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COST MANAGEMENT SYSTEM: PERFORMANCE MEASUREMENT

Abstract. Existing standards of manufacturing development in the West are poor and the potential to improve value-adding capability and reduce waste is substantial. A cost management system requires a commitment from the top management of the company, involvement of its workers at all levels, and the establishment of a self-perpetuating system of improvement that will help improve value-added activities and decrease non-value added activities. It may begin with activity based costing, but a comprehensive system will also include activity-based management, total quality management, Just-in-Time system and process improvement. Such a system will help the company in meeting global competition now and in the future with emphasis on continuous implementation.

The organisation of the future will invariably be forced to take a more involved account of all forms of organisational energy, yet it is difficult to see how a single unit of measure, such as monetary values, can cater for all these needs, although obviously standard measures such as return on investment will still be used. An effective cost management system helps in good management and control of costs. However, it also assists in the attainment of operational excellence by providing timely and reliable information for management use.

1. Introduction

For many years we have been brainwashed into thinking that financial performance measurement and control is the only legitimate or correct way to appraise business efficiency, guide development and meet market needs. Yet this universal planning, control and capital investment tool conceals component flaws within its mechanism which obscure a true company evaluation, especially when used to direct manufacturing industry. Throughout history monetary control has been the universal standard unit of measure, which reported company profitability and performance in the marketplace.

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By using this monetary link it has been possible to decide whether investment could be justified, a product was made obsolete, or return on capital was acceptable, or so we thought. Unfortunately we must now admit that our financial planning and control systems, with their origins in an uncompetitive era, can no longer cope with market demands and the speed of change driven by international competition in the 1990s. In fact some parts are no longer appropriate as we try to measure a benefit or cost by unrelated criteria while much-needed value-adding improvement cannot be justified.

In recent years a widespread, yet belated, true acceptance of just-in-time manufacturing, lean production and total quality concepts has led to components of the financial control and reporting mechanism being questioned. Weaknesses have begun to appear as the pace of change accelerated. Managers who had improved the competitive position of a company by reducing throughput time, stock or reject rates found cost accountants unable to record the impact, a common problem for those making the transition to the Just-in-Time (JIT) environment (Kaplan 1983). Yet, innovations such as activity based costing do not provide viable alternative solutions since both activity and non-value adding activity cause cost in the organisation (Cooper 1990).

The purpose of cost management system of company is to help maximise its profits – now and in the future. To achieve this goal, the company has to meet or beat the competition not only today, but to continuously improve itself in future. Therefore, it should devise a cost management system that would lead to the achievement of two major objectives: global competition and continuous improvement. A cost management system requires a commitment from the top management of the company, involvement of its workers at all levels, and the establishments of a self-perpetuating system of improvement that will help improve value-added activities and decrease non-value added activities. It may begin with activity based costing, but a comprehensive system will also include activity-based management, total quality management, just-in-time system and process improvement.

In this article, therefore, the authors aim to present an overview of the cost management system and its various components, which helps in good management and control of costs.

2. Performance measurement/cost accounting

A total dependence on financial performance measurements has a disastrous result in helping executives direct company and product strategy because it is common practice in manufacturing organisations to use monetary feedback, in isolation, to control and direct a wide range of activities. Even those organisations which have transformed their manufac-

turing performance by using Just-in-Time methods, etc., still, in most cases, attempt to measure the benefits using obsolete methods of financial accounting. There is usually no measure of value-adding capability, future potential or current levels of waste, yet decisions regarding expansion, whether to make products obsolete, the strength or competitiveness of a product range and even the future of an entire company, are often based on these financial data. These figures, used in isolation, record results but do not adequately analyse the potential for improvement.

Standard costing systems have been criticised for many years, and not without good cause, for they fail to give true relevance to many cost drivers. Some of these weaknesses have been eliminated by adopting activity based costing, but this is only seen as a partial solution, attacking one part of the problem.

3. Cost management system

The term "cost management" is not a well-defined term. It builds on both cost accounting and management accounting, but goes beyond the two. Brinker (1996) defines it as "a set of techniques and methods for controlling and improving a company's activities and processes, its products and services." The purpose of the cost management system of a company is to help maximise its profits – now and in the future.

Figure 1 presents the model of the cost management system. Achievement of the objectives mentioned above will require:

- A. Establishment of self-perpetuating system of improvement;
- B. Commitment of top management;
- C. Involvement of workers.

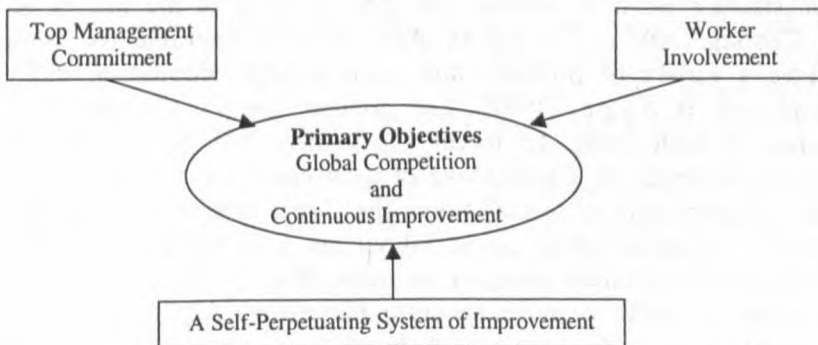


Fig. 1. Cost Management System (Agrawal, Mehra, Siegel 1998)

4. Self-perpetuating system of improvement

Figure 2 shows the model of a Self-Perpetuating System of Improvement (SPSI). It indicates two goals of SPSI:

- To continuously improve value added activities;
- To continuously decrease non-value added activities. (see Fig. 2).

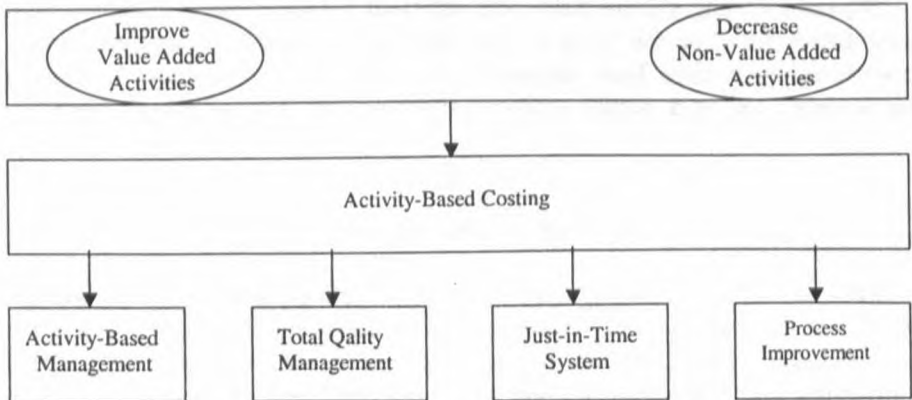


Fig. 2. A Self-Perpetuating System of Improvement (Agrawal et al. 1998)

Improving value added activities and reducing non-value added activities is a never-ending process. The company must establish a system that will be perpetually involved in the achievement of these goals. Furthermore, the analysis of activities should cover the entire value chain: research and development, design, production, marketing, distribution and service (Shank, Govindarajan, 1992).

The starting point to achieve the goal of SPSI is the use of Activity Based Costing (ABC). The use of ABC is most desirable for companies that have a variety of products and incur a large amount of indirect or overhead cost (Cooper 1989). The greatest impact of ABC is on the allocation of such costs. In recent times there has been a phenomenal growth in overheads as a percentage of total costs. In most companies, the amount of overheads is several times the direct labour cost, so much so that some companies treat direct labour as a component of overheads rather than as a separate category of costs (Boer 1994).

In order to make a more accurate allocation, ABC divides activities into several levels, such as unit level, batch level, product level and facility level (Cooper 1990). One or more drivers are used to allocate costs of these activities to various cost objects in an appropriate manner based upon

a causal relationship. This prevents cross-subsidisation of product costs. Such cross-subsidisation is quite common under the traditional cost system using a single driver (e.g. direct labour or another volume-based measure) to allocate all indirect costs, which leads to many undesirable consequences.

Allocation of costs based on activities helps to determine the profitability of various cost objects more accurately. For example, a company may more accurately compute not only the profitability of various products it makes, but also the profitability of groups of customers or channels of distribution.

The main disadvantage of ABC is the difficulty in obtaining accurate information which would enable the proper allocations (H undal 1997), that is, it is difficult to obtain the cost per unit of the activity's output (unit price of a cost driver). It has also been argued that ABC requires detailed activity analysis, which implies significant changes in existing cost accounting systems (S heldon et al. 1991).

Activity Based Management (ABM) uses the information developed under ABC. It focuses on the management of activities as the route to improving the value received by the customer and the profit achieved by providing this value. It includes cost driver analysis, activity analysis and performance measurement. Reeves (1996) indicates that the ABM system would help fulfil the managers' need for dynamic information for at least three purposes:

- managing and motivating cost improvement;
- improving organisational learning; and
- supporting cost-based operational decisions.

Just-in-Time as a management philosophy has engendered great interest internationally since the early 1980s. JIT was first implemented by Toyota Motor Company in the early 1970s and has since spread to other Japanese companies and globally. It is recognised as one factor contributing to Japan' reputation for superior quality and growth in productivity (K eller, K azazi 1993).

Johnson and Kaplan (1987) have argued that management accountants must develop accounting systems which support the changing manufacturing environment. The accounting literature emphasises the importance of performance measurement systems and how they can either inhibit or enhance the implementation of the JIT philosophy (DeLuzio 1993; Swenson, Cassidy 1993; Young, Selto 1991).

Just-in-Time System aims at synchronising the operations of the company through the entire value chain – from the suppliers to customers (H ronec 1990). There is no significant inventory at any stage – raw material, goods in process or finished goods. Introduction of JIT requires analysis of value added and non-value added activities and their costs, which is provided by ABC (Bailes, Kleinsorge 1992).

Under JIT it is essential that suppliers deliver the material of right quality in right quantities at the right time. This would require long-term

contracts with reliable suppliers and use of such techniques as electronic data interchange. JIT may also require a redesign of manufacturing facilities so as to eliminate waiting time, moving and storage.

It may not always be possible to synchronise all the functions of a company. Constrains may arise anywhere in the value chain, such as in the manufacturing process. Under such circumstances, the Theory of Constrains (TOC) can be used to improve operations (Fox 1986). TOC prescribes five steps to help improve performance:

- identify various constraints and determine which of these are binding;
- exploit the binding constraints;
- subordinate everything else to the exploitation of the binding constraints;
- elevate the binding constraints;
- repeat the process after a binding constraint has been elevated.

ABC analysis will help identify the constraints, and the acquisition decisions referred too earlier will help elevate the constraints. For example: if company cannot accurately identify where investment is required and improve its value-adding capability quickly, before order input is affected, the company's future will be in jeopardy. This leads to an acceptance that poor cost-accounting methods – over-reliance on market margin to measure factory performance – and poor investment direction and appraisal, are firmly interwoven (see Fig. 3).

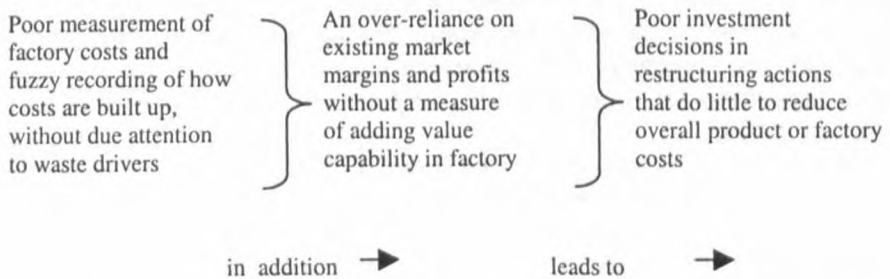


Fig. 3. Poor cost measurement leads to poor investments decisions (Barker 1995)

Total Quality Management (TQM) requires identification and reduction of quality related costs. Such costs often constitute a significant percentage of the total costs of a company (Carr, Tyson 1992). Total elimination of all quality-related costs is neither possible nor even desirable, as reduction in some costs may require increase in others.

Quality-related costs are often well hidden, and ABC provides considerable help in their measurement, making the management aware of such costs

(Ostrenga 1991). TQM provides significant help in the reduction of non-value added activities and improvement of value added activities.

Process Improvement begins with the identification of various processes carried out by company that involve numerous activities and cut across functional lines. A mapping of the processes may lead to significant reduction in non-value added activities and improvement of value added activities (Ostrenga, Probst 1992). ABC analysis provides considerable help in process improvement.

Process improvement is an incremental approach under which existing processes are examined and improved. Examples of such improvement are: elimination of unnecessary paper work, reduction in the number of approvals needed, improvement in communication, and change from manual analysis to electronic analysis of data. In contrast, process innovation or reengineering involves a total change in the way the work is done. Examples of such innovation would include the first time use of target costing in the development of new products, flexible manufacturing systems or cellular manufacturing. In either case, time is considered to be a crucial element in all phases of the value chain. Companies use time as a competitive element (Roth, Borthick 1993).

5. Commitment of top management

SPSI cannot be established without the active support of the top management of the company. Top management's commitment is a prerequisite to the successful implementation of any strategy or innovation (Hunt, et al. 1985). As shown in Fig. 4, this requires the following:

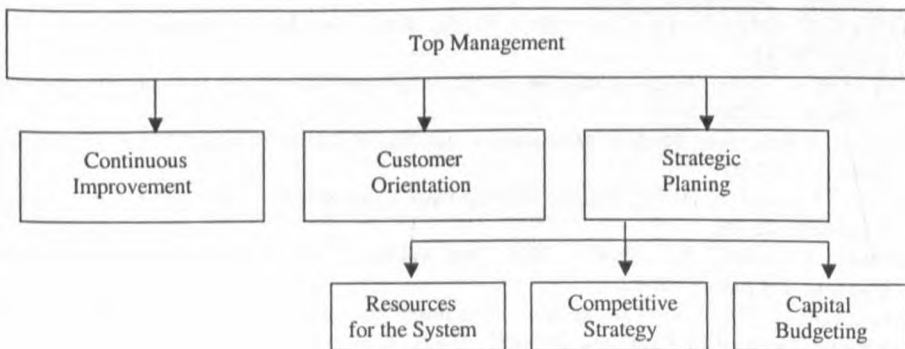


Fig. 4. Top Management Commitment (Agrawal, Mehra, Siegel 1998)

6. Involvement of workers

Employee involvement means using the creative and synergistic effects of all employees to solve problems. In other words, the objective of an employee involvement program is to tap the resources of employee ideas, creativeness, and energies to solve operating problems and ensure continuous improvement (Hall 1987).

For a successful implementation of SPSI, it is necessary to have active involvement of workers at all levels – from factory floor to middle management. In addition to being involved with the manufacturing process, workers must also become involved with each other's responsibilities. As shown in Fig. 5, this would require the following:

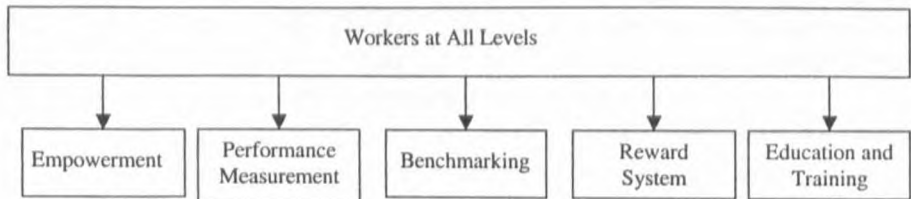


Fig. 5. Worker Involvement (Agrawal, Mehra, Siegel 1998)

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SYSTEM ZARZĄDZANIA KOSZTAMI: POMIAR DOKONAŃ

(Streszczenie)

Obecne standardy działalności produkcyjnej na Zachodzie nie są zbyt wysokie i sporo jest do zrobienia w zakresie poprawy zdolności do generowania wartości dodanej i wyeliminowania niegospodarności. System zarządzania kosztami wiąże się z koniecznością zaangażowania kadry kierowniczej najwyższego szczebla i wszystkich innych pracowników oraz wprowadzenia systemu ciągłego doskonalenia, który pomoże usprawnić działania tworzące nową wartość i zredukować działania nie tworzące nowej wartości. Można zacząć od stosowania rachunku kosztów działań (ABC), ale kompleksowy system obejmuje również ABM, kompleksowe zarządzania jakością (TQM), JIT (Just-in-time) oraz doskonalenie procesu. Taki system pomoże firmie sprostać światowej konkurencji obecnie i w przyszłości.

Przedsiębiorstwo przyszłości będzie zmuszone wykorzystywać wszelkie zasoby swej energii twórczej, ale trudno sobie wyobrazić, jak jeden rodzaj mierników (np. wielkości wyrażone w pieniądzu) może odzwierciedlić te wszystkie aspekty, chociaż z pewnością tradycyjne wskaźniki, takie jak rentowność inwestycji (ROI), będą nadal stosowane.

*Česlovas Christauskas, Alfreda Sapkauskienė***KAŠTŲ VALDYMO SISTEMA: VEIKLOS ĮVERTINIMAS**

(Santrauka)

Kaštų valdymas susideda iš dviejų dedamųjų: kaštų apskaitos ir valdymo apskaitos. Kaštų valdymo sistemos tikslas yra įmonės pelnų maksimizavimas – dabar ir ateityje. Siekiant šio tikslo, įmonė turi atpažinti ir įveikti savo konkurentus ne tik šiandien, bet tobulėti ir ateityje. Todėl jų sukurta kaštų valdymo sistema turi skatinti įmonę siekti dviejų pagrindinių dalykų: globalinės konkurencijos ir nuolatinio tobulėjimo. Kaštų valdymo sistema pareikalauja pastangų iš aukščiausio lygio vadovų, įtraukia visų lygių darbuotojus ir nuolat save tobulinanti personalą, kas padeda tobulinti veikas pridedančias vertę ir mažina nepridedančias vertės veikas. Šią sistemą galėtume pradėti veikų kaštų apskaita (ABC), tačiau pilna sistema taip pat apima veikomis grįstą valdymą, visuotinę kokybę, Just-in-Time sistemą ir veikų tobulinimą.