers generate more attention (creaming) while more difficult to place customers are effectively ignored (parking).
- *Costs:* According to Bouckaert and Peters (2002), the costs associated with producing performance information are often opaque. The costs associated with performance measurement are often immediate while the benefits of it are realized after a long period of time or sometimes are even uncertain.
- *Feedback is not strategic:* When the feedbacks from the performance management system are concentrated solely on short-term results than on strategy implementation and success, then the success of the system becomes doubtful.

Performance management measures

A successful performance management system ensures that work performed by employees accomplishes the goals and mission of the organization and that employees have a clear understanding of what is expected of them. Benefits of a successfully adopted performance management system include an organization that is directly aligned to its goals and objectives and a motivated workforce where every employee understands his or her importance and role in the organization. Some of the popular performance management systems utilized by manufacturing industries are:

- *Balanced scorecard*

The balanced scorecard is a strategic planning and management system that is used extensively for both strategic and operational purposes in business. It is a measurement framework which has integrated the non – financial performance measures to traditional financial systems which gives the executives a balanced wholesome outlook on organizational performance. Previous research has depicted that 60 per cent of the Fortune 100 companies in the USA and 88 per cent of Australian and Finnish companies have experience with this. It is found that most of the high performing companies emphasize on innovation and growth perspectives of balanced scorecard (Silk 1998 and Olson et al., 2002). In a study conducted by Anderson and Lanen (1999), on Indian firms it was found that information on customer expectations, customer satisfaction, competitor's performance, internal information, on-time delivery, unit product cost and product quality assumed greater significance for strategy formulation through the balanced scorecard procedure. It was found that the traditional financial measures continue to dominate the performance scorecard, though there has been an increase in use of non-financial measures such as on-time delivery, customer satisfaction and productivity in addition to financial measures for performance evaluation in Indian firms (Anderson, 1999 and Joshi, 2001).

- *Performance benchmarking*

Benchmarking is one of the most effective continuous improvement tool for transferring knowledge and innovation into organizations, which determines a positive impact on competitiveness of the business and work processes, as well as represents best practices which establishes rational performance goals (Riberio and Cobral, 2006). Performance benchmarking as a tool for continuous improvement is more prominently adopted among the developed countries than the developing countries (Longbottom, 2000; Jarrar and Zairi, 2001; Yusuff, 2004 and Maire et al., 2005). The performance benchmarking in Indian manufacturing sector is a relatively new concept though it has been adopted worldwide as an instrument of continuous improvement. Benchmarking was initially developed by Xerox as a continuous, systematic process of evaluating companies recognized as industry leaders so as to understand the best practices and establish rational performance goals for itself. However it must be acknowledged that benchmarking initiative does not provide the solutions automatically. The organization needs to find the right measures for comparison so as to analyze the performance gap and to

realize some innovative solutions (Carpinetti and Melo, 2002; Rohlfer, 2004; Berrach and Cliville, 2007 and Hinton et al., 2000).

▪ *TOPP system*

The Terminal Operated Production Programme (TOPP) system is a new performance measurement system which was developed by SINTEF (1992), in Norway in partnership with the Norwegian Institute of Technology, the Norwegian Federation of Engineering Industries and 56 participating enterprises. It is a type of questionnaire that determines the performance of a firm in all the areas of manufacturing. This questionnaire consists of three parts of which; one part obtains information regarding the firm as a whole, second part determines how the enterprise operates and finally the third part focusing on twenty specific areas within the enterprise that may need improvement, such as marketing, design, technological planning, product development, financial management, personnel management, etc. The TOPP system ascertains the performance measurement along three dimensions.

1. Effectiveness – to satisfy customer needs.
2. Efficiency – optimal utilization of enterprise and economic resources.
3. Ability to change – strategically handling changes.

The TOPP questionnaire analyses the firm's areas of manufacturing and instigates the firm to consider the areas which earlier was of lower importance. This enables the firm to estimate their likely future status as well as to introduce improvements. It is therefore suitable for making comparisons between enterprises.

▪ *AMBITE system*

The Advanced Manufacturing Business Implementation Tool for Europe (AMBITE) system is a modern performance management system which can be used to assess impact of strategic decisions made by a firm. This system facilitates in translating the business plan into a set of performance measures which directly relates to the strategy of a firm. The AMBITE performance framework consists of five macro business processes (customer order fulfillment, vendor supply, design, co-ordination, co-engineering and manufacturing) and five macro measures of performance (time, cost, quality, flexibility and the environment). By mapping out these five macro business processes and measures of performance, a set of twenty-five strategic

performance indicators for each manufacturing typology is devised. Each performance indicator is different from each other depending on the firm in consideration. As this system is a process oriented and generic framework, therefore, it can be applied to almost any firm irrespective of its size.

- *EFQM model*

The EFQM Excellence Model (2010) was introduced initially at the beginning of 1992 as the framework for assessing and improving organizations, in order to achieve sustainable advantage. It is a non-prescriptive framework based on nine criteria. Five of these are the enablers while four of them are the results. The enabler criteria covers “what an organisation does” namely; leadership, policy and strategy, people, partnership, and resources and processes. The results criteria covers “what an organisation achieves” namely: customer results, people results, society results and key performance results. It provides an opportunity to the firm to benchmark and compare processes and results with other users and is applicable to all organizations. It facilitates the firm to develop a continuous improvement processes to understand their key strengths and potential gaps in performance as well as to integrate existing and planned initiatives to remove those gaps.

The firms are now committing time and resources for the development of a new performance measurement system to enhance the performance of the firm as well as to increase the motivation and credibility of the entire process. These performance measures highlight the gaps between the best in class and the manufacturing unit’s own performance over a period of time which accelerates the continuous organizational learning process.

Emphasis on people: organizational initiatives

The rapidly changing business environment engenders difficult challenges in designing and implementing effective performance management systems in organization, for the management.

The performance management system needs be integrated with the strategies of the organization to enable high degree of success. Therefore, several organizational initiatives, which can be ascertained in an organization to enhance the performance of the employees through a performance management system, such as:

- *Top management:* There should be clear agreement and commitment among the top management on strategy, goals, measures and performance targets to be implemented within the organization.
- *Involvement and participation:* The involvement of all employees towards achieving the established performance parameters is crucial. Involvement of managers and employees in developing and implementing a performance management system enhances trust and ownership of the performance measures. Clearly defined measures of performance would enable the managers to select an adequate performance management system for their organization.
- *Review process:* The managers should be focused on continuous review of the performance management system, so as to determine whether the actions plans to fill the gaps between performance measures and goals are being achieved or not. The focus of performance management system should be on improvement and learning rather than on control.
- *Feedback:* A prompt and formal feedback system must be enabled for successful performance measurement. Efficient communication and feedback system would detect any loopholes within the system and would aid the manager to rectify it.
- *Compensation:* A well defined compensation plan must be introduced for the employees so as to avoid any discrepancy.

Many tools and frameworks have been proposed in the field of performance measurement and management but it is not necessary that all of them would give positive results. Therefore, it is necessary that the managers should select a balanced performance management system as per the requirement of the organization and its employees.

Conclusion

This paper demonstrates the various practices of performance management system in the manufacturing sectors. The literature review of the popular performance management system utilized by the manufacturing sectors depicts that no single system is successful in improving the performance of a firm. The correct match between the firm and performance management system is essential for its success. The performance management system's function has a significant

positive impact on performance of the employees when it's implemented successfully. The review also depicted certain issues on implementation of performance management system in the manufacturing units like costs, lack of strategic feedback system and incentive schemes which undermine the efficiency of a performance management system. Improvisation of performance is an ongoing process and the organization needs to strive to attain optimal level of value, so as to enhance the future potential business. Hence, the process of measuring the manufacturing performance management system needs frequent reviewing and monitoring to combat an increasingly competitive globalized business environment.

Reference

- Anderson, Shannon, W. and Lanen, W.N. (1999), "Economic transition, strategy, and the evolution of management accounting practices: The case of India", *Accounting, Organizations and Society*, Vol. 24 No. (5-6), pp. 379-412.
- Berrach, L. and Cliville, V. (2007), "Towards an aggregation performance measurement system model in a supply chain context", *Computers in Industry*, Vol. 58 No. 7, pp. 709-719.
- Bouckaert, G. and Peters B.G. (2002). "Performance measurement and management: The achilles heel in administrative modernization", *Public Performance and Management Review*, Vol. 25 No. 4, pp. 359-362.
- Bruttel, O. (2005), "Are employment zones successful? Evidence from the first four years", *Local Economy*, Vol. 20 No. 4, pp. 389-403.
- Carpinetti, L.C.R. and Melo, A.M.D. (2002), "What to benchmark? A systematic approach and cases", *Benchmarking: an International Journal*, Vol. 9 No. 3, pp. 244-255.
- Cholasuke, C., Bhardwa, R. and Antony, J. (2004), "The status of maintenance management in UK manufacturing organizations: results from a pilot survey", *Journal of Quality in Maintenance Engineering*, Vol. 10 No. 1, pp. 5-15.
- Cohen, S. and Kaimenakis, N. (2007), "Intellectual capital and corporate performance in knowledge intensive SMEs", *The Learning Organization*, Vol. 14 No. 3, pp. 241-262.
- EFQM, (2010), "The EFQM Excellence Model", www.cii iq.in/events/QS_09/ppts/EFQM_model_2010_v3-India.pdf, accessed on August 30, 2011.
- Eti, M.C., Ogaji, S.O.T. and Probert, S.D. (2005), "Maintenance schemes and their implementation for the Afam Thermal-Power station", *Applied Energy*, Vol. 82 No. 3, pp. 255-265.
- Franceschini, F., Galetto, M., Maisano, D. and Mastrogiacomo, L. (2010), "Clustering of European countries based on ISO 9000 certification diffusion", *International Journal of Quality and Reliability Management*, Vol. 27 No. 5, pp. 558-575.
- Gomes, C.F., Yasin, M.M. and Lisboa, J.V. (2004), "A literature review of manufacturing performance measures and measurement in an organizational context: a framework and direction for future research", *Journal of Manufacturing Technology Management*, Vol. 15 No. 16, pp. 511-530.

- Guler, I., Guillen, M.F. and Macpherson, J.M. (2002), "Global competition, institutions, and the diffusion of organizational practices: the international spread of ISO 9000 quality certificates", *Administrative Science Quarterly*, Vol. 47 No. 2, 207-232.
- Hinton, M., Francis, G. and Holloway, J. (2000), "Best practice benchmarking in the UK", *Benchmarking: an International Journal*, Vol. 7 No. 1, pp. 52-61.
- Jarrar, Y.F. and Zairi, M. (2001), "Future trends in benchmarking for competitive advantage: a global survey", *Total Quality Management*, Vol. 12 No. 7/8, pp. 906-912.
- Joshi, P.L. (2001), "The International Diffusion of New Management Accounting Practices: The Case of India", *Journal of International Accounting, Auditing and Taxation*, Vol. 10 No. 1, pp. 85-109.
- Komonen, K. (2002), "A cost model of industrial maintenance for profitability analysis and benchmarking", *International Journal of Production Economics*, Vol. 79 No. 1, pp. 15-31.
- Kovacic, A. (2007), "Benchmarking the Slovenian competitiveness by system of indicators", *Benchmarking: an International Journal*, Vol. 14 No. 5, pp. 553-574.
- Lebas, M.J. (1995), "Performance measurement and performance management", *International Journal of Production Economics*, Vol. 41 No. 1-3, pp. 23-35.
- Longbottom, D. (2000), "Benchmarking in the UK: an empirical study of practitioners and academics", *Benchmarking: an international Journal*, Vol. 7 No. 2, pp. 98-117.
- Lunnan, R. and Haugland, S.A. (2008), "Predicting and measuring alliance performance: a multidimensional analysis", *Strategic Management Journal*, Vol. 29 No. 5, pp. 545-556.
- Maire, J., Bronet, V. and Pillet, M. (2005), "A typology of best practice for a benchmarking process", *Benchmarking: an International Journal*, Vol. 12 No. 1, pp. 45-60.
- Neely, A. (2005), "The evolution of performance measurement research: developments in the last decade and a research agenda for the next", *International Journal of Operations and Production Management*, Vol. 25 No. 12, pp. 1264-1277.
- Neill, S. and Rose, G.M. (2006), "The effect of strategic complexity on marketing strategy and organizational performance", *Journal of Business Research*, Vol. 59 No. 1, pp. 1-10.
- Olson, Eric, M. and Slater, Stanley, F. (2002), "The balanced scorecard, competitive strategy, and performance," *Business Horizons*, Vol. 45 No. 3, pp. 11-16.
- Otley, D. (1999), "Performance management: a framework for management control systems research", *Management Accounting Research*, Vol. 10 No. 4, pp. 363-382.
- Riberio, L.M.M. and Cobral, J.A.S. (2006), "A benchmarking methodology for metalcasting industry", *Benchmarking: an International Journal*, Vol. 13 No. 1/2, pp. 23-35.
- Rohlfer, S. (2004), "Benchmarking concepts in the UK and Germany: a shared understanding among key players?", *Benchmarking: an International Journal*, Vol. 11 No. 5, pp. 521-539.
- Rouse, P. and Putterill, M. (2003), "An integral framework for performance measurement", *Management Decision*, Vol. 41 No. 8, pp. 791-805.
- Silk, S. (1998), "Automating the balanced scorecard", *Management Accounting*, Vol. 79 No. 11, pp. 38-44.
- SINTEF, (1992), "TOPP: A Productivity Program for Manufacturing Industry", NTNF/NTH, Trondheim, Norway.
- Tangen, S. (2004), "Performance measurement: from philosophy to practice", *International Journal of Productivity and Performance Management*, Vol. 53 No. 8, pp. 726-37.

Tsang, A.H.C., Jardine, A.K.S. and Kolodny, H. (1999), "Measuring maintenance performance: a holistic approach", *International Journal of Operations and Production Management*, Vol. 19 No. 7, pp. 691-715.

Yeniyurt, S. (2003), "A literature review and integrative performance measurement framework for multinational companies", *Marketing Intelligence and Planning*, Vol. 21 No. 3, pp. 134-142.

Yusuff, R.M. (2004), "Manufacturing best practices of the electric and electronics firms in Malaysia", *Benchmarking: An International Journal*, Vol. 11 No. 4, 361-369.