

Review paper

FLEXIBLY DESIGNED COST ACCOUNTING INFORMATION SYSTEM –RELIABLE SUPPORT TO MODERN COMPANY MANAGEMENT

UDC 657.47

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Abstract. *The trends of globalization followed by the removal of national barriers inevitably result in sharp intensification of international competition. Powerful integrational relations require systemic perception and coordination of business processes of all involved organizations. Regardless of the specific commitments in terms of business strategy, the modern company is, inevitably, faced with the requirement of cost competitiveness. In modern conditions of great external and internal complexity, achieving and maintaining competitive advantages is not possible without an adequate information system. Only a flexibly designed cost accounting information system can qualitatively respond to numerous and various information requirements – as such, it will be able to adapt to changes occurring in business environment as well as in the company itself. It also discusses some of the new and, in turn, enhanced existing tools, techniques, concepts and approaches to costing and cost management (ABC/ABM, TQC/TQM, TC/TCM, LCPC/LCPCM, VSA/VSM), which are fundamentally important in order to implement and support competitive strategies of companies.*

Key Words: *management, strategy, competitive advantages, cost accounting, cost management.*

INTRODUCTION

The modern company achieves its success as a result of the interaction among the environment, resources and management, i.e. its ability to employ the resources adequately, bearing in mind the company's position - its strengths and weaknesses. This requires,

Received December 31, 2011 / Accepted March 14, 2012

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along with acceptable risk, a maximum exploitation of challenges brought by the environment, in order to realize the interests of various stakeholders.

Managers in contemporary companies face complex and numerous challenges of successful company management. Achieving and sustaining competitive advantage in a dynamic and thoroughly uncertain environment necessarily requires sophisticated professional knowledge and skills, as well as designing an adequate information system – quality support to larger and more complex information requirements of managers at all levels of management. Constant and dramatic changes in contemporary competitive environment require the knowledge of a wide focus cost and performance management.

Only a flexibly designed cost accounting information system can qualitatively respond to numerous and various information requirements – as such, it will be able to adapt to changes occurring in business environment as well as in the company itself. Therefore, it is necessary to continuously review its information offer, as well as to find new ways of generating quality information as a support for modern mechanisms of company management.

1. COST ACCOUNTING AS THE KEY CORE OF INFORMATION

The management is expected to lead the company towards the achievement of set objectives which, in the contemporary settings of market external and internal complexity, inevitably requires sophisticated expert knowledge and skills, as well as quality information support. Constant and dramatic changes in contemporary competitive environment, as well as the need of integration into European and world market flows, require the knowledge of a wide focus of cost and performance management of companies. Cost accounting (CA), which measures and reports financial and non-financial information related to the organisation's acquisition or consumption of resources (Horngrén, et al., 2005, p. 5), has an exceptionally important position within the entire accounting information system of an organization because it provides information to both management accounting and financial accounting as subsystems of the accounting information system. When its information is intended for the financial accounting it measures product costs in compliance with the strict legal and professional regulations; however, when its information is used for internal purposes it provides the basis for planning, control, and decision-making.

The importance of CA as information basis for *external financial reporting* (which is its traditional task) is particularly reflected in providing relevant data for the purpose of inventory balance and determining the cost of products sold. In compliance with the widely accepted regulations, it includes into the inventory value only the necessary costs of functional production fields – but not the costs of uneconomical spending, inefficient work and unused capacity, which represent period costs. Accounting data used for external reporting very often do not completely satisfy managers' needs for decision-making purposes. Attempts at slight modifications of financial accounting systems for managerial purposes rarely end happily – like eating soup with a fork: it is possible, but it is far from effective (Maher, 1997). Cost data for the purpose of internal reporting are meanwhile relatively free from the constraints of legal and professional regulations. When internal reporting is in question, analytical and short-term aspect – notably the success accomplished – is emphasized. Apart from presenting the overall business results of the company as a whole, it is possible to segment it from various aspects – it is an extremely important management instrument for planning and control. When activities of *planning and*

control of the performance of the company and its narrower segments for various time intervals are in question, CA provides the management with relevant information, i.e. it represents the basis of the accounting planning and control. This is so because it assumes short-term and analytical aspect of costing, and compiling relevant reports as well, regarding the ever increasing need for planning and control of managers' performance. Therefore, internal reports created by CA are primarily used by management accounting for offering adequate information support to management for the purposes of planning and control of business activities, i.e. for the purposes of more qualitative and efficient operations and making various business decisions. Meeting various information needs of the management related to *making individual business and financial decisions* has been emphasized over the last few decades as the fundamental CA task – it assumes calculating costs and benefits of individual business alternatives. By using non routine cost-benefit analyses, CA creates reports based on the concept of *relevant* information. The concept of relevant costs (relevant revenues as well), in choosing among alternatives, assumes considering the expected future costs which differ in alternative actions. Relevant cost analysis generally emphasizes quantitative financial information, but in decision-making, managers must pay due attention to quantitative non-financial and qualitative information and must, occasionally, give greater significance to qualitative or non-financial quantitative information. Non-financial information concerns legal and ethical considerations and long-term effects of decisions on the company image, employees' morale and the environment, and is relevant to particular business decisions.

While designing cost accounting information systems one must not lose sight of the following (Maher, 1997): decision-makers' needs must be met; different cost information is used for different purposes – what works for one purpose will not necessarily work for other purposes; cost information must meet the cost-benefit test – namely, cost information can always be improved, but before establishing a new system, one basic question should be asked: will the benefits outweigh the costs? It is of vital importance that cost accounting information systems should be flexibly designed. Due to the fact that they are relatively free from legal and professional constraints and are in function of the company management, they are, in accordance with the needs of internal users, able to generate a broad range of information. Organizational and methodological settings and functions are adapted to management requirements. Being flexible, it will be able to adapt to changes occurring in the business environment as well as in the company itself and, accordingly, respond in a qualitative manner to numerous and various information requirements of the company management. Today, there are new requirements for changes and continuous improvement so that the management could have adequate information support in managing the company – particularly key strategic variables.

The extent to which CA is capable of helping the management in serving the above-mentioned purposes fundamentally determines its significance, i.e. the usefulness of its information. It is of great importance that the accountants should know their job well and seek the ways to add value to their organizations. In many successful companies in the world the accountant is a member of multifunctional teams as a reliable associate.

2. NEW CRUCIAL THEMES

Numerous and dramatic changes in business environment in the last couple of decades have contributed to a high level of complexity, turbulence and uncertainty in the environment in which contemporary companies accomplish their economic mission. The trends of globalization followed by the removal of national barriers inevitably result in sharp intensification of international competition. What is more, the consumers' demands are changing more and more frequently and becoming more sophisticated, which, along with intense introduction of new information and communication technologies, drastically shorten product life cycle. As a response to numerous contemporary challenges, a broad range of new management approaches and philosophies is developing, such as: value chain analysis, setting up long-term relationships of close cooperation with key customers and suppliers, continuous improvement, broad empowerment of employees, new production management systems and many others. Despite the underlying notional differences, they all have the same universal motif – to master key factors for business success (cost, quality, time, innovations) and supply customers with superior value on the market. Powerful integrational relations require systemic perception and coordination of business processes of all involved organizations. Therefore, managers in contemporary companies face complex and numerous challenges of successful company management. Achieving and sustaining competitive advantage in a dynamic and thoroughly uncertain environment necessarily requires sophisticated professional knowledge and skills, as well as designing an adequate information system – quality support to larger and more complex information requirements of managers at all levels of management.

Companies worldwide have, in recent years, considerably changed their strategies - from internally focused strategies to externally focused ones, whose top priority is customer satisfaction. There is a widely accepted saying that customers are company's most valuable assets. Profit is generated by customers, and products are only the ways of turning customer demands into profits. The quality of customer service is a sole criterion for distinguishing a successful company from unsuccessful one (Kaplan, 1992). The company's power is based on its superiority to create values for customers. The company manages to satisfy customer demands and enhance their loyalty if it succeeds to provide: a superior quality of their products to those of their competitors; products which are tailored to customer wishes and demands; reliable and timely delivery of products; after-sales services; product quality guarantees; an effective communication system with customers, etc. Regardless of the concrete orientation regarding business strategy, the contemporary company inevitably faces the requirements of cost competition. Numerous and skilled competitors with new sophisticated approaches to cost management (CM) and cutting edge technological achievements force it to manage costs carefully and skillfully. It is constantly being emphasized that CA should provide information useful for the decision-making process and particularly the information support for CM analyses and projects. Numerous studies point at the weaknesses of traditional formal CA systems, particularly emphasizing the problems of distortion, i.e. distorted information and limitations in presenting cost drivers, amounts and cost profiles in an extended business operations system.

Modern business environment inevitably requires CA restructuring and new approaches to costing and CM in order to improve cost information quality. It is necessary to provide adequate information support concerning the process of business strategy formulation and implementation, i.e. finding adequate directions leading to the strengthening of the competitive position on the increasingly turbulent market. In general, improved CA

can reach more management objectives than traditional CA. In the new circumstances, many information weaknesses are attributed to traditional approaches to costing and CM.

One of the new crucial theme in CA is turning our attention to the customer. *Customer in focus* is the key point of the organization's success. "To be customer-driven" lies at the heart of CM; among all aspects of business operations which the management must take care of, the customer is the most important because without him the organization loses its purpose. There is a permanent question in the way business operations are performed which puts the emphasis on customer satisfaction: how can value be added for the customer? The focus is on the most profitable customers and the ways to first attract them and then retain them. Today, companies first identify customer needs and demands, and then proceed with the product design and production.

Value chain and supply chain analysis is also a key theme. Value chain (VC) describes a set of interconnected activities which increase an organization's product or service value for the customer where each step in the process of development, production and distribution can add value to products or services. VC facilitates consideration of the possibilities of achieving and retaining competitive advantage through strategically relevant activities. By using VC and activity cost information companies can identify strategic advantages on the market. Supply chain (SC) assumes the idea of an "extended company" and presents a set of activities of many organizations directed towards linking producers and end users on the market. Thus, the focus expands from company *production VC* to *purchase VC* on the one hand to *distribution VC* as the final part of the whole industrial VC on the other. CM emphasizes integration and coordination of these activities through all links i.e. companies in the SC, as well as through each business function in the VC of individual companies.

Costs, quality, time and innovations are key factors of business success. The management must continuously focus on these key strategic variables in relation to competition, which surpasses the frames of their company and draws their attention to changes in the external environment observed and assessed by their customers as well. It is of vital importance to manage them carefully and thus affect the level of customer satisfaction. Low costs are a significant business goal but cost improvement does not necessarily have to be sufficient. Customers want more than just lower prices and costs – they want quality, responsibility, punctuality.

The combination of *benchmarking and continuous improvement* is an ever-present theme in the new approach to management. Benchmarking is a systemic process of measuring and comparing one's own products, services and activities against the best performance levels (inside or outside of the company). By comparing with the best examples, the management finds ways of continuously improving their proper practice. Benchmarking and continuous improvement are often described as a "the race with no finish" because management and employees displeased with a particular performance level seek continuous improvement. When they adopt this philosophy, the organizations perceive that they are able to achieve performance levels which they previously considered unattainable (Maher, 1997).

New environment brings new challenges and problems which inevitably impose the need for serious reconsideration of past business philosophy established in stable and predictable business settings. It is of great importance to adopt a wider external orientation with the constant focus on changeable and sophisticated customer demands. The company's existence on the market directly depends on the degree of fulfillment of customer expectations but also on the intensification and strengthening of cooperation with other

organizations from the environment (customers, suppliers, distributors). Quality exchange of ideas and information, better interorganizational coordination and integration of vital business activities are necessary assumptions for more successful competitive positioning of the company on the market.

3. TRENDS IN COST MANAGEMENT

An increasing number of discussions about CM and extending various limits there has been in the past decades. It is a dynamic process which assumes intensive efforts directed towards continuous improvement, i.e. improving the existing and inventing new tools and techniques, starting with early activity-based costing models and pursuing lately in the direction of *strategic cost management (SCM)*- *the use of cost data to develop and identify superior strategies that will produce a sustainable competitive advantage*. In that period, the most prominent trend has been *shift the focus* from determining product costs by using standard traditional cost models, towards providing support for strategic and operational decisions by using certain forms of activity analysis. While considering the development of CM, it is very important to link it to modern challenges to organizations. Therefore, suggestions go in the direction of separating it from traditional accounting and abandoning the long-standing linearity of measuring historical costs and static standards. Managers should anticipate rather than simply react to changes in cost structure and financial performances.

In the development of CA the turning point was the advent of *Activity Based Costing (ABC)* which emerged primarily as an expression of the need to provide much more accurate data about the output cost price compared to traditional methods. It focuses on activities as parts of the entire process in a company and their cause and effect relations with the resources used as well as with cost objects (products and services, market segments, customers) i.e. activity drivers. However, management can use it not only for the purpose of calculation, i.e. more accurate product costing and, therefore, more successful price and product and service range management, but also for providing financial and non-financial information on activities, and effective CM – as assistance to activity based management. When considering the use of ABC for the strategic purposes, many experts think that it offers strategic opportunities to companies. Many companies have gained competitive advantage due to ABC information, i.e. cost reduction by lowering prices in order to increase their market share. Organizational (structural and procedural) activities define the number and nature of operational activities. Operational activities and operational cost drivers (activity drivers) are the focus of ABC system. Although organizational activities define them, analysis of operational activities (e.g. materials handling) and operational drivers (e.g. number of moves) can be used for suggesting the choice of organizational activities and organizational drivers (strategic choices). *Activity Based Management (ABM)* focuses on managing activities with the aim of increasing the value which the customer receives and profit obtained by providing this value, which assumes driver analysis, activity analysis and performance evaluation. The main data information source for that is ABC. Using cost information about various activities helps managers to identify activities that do not add value to products but waste resources, and also urges them to redesign expensive production methods. Thus, according to ABM approach to company management the attention of managers is directed towards company activities; ABM as-

sumes a set of decisions and actions based on ABC concept information. The goal is to increase the value delivered to customers and to boost company profitability to a higher level. Strategic and operational ABM are singled out. *Strategic* ABM assumes directing the organization towards the most profitable use of resources. Due to ABC information we can point out non-profit activities (they should be eliminated) as well as the most profitable ones (they should be intensified), and make decisions affecting product development and design, fixing sales prices, specifying the production and sales mix, and establishing and developing relations with key customers and suppliers. All this can be achieved due to skillful combining of the knowledge about cost behavior (i.e. their drivers) with the knowledge about customer behavior. *Operational* ABM assumes decisions and actions with the goal of continuous improvement of business processes; and for designing ABC systems, as its information support, several hundred activities may be necessary in order to obtain better insight into processes underlying production and customer service. Operational ABM is directed towards the improvement of efficiency and reduction of resources necessary for performing respective activities (Cooper, Kaplan, 1999). The advantages of activity analysis come primarily from the activity cost classification according to the possibilities of cost improvements. This classification enables managers to get an insight into how many current operating costs occur during inefficient processes or processes of low efficiency. ABC model determines where the greatest possibilities of cost reduction lie; but ABC information is not a current operating tool for the activities of improvement. This model offers the key direction for decision-making where to launch initiatives such as kaizen costing, pseudo-profit centers, TQM and reengineering (Cooper, Kaplan, 1999). *Activity Based Budgeting* (ABB) extends the ABM idea to the planning cycle by using it to establish cost limits and control systems in organizations. Supported by activity analysis ABB uses benchmarking information to help the company to control costs and eliminate the increasing trend of exceeding the budget without improving the company's ability to create value for customers (McNair, 2007). ABB is directed towards future resources, activities and outputs and is a valuable information support to the process of strategic decision-making. Due to the use of ABC approach in cost design, in many companies today, designers have at hand higher-quality information for the development of new products acceptable to customers with significant cost savings. ABB also offers information support for the process of choosing suppliers, because by using ABC approach in cost planning and costing the particular supplier is defined as the driver of all costs which occur in doing business with him. Furthermore, information support relates to the process of product range management as well. However, if strategic ABM is not efficient, it may generate wrong information on optimal product mix and the so-called death spiral which the company may enter. By combining the application of ABC concept, the theory of constraints and linear programming it is possible to make decisions about defining the optimal product mix. If the ABC system is well planned, ABM reveals the possibilities of the emergence of unused capacity, i.e. bottlenecks, in the process that defines the performance level of the entire process, which indicates a close connection between ABM and capacity management (Cooper, Kaplan, 1999). We should also mention the importance of ABB information support in the process of establishing customer relations management. In the conditions of fierce competition, it is of vital importance to know the customer profitability; due to the ABC approach in that analysis it is possible to provide reliable information about the costs driven by customers.

Just-in-Time (JIT) concept of purchase and production is one of the most important recent innovations. This business philosophy emerged from the need of the management for a more efficient inventory management, i.e. reduction of investing in inventories and it assumes that materials flow and production process runs smoothly. JIT system application requires a highly efficient coordination of purchasing, production and marketing functions. Unless all production process components are reliable, this system loses its efficiency. Therefore, many companies, in their attempts to realize JIT objectives, introduce a flexible production system i.e. computer-aided production system which enables the company to produce various products with minimum setup time. As a result, significant changes in organizational (structural and procedural) company activities which occur with the introduction of JIT systems, affect the nature of CM accounting systems – traceability of costs changes, product costing accuracy rises, the need for allocation of service-center costs diminishes, cost behavior and relative importance of direct labor costs changes, job-order and process costing systems are affected, reliance on standards and variance analysis as well as inventory tracking systems decrease. In sum, organizational changes concern both CA and operational control systems. In general, they simplify CM accounting systems and at the same time increase the accuracy of cost information obtained.

JIT diminishes the value of ABC for tracing manufacturing costs to individual products because in JIT production systems the interest in tracking costs for the purpose of inventory valuation decreases since their levels are, at any point of time, generally insignificant. However, managers are still interested in product costs for the purposes of decision-making. Therefore, a simplified approach to manufacturing cost flow has been developed – *Backflush Costing (BFC)*. It is said to be a simplified method which significantly saves time and effort and reduces errors – in JIT settings, among other things, there are no departments, production cycle time is measured in minutes or hours, and products are dispatched immediately after the completion; so it looks absurd to track costs from position to position within a cell. Therefore, total daily manufacturing costs are recorded every day in the cost of goods sold account. All manufacturing costs are recorded directly in that account, and by working backward (from the cost of goods sold) the accountants can use BFC to assign manufacturing costs to inventories, taking good care to trace accurate costs to the products sold and inventories at the end of a period. The costs are 'flushed back' through the production process to the points at which inventories remain. BFC uses trigger points to determine when manufacturing costs are assigned to particular key accounts. There are several variants of this method depending on the number and location of trigger points (Hansen, Mowen, 1997).

In the last few decades, *quality* has become an important competitive dimension for both service and manufacturing organizations - quality is an integrating theme for all organizations. Increased attention to quality is result of not only increased competition but also increased customer demands for higher-quality products and services. Improving quality may actually be the key to survival for many firms. Continual improvement and waste elimination are foundation principles that govern a state of manufacturing excellence, which is the key to survival in contemporary world-class competitive environment. A philosophy of *Total Quality Management (TQM)*, in which managers strive to create an environment that will enable workers to manufacture perfect (zero-defects) products, is replacing the acceptable quality attitudes of the past. Reducing defects, in turn, reduces the total costs spent on quality activities. Four categories of *quality costs* are emphasized:

prevention costs are incurred to prevent poor quality in the products/services being produced (quality: engineering, training programs, planning, reporting, audits, circles; suppliers evaluation and selection, design reviews, field trials, design reviews); *appraisal* costs are incurred to determine whether products/services are conforming to their requirements or customer needs (inspection/testing raw materials, packaging, inspection, supervising appraisal activities, product/process acceptance, inspection/test equipment); *internal failure* costs are incurred because products/services do not conform to specifications or customer needs (scrap, rework, downtime-due to defects, reinspection, retesting, design changes); *external failure* costs are incurred because products/services fail to conform to requirements/satisfy customer needs after being delivered to customers (costs of recalls, lost sales because of poor product performance, returns and allowances because of poor quality, warranties, repair, customer dissatisfaction, lost market share. Quality costs can also be classified as *observable* (available from an organization's accounting records) or *hidden* (opportunity costs resulting from poor quality – not usually recognized in accounting records). Quality costs must be reported and controlled. A quality cost report is prepared (by listing costs for each item within each of the four major quality cost categories) to improve managerial planning, control and decision making (strategic pricing and cost-volume-profit analysis). There are two views concerning the optimal distribution of quality costs: the *conventional* view (holds that there is a trade-off between costs of failure and prevention and appraisal costs, which produces an optimal level of performance called the *acceptable quality level*) and the *world-class* view (espouses total quality control – maintains that the conflict between failure and appraisal and prevention costs is more conjecture than real – the actual optimal level of defects is the *zero-defects level*). In achieving a defect-free state, a company is strongly dependent on its suppliers' ability to provide defect-free parts. This linkage has to be incorporated in a standard "partnering agreement" between purchaser and supplier (foster a sense of interdependence, including a sense of trust and ethical treatment). Perhaps the most important observation is that quality cost information is fundamental in a company's pursuit of continual improvement. Quality is one of the major competitive dimensions for world-class competitors (Hansen, Mowen, 1997). Organizations operating under the TQM philosophy have introduced a broad array of non-financial measures to monitor and improve the quality of their products/processes. For example, Motorola, a leading company in applying the TQM philosophy, adopted an aggressive approach to quality, setting a quality target of a level representing fewer than 12 defects per 1 million parts (Cooper, Kaplan, 1999).

Target Costing (TC) is a tool (McNair, 2007) which emphasizes the relation between the price and market share as a basis for disciplining an organization's spending during product and process design, development and engineering. Basically, it assumes cost reduction per product unit. It is a completely new approach: how much a product *is allowed to* cost (Seidenschwarc, 1993). The implementation of new methods of identifying, measuring and providing information about critical factors of business success ensures the development of products to suit customer demands, regarding the features and quality, as well as the price. As a concept of a much more comprehensive and aggressive CM information support, TC is built in the decision-making (planning) process concerning introduction of new and making radical changes to the existing products and processes. *Target Cost Management* (TCM), as a tool for a comprehensive cost and profit management and as a concept of long-term strategic CM, focuses on the design stage. It initiates CM in the earliest stages of product development and is aimed at intensifying the cooperation with

the suppliers and other organizations on the market. TC operates after a general model: target costs = target sales price – target profit, while the product price the customers are ready to pay is determined analytically, combining quality, design, purchase time and after-sales service. After defining the product and its price, the target profit is formulated. Total target profit and its allocation per unit are deduced from the strategic profit plan. If the target cost (as the difference between the sales price needed to ensure a previously determined market share and the desired profit per unit) is below the presently feasible cost, the management budgets cost reductions which direct real costs to target costs (Hansen, Mowen, 1997). Bearing in mind the organizational aspect, a successful implementation of TC concept assumes the creation of an organizational team structure that should include experts from different functional areas of the company as well as from the organizations it cooperates with on the market.

Life Cycle Product Costing (LCPC) is an extension (McNair, 2007) to TC tools, which links all costs driven by a new product, from the conception of the idea for the product through to its removal from the production program and withdrawal from the market, i.e. 'from the cradle to the grave'. The products are analyzed in order to determine whether they will bring profit during their entire life cycle. *Life Cycle Product Cost Management* (LCPCM), according to the integrated approach, consists of activities leading to product design, development, manufacturing, marketing, distribution, use, maintenance, service and removal, with the aim of maximizing life cycle profits. As a result, product costs are tracked and analyzed through all stages of its life cycle, which is radically shortened due to changeable customer demands and the increasingly ambitious competition regarding the technological product innovations. In contemporary settings it is of vital importance to launch a new product on the market and replace the existing product with the innovated one as soon as possible (regarding quality and functionality). LCPCM stresses cost reduction, not cost control. Since 90% of the life cycle product costs are determined in its design process, i.e. in the stages of a new product development and construction, activity management during this stage of product existence is stressed. This should, by all means, affect the managerial decisions regarding investments and directing more resources towards activities in the early stages of product life cycle. However, the overall success depends on how well the managers in manufacturing companies understand the activities, cost drivers and interaction among activities. Although LCPCM is important for all manufacturing companies, it is particularly significant in short life cycle circumstances, when good planning is critical and the prices must be accurately determined in order to cover all life cycle costs and ensure a good profit (Hansen, Mowen, 1997).

Value Chain Analysis (VCA), i.e. costing and CM through the value chain, is a concept representing the broadest approach to management. It assumes monitoring the relations among activities that create value with the aim of cost reduction, where the problems of tracking, measuring, analyzing and managing costs are extended outside the borders of a company. Beside internal value chains (VC), it extends to the area of supply chain, i.e. suppliers, on the input side, and distribution chain, i.e. customers – distributors and end users, on the output side, because the internal VC of a company is built in the broader value system which includes both supply VC and customer VC. That is to say that the leadership strategy in low costs and/or the differentiation strategy can lead to sustainable competitive advantage, but successful application of these strategies requires the managers to understand all the activities that contribute to their achievement. It is necessary to understand the industrial value chain as a whole, not only the part in which the company

participates. Without an external focus there is no effective strategic CM. With the aim of successful implementation of the relevant strategies it is necessary to break the VC into strategically relevant activities of a company. VC is a necessary approach to understand these activities; understanding both the complex links and interrelations between activities performed inside the internal VC of a company (internal linkages), and those describing the linking of activities of a company with the activities of suppliers' VC and customers' VC (external linkages). Therefore, in order to describe and exploit these relations, it is necessary to identify company activities and choose the ones that can be used for creating and sustaining competitive advantage. The optimal choice assumes the knowledge of costs and value created by each of the activities, as well as relevant cost drivers. In the context of strategic analysis, activities are classified into organizational (structural and procedural) and operational, while costs of these activities are determined by means of organizational and operational cost drivers. Understanding organizational cost drivers is crucial for strategic cost analysis. The factors in question are structural and procedural factors which determine the long-term cost structure of an organization and play the fundamental role in any cost reduction strategy.

In the contemporary settings, a system of integrated performance measuring, i.e. linking non-financial measures with improved relevant information on activity costs within the VC, imposes itself as an imperative. By focusing on the entire industrial VC a broad frame is created, useful for a better understanding, tracking and managing costs. This requires new techniques, tools and models for cost measuring and control, with continuous comparing of cost performances of the main competitors on the market, as well as a sub-system of non-financial performance measures, to be included into cost accounting information systems. This is necessary in order to provide information support to heterogeneous information needs and to allow complete insight into the entire VC costs, their more accurate linking to activities, products, customers, distribution channels or narrower segments of a company, as the relevant objects whose profitability is being measured. It is recommended that a reliable accounting support for this integrated approach to CM should be found in a combined implementation of new and improved existing concepts, alongside with an adequate integrated software support.

We must also point out that one of the critical factors of the success of pursuing competitive strategies on the market is to provide a rounded up performance measuring system. One of the solutions is the so-called *Balanced Scorecard* (BSC) which provides a comprehensive framework linking strategic objectives of the company with a coherent set of performance measures (Zimmerman, 2000). BSC attempts to unite and balance traditional financial perspective (concerning the measuring of current and designing future financial results) with three more perspectives of vital importance for a successful pursuit of competitive strategies on the market – the perspectives of customers, business processes and innovations and learning. In the BSC approach to performance improvement the most critical processes for the success of a strategy are identified. They are stressed not only for their potential for cost reduction, but also for their ability to fulfill end users' expectations. When using BSC, managers usually realize that for the implementation of a new strategy it may be much more important to stand out in completely new processes than to create gradual cost improvements in the existing processes (Cooper, Kaplan, 1999).

Value Stream Accounting (VSA) is characteristic of *lean manufacturing* (LM) which developed from Toyota production system based on the JIT model and is the complete opposite of traditional production. Many companies, aspiring to the "world class" posi-

tion, follow LM whose objective is to improve efficiency and effectiveness in every area – including product design, interaction with the suppliers, factory operations, managing employees and customer relations. In order to keep this position, they must persist in "endless journey" which requires continuous innovations and improvement. "Lean" includes making the right product at the right place at the right time in the right quantity with minimum waste and sustaining flexibility. Thus, the key for successful LM lies in the achievement of production flexibility which includes physical organization of production plants and the application of automated technologies including CNC machines, CIM, *robotics*, CAD, CAM (Hall, 2008). Companies inclining to LM often use the tool *value stream map* (VSM) to present their business process graphically in order to identify the wasteful aspects which should be eliminated. VSM identifies all actions needed to complete product processing (batches or individual products) together with the key information about each individual action (it can include total labor hours, overtime, cycle time for the task completion, error rate). Some commercial VSM tools produce, beside the current state map, a future state map, describing the process which is more lean – where waste is removed to the fullest extent. Since it is possible to identify, from the latter, the steps of the action of eliminating nonvalue-added activities within the process, it is also the basis for the lean implementations (Hall, 2008).

Information needs of a lean company cannot be adequately supported by traditional information provided through conventional accounting techniques, because of inaccurate cost allocation, promotion of non-lean behavior, inaccessibility in real time, financial orientation. Therefore, many lean companies have adopted an alternative accounting model. Some of them see the solution in ABC method, but many replace it with a simpler accounting model, the so-called VSA. VSA tracks costs by the value stream instead of department or activity; the value streams cut across function lines and departments, i.e. horizontally, and thus links with traditional vertical reporting on structure and cost flows are broken (McNair, 2007). It is of fundamental importance for its implementation to define *product families* – namely, products are grouped into natural families which share common processes from placing an order to delivering of finished products to customers (Hall, 2008). As for the information support to lean manufacturing and world class companies, three information systems are being considered, from MRP (Materials Requirements Planning), and MRP II (Manufacturing Resource Planning), to ERP (Enterprise Resource Planning). In the past few years a range of software of the so-called ERP systems has been developed. ERP integrates departments and functions throughout the company into one system of integrated applications with a unique common database. A lean manufacturing company will thus have ERP system capable of external communication with customers and suppliers through electronic data interchange (EDI). The consideration of ERP systems inevitably assumes themes such as supply chain management and data warehouse. A software generation has been developed based on a global supply chain consisting of a range of coordinated application software, individual companies which communicate among themselves, but the following problems are the most common: customs, taxes, language and cultural differences, fast changes in exchange rates, currencies and political instability.

Finally, considering that companies operate in an extremely dynamic world of interdependent and nonlinear events, we should emphasize that CM cannot stay focused on independent activities and simple linear cost models and their drivers. In order that CM could secure an important position in the 21st century and reject the label "old wine

in new bottles", it is said that it is necessary to withdraw completely from simple assumptions and traditional limitations and that the key of the CM future lies in understanding the dynamic relationships between various resources and the amount of value they can create for the company stakeholders. In that sense, key instructions are listed for the most recent research and practice regarding new techniques for the 21st century, such as: resource consumption accounting; the relative cost of intellectual capital and the value it creates; waste measurement and analysis; non-linear cost functions; dynamic cost modeling and prediction. Each of these techniques adopts a broader view of costs, focusing more on the way resources affect one another in creating or destroying the company value than on measuring the status quo. CM follows the need to define, measure and help the organization to maximize its potential to create value.

CONCLUSION

An increasing number of discussions about CM and extending various limits there has been in the past decades. It is a dynamic process which assumes intensive efforts directed towards continuous improvement, i.e. improving the existing and inventing new tools and techniques, starting with early activity-based costing models and pursuing lately in the direction of strategic cost management (SCM) - the use of cost data to develop and identify superior strategies that will produce a sustainable competitive advantage. In that period, the most prominent trend has been shift the focus from determining product costs by using standard traditional cost models, towards providing support for strategic and operational decisions by using certain forms of activity analysis.

New environment brings new challenges and problems which inevitably impose the need for serious reconsideration of past business philosophies of companies based on stable and foreseeable business conditions. Therefore, suggestions are heading towards the separation of cost accounting from traditional accounting, together with abandoning of the long sustained linearity of measuring historical costs and static standards. Only by integrating the internal and external aspects it is possible to provide quality information for strategic management of a modern company. The key point is flexibility - the cost accounting information system should be able to supply different data for different purposes. Practical application of some new solutions faces difficulties in developed countries as well, because of high investment and operational costs. It is particularly emphasized that, from the aspect of modern cost management, there is much left to be done in order to raise cost management to the highest level of the modern practices.

Unfortunately, our conditions are characterized by underdevelopment and weak application in practice of the conventional as well as the new solutions for cost accounting. It is necessary to widen and deepen more intensively the existing theoretical and practical knowledge which will enable us to examine the wide focus of company cost and performance management and to recognize the right conditions for gradual development and implementation of new solutions along with the development of our economy. It also seems logical to ask the following question: How much do cultural features and mentality affect the implementation and efficient functioning of a particular solution? In any case, the new solution must be closely examined by the cost-benefit analysis which should clearly show whether the benefit of using particular information outweighs the costs of providing it.

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FLEKSIBILNO DIZAJNIRAN INFORMACIONI SISTEM RAČUNOVODSTVA TROŠKOVA – POUZDANA PODRŠKA UPRAVLJANJU SAVREMENIM PREDUZEĆEM

Radmila Jablan Stefanović, Blagoje Novićević

Postizanje, održavanje i unapređivanje konkurentskih prednosti preduzeća predstavlja conditio sine qua non modernog poslovanja. U savremenim uslovima izražene eksterne i interne kompleksnosti, postizanje i održavanje konkurentskih prednosti nije moguće bez adekvatnog informacionog sistema. U radu je apostrofiran značaj fleksibilno dizajniranog informacionog sistema računovodstva troškova – ključnog informacionog jezgra celine računovodstvenog informacionog sistema preduzeća – u generisanju kvalitetnih informacija, kao podrške savremenim mehanizmima upravljanja preduzećem. Akcentirani su neki od novih alata, tehnika, koncepata i pristupa obračunu i upravljanju troškovima koji su se javili u poslednjih nekoliko decenija. Takođe, ukazano je i na relevantne probleme koji se tiču prakse u našoj zemlji.

Ključne reči: menadžment, strategija, konkurentske prednosti, računovodstvo troškova, upravljanje troškovima.