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## **ACTIVITY-BASED COSTING AS AN INFORMATION BASIS FOR AN EFFICIENT STRATEGIC MANAGEMENT PROCESS**

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**ABSTRACT:** *Activity-based costing (ABC) provides an information basis for monitoring and controlling one of two possible sources of competitive advantage, low-cost production and low-cost distribution. On the basis of cost information about particular processes and activities, management may determine their contribution to the success of a company, and may decide to transfer certain processes and activities to another company. Accuracy of cost information is conditioned by finding an adequate relation between overhead costs and cost objects, identifying and tracing cost drivers and output measures of activities, and by monitoring cost behaviour of different levels of a product.*

*Basic characteristics of the ABC approach, such as more accurate cost price accounting*

*of objects, focusing on process and activity output (rather than only on resource consumption) and on understanding and interpretation of cost structure (rather than on cost measurement), enable managers to estimate and control future costs more reliably. Thus the ABC methodology provides a foundation for cost tracing, analysis, and management, which entails making quality and accurate operative and strategic decisions as a basis for the long-term orientation of a company. ABC is also complementary to the widely accepted technique of strategic planning and strategy implementation known as Balanced Scorecard (BSC).*

**KEY WORDS:** *activity-based costing, competitive advantage, strategic management, Balanced Scorecard*

**JEL CLASSIFICATION:** M41, M10

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## **1. INTRODUCTION**

Strong pressure from financial markets demanding superior shareholder returns means that top managers must formulate sound and flexible business strategies, aimed at achieving competitive advantage. The outcome of creating a competitive advantage process appears in the commercial market, i.e., the market of products and services. Created competitive advantage in the commercial market is realized in the financial market in the form of a superior return for capital providers. But this depends on value-based management processes that happen in an environment which is unstable and complex, and consequently unpredictable. In the past this was not the case. In this new environment managers' responses should be unconventional, in the sense of new (never seen before) strategies, programs, and projects. Nevertheless, in their response top management should not forget proven techniques and methods that help achieve deeper, more precise, and comprehensive insights into creating value. One of these methods is ABC.

Severe global competition and technological innovation, combined with changing customer demands, are forcing companies to develop new approaches to and instruments of management, change production systems, and invest in new technologies, characterized by greater flexibility of production processes and organization. This results in a shorter product lifecycle and changes in cost structure and the nature of particular types of costs.

Gaining and sustaining competitive advantage requires rapid technical and technological adjustment, huge investment, and a high level of production and sales flexibility, regarding not only product width and depth but also line size, sales, and after-sales services. This leads to high and rising overhead costs, particularly of support activities, and broad differences between products, specific product lines, markets, groups of buyers etc., in regard to absorption of certain activities - in particular support activities where the traditional cost accounting methodology may give insufficiently correct data on product costs for some markets and buyers.

In order to do business successfully in the new competitive conditions, companies are prioritizing customer satisfaction. Satisfying customers' requests implies product and services delivery with lower total costs and lower prices or a greater degree of added value relative to competitors, or the best combination of cost and added value from the customers' point of view. By providing lower costs and higher quality of products a company gains competitive advantage. Inaccurate information on costs results in frequent and costly decision-making mistakes.

Those companies that are able to cut market prices, owing (among other things) to having a system of cost accounting that provides precise cost information, have an advantage over their competitors. A company's cost and overall competitive advantage can be strengthened by the application of the activity-based costing (ABC) concept, which provides a foundation for reliable and objective reporting in accounting.

The above-mentioned changes in the business operations of modern companies stress the need for adequate cost management and development of more efficient management techniques. A solution to the problem of overhead costs in accounting procedures is a condition of accurate and timely informing of management about company's costs. The activity-based costing approach to cost accounting has been designed to give more accurate information on the costs for the purpose of managing a company.

In the following sections we will point out the basic characteristics of the ABC approach. We particularly emphasize the importance of identifying, defining, and classifying activities as components of particular business processes. In addition we will focus on the importance of data on the efficiency and effectiveness of business activities as a means of cost reduction, since they underline the need for eliminating or reducing non-value adding activities for customers.

## **2. COSTS OF MODERN ENTERPRISE**

Establishing big enterprises with huge capital investment, along with technological innovation and changing customer demand, are key characteristics of modern business operations, resulting in a drastic change in cost structure. Modern enterprise is an extremely complex organization, which is, among other things, characterized by expensive and sophisticated technology and technological methods, great flexibility of production processes and products, and frequent changes of organizational structure. All this results in a significant rise in overhead or indirect costs, in comparison to direct costs (Maher, Lanen, Rajan, 2006, pp.33-38).

Direct costs of labour, which had a very important role in traditional companies, today represent a relatively small, diminishing, and often insignificant part of the total production costs in modern enterprises.<sup>1</sup> While the direct costs of labour

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<sup>1</sup> In automated production, direct labour costs account for 10%-15% of the total production costs.

are decreasing (due to production automation), the overhead costs of labour (and other staff costs) are increasing. Due to production automation and the complexity of labour, staff needs to have a high level of knowledge and expertise. The necessity for continuous education and training of employees and changes in the organization of labour and management lead in turn to high overhead costs. However, the direct costs of materials are decreasing, as a result of developing new materials that are far less costly than traditional ones.

Production automation has increased overhead costs in two ways: by a greater proportion of overhead costs in total costs caused by a fall in the direct costs of labour and materials, and by an increase in the installation and maintenance costs of automated equipment. A rise in overhead costs is, therefore, the consequence of a higher proportion of fixed costs at the expense of variable costs in total costs of the modern enterprise. Big investment in state-of-the-art techniques and technology leads to a rise in those costs that are fixed. A rise in petrol prices on the world market affects the increase in fixed costs through the historic costs of technique and technology. The rise in fixed costs is also caused by an ever-increasing development of so-called support activities, i.e., activities outside direct production (research and development, design, production of trial series, pilot projects, etc.). A greater amount of fixed costs as a rule entails an increase in overhead costs.

Increased loan amounts and a diversity of banking services are directed towards the existence and development of companies in modern, competitive conditions. This has resulted in a higher proportion of interest costs and bank commissions in the total costs of a company. Doing business in highly risky conditions requires the use of various insurance and legal services. Companies are facing different and potentially very important risks in the international marketplace, which may be divided into two groups: risks that have harmful effects on company assets and direct investment and risks that adversely affect and threaten international trade (transfer risk, tariff risk, barriers to trade risk, tax risk, price risk, union risk) (Czinkota, Ronkainen, 2007, pp. 116-119.). This all leads to a higher proportion of insurance and legal services costs, etc., in the total costs of a company.

In recent years companies worldwide have changed their strategies considerably. Ever growing competition, lower population growth rates, and lower economic growth rates are forcing companies to switch from internally focused to externally focused strategies, whose top priority is customer satisfaction. There is a widely accepted saying that customers are a company's most valuable asset. Profit is generated by customers, and products are only the way to turn customer demand

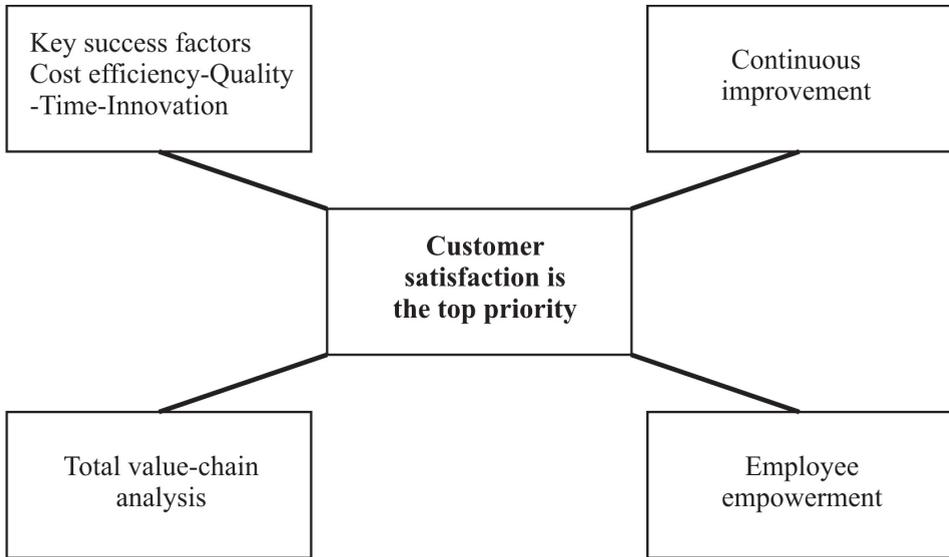
into profit. The quality of customer service is the sole criterion for distinguishing a successful company from an unsuccessful one (Cooper, Kaplan, 1999, pp. 135-139.). A company's power is based on its superior ability to create value for customers. A company manages to satisfy customer demand and enhance customer loyalty if it succeeds in providing products superior in quality to those of its competitors, products which are tailored to customer wishes and demands, reliable and timely delivery of products, after-sales services, product quality guarantees, effective communication system with customers, etc.

Striving to satisfy customer demands in a way superior to competing firms constitutes the majority of non-production factors of growth in overhead costs. Marketing, selling, distribution, customer-based administration costs, etc., often account for 50%-60% of total product costs. The greatest proportion of costs that arises from rendering services to customers is overhead costs. These are, for example, costs of information services and promotion and selling activities, costs of receiving and filling customer orders, discounts related to volume and timely payment, delivery costs, costs attributed to financing and giving loans to customers, costs of maintenance and repair of the product in the warranty period, etc.

Because activities based on customer satisfaction are an important factor of the change in cost structure and amount, we shall continue to analyse it in the next several passages. The focus on customer satisfaction as the top priority is illustrated in Figure 1.

Customer satisfaction focuses on key success factors. In the case of standardized, non-differentiated products, customers will buy a product at a lower price. This holds under the assumption that customers are not particularly loyal to a certain producer (because of the popular brand, more favourable credit terms, etc.). In general a company gains a strong competitive advantage by establishing lower costs and prices. In today's conditions of severe competition, inaccurate information on costs may lead to expensive mistakes in the decision-making process. The companies that have adopted cost accounting adjusted to modern conditions of business operations in terms of accurate cost information can gain a competitive advantage over their market rivals.

**Figure 1.** Focus on customer satisfaction



**Source:** Drury, 2004, p. 14.

Apart from lower costs, and therefore lower product prices, customers demand high product quality. Quality management is one factor of company advantage over competitors. Modern quality management facilitates quality enhancement and reworking and repair cost reduction in the warranty period, etc. On the other hand, costs assigned to procurement, depreciation, and maintenance of quality control systems and employee training and improvement costs are rising considerably, which is obviously the issue of overhead costs.

Shorter delivery times and replying to customer questions regarding services, information, etc., add to greater customer satisfaction. Hence measures based on the time element should be of major concern to modern cost accounting. Production cycle time consists of process time, move time of production, queue time, and inspection time (Drury, 2004, p. 14.). The move time of production is the time taken to transport a product from one place to another during the production process. Queue time is the amount of time a product spends waiting to be processed, to be moved on, to be inspected or reworked, as well as the time a product spends in stock before it is sold. Inspection time is the time spent ensuring that the product is not defective, as well as the time taken to remove defects, if any. Only process time adds value to the product. Thus time spent

on activities that do not add value to a product should be reduced as much as possible by efficient management measures.

Innovation is a crucial factor in company competitiveness and success. The success of a company depends on its ability to research, develop, and launch new products and services in the market. This should be accompanied by innovation in customer communication, merchandising and distribution channels, specific customer services, etc., leading in turn to a rise in costs generated by activities outside production - which is a great challenge to cost accounting.

Continuous improvement is one of the ways of gaining customer satisfaction. This is a process of constant search for possibilities of cost reduction, elimination of waste, quality enhancement, etc. In order to consider the possibilities of improvement a continuous comparison of a company's services, products, and other activities with those of competitors needs to be made, along with continuous information gathering about the competitor's activities, research and development, and customer complaints and demands. Benchmarking has become a very popular method of continuously enhancing business practice. This approach calls for significant investment in information technology and employee education and training.

Employee empowerment is one of the factors that contribute to greater customer satisfaction. This entails providing information, expertise, and motivation on behalf on both managers and employees. The modern business environment imposes the necessity of making assumptions about adequate and effective cost accounting and management, based on the creation of appropriate formal and informal structures and salary systems which, via different forms of short-term and long-term incentives, will motivate employees to cut costs (Kaplan, Norton, 2001, p. 76).

Value chain analysis is one of the steps towards customer satisfaction. If the company wants to gain, keep, or improve its competitive advantage, which is the *conditio sine qua non* in modern business, it should perform its primary and support activities more efficiently than its competitors. The activity-based costing concept can provide an information basis for creating such a value chain, in which there is a minimally required number of activities, all activities are exercised in an efficient way, and all activities are, relatively, low cost drivers (Gled, Becker, 1996, p. 13).

Due to many production and non-production factors there is a significant rise in and diversification of overhead costs and change in cost structure in modern companies. Together these require a greater need for cost management and use of more efficient management and accounting methods, so as to provide an accurate information process. An adequate solution to the problem of assigning overhead costs is indispensable in regard to precise and timely informing of management about company costs. Under these conditions, in the already-mentioned value chain, cost accounting becomes an activity which increases the value of products and services to customers. In modern business operations, activity-based costing offers, *inter alia*, a solution to the problem of overhead cost accounting procedures.

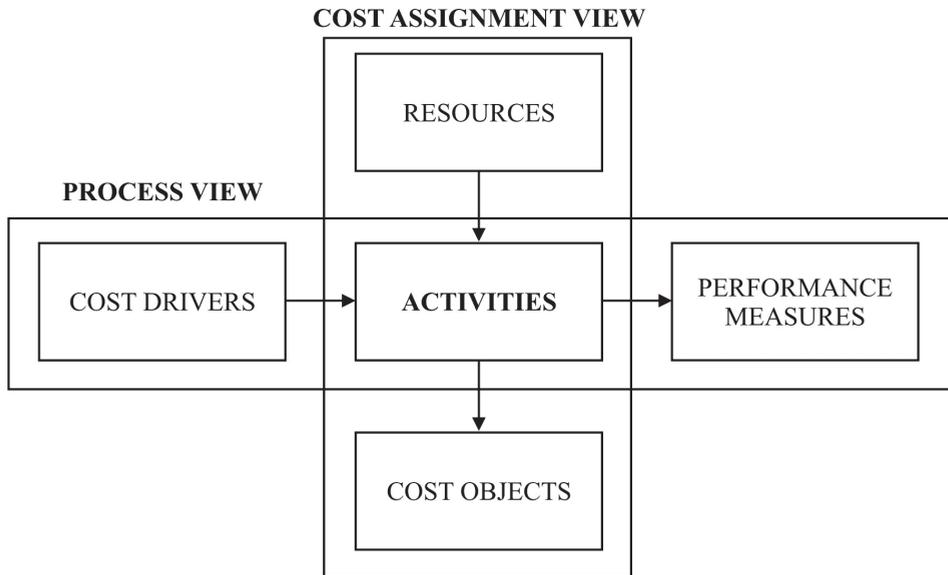
### **3. ABC FOUNDATIONS**

Activity-based costing is a comprehensive method that may be part of cost accounting in both individual and mass production. It started to be used in modern companies in developed countries in the late 1980s and early 1990s. In literature on accounting alternative terms such as activity accounting or activity-based accounting are also used to denote this approach to cost accounting. Robert Kaplan and Robin Cooper have contributed significantly to ABC development and use. They are, among others, founders of the Consortium for Computer Aided Manufacturing – International (CAM –I). The results of CAM –I have positively affected many companies' business operations, both in the United States and European countries, by determining a product's cost price and management efficiency.

Activities are at the core of activity-based accounting. An important starting point is that activities consume resources, i.e., activities cause costs, while outputs consume activities. In the first step of the ABC approach (activities consume resources or cost elements) costs are assigned to adequate activity centres (a group of activities with the same cost drivers) with a view to determining the total activity costs. In the next step product costs, service costs, or costs of some other cost object are determined on the basis of relevant cost drivers.<sup>2</sup> The basic ABC structure is illustrated in Figure 2.

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<sup>2</sup> According to the ABC concept these are: products, services, marketing channels, customers, activity processes, etc., which depend on the goals of cost accounting.

**Figure 2.** Activity Based Costing (CAM-I)

**Source:** Drury, 2004, p. 392.

Company activities turn inputs (resources) into outputs (performances) and the value is added to resources to transform them into performances for the inside or outside customers. A precise definition and presentation of company activities is a prerequisite for the adequate functioning of the ABC system. Therefore the ABC approach comprises identifying activities that consume resources, identifying activity-based cost drivers, the allocation of overhead costs to activities, and the allocation of activities to performance measures (Maher, Lanen, Rajan, 2006, pp. 240-245).

The CAM-I glossary does not provide a precise definition of activities, but stresses the need for respecting the terms of business operations in relation to defining and identifying activities, in particular key activities. Those are activities in the value chain that have the biggest influence on company competitive advantage, i.e., those which are significant from the customer's point of view. This is particularly important when designing the ABC system, since management by activities demands information on costing by activities, particularly key ones, with the aim of improving their efficiency. An adequately organized ABC system provides information on permanent activity monitoring and evaluation, which is a precondition for management in modern companies (Jablan, 2010, pp. 29-30). When designing an ABC system particular attention should be paid to the

appropriate definition of activities in the company, the number and character of data collected, and the adequate grouping of activities into activity centres. The data quality of activities (costs, output measures, utilization of capacities, quality, productivity, investment in activities, etc.) influences the objectivity of company performance evaluation. Proper classification of activities is necessary prior to any implementation of the ABC system, due to specific requirements regarding monitoring and analysis of different activities. The common activities are a) primary and secondary activities – primary activity costs are directly or indirectly assigned to cost objects, whereas secondary (support) activity costs are assigned to primary activities; b) value-added and non-value-added activities to customers – permanent analysis of activities, based on well-designed ABC system data, gives managers the opportunity to decide on the reduction or elimination of the latter (i.e., non-value-added activities) (Maher, Lanen, Rajan, 2006, pp. 269-272); and c) discretionary and necessary activities (for other classifications of activities see Gled, Becker, 1996, pp.195-196.).

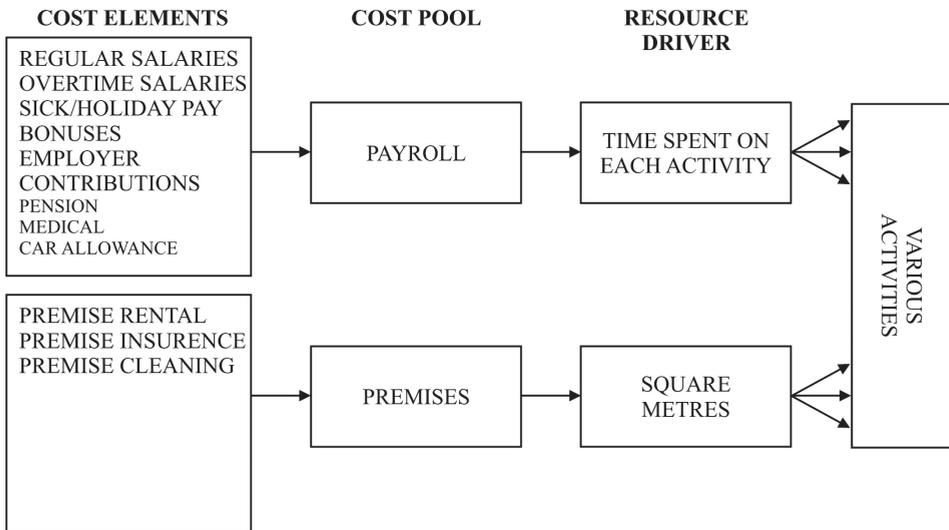
The final outcome is a cost driver, and cost drivers arising from activities performed are factors that cause costs, i.e., factors or transactions that are important cost determinants. Examples of cost drivers are numerous, so we list only some of them: the number of orders for procurement of resources determines the costs of procurement activities; the number of documents for receipt of raw materials, goods, etc., determines the costs of receipt activities; the number of raw material units, semi-finished products, finished products and the like in stock, determines the costs of warehousing activities; the number of issued sales invoices determines the costs of selling activities, delivery activities, accounting activities and the like. This all refers to so-called operational cost drivers. The relevance of cost drivers is contingent on specific conditions of business operations. For example, instead of number of units in stock, the cost driver principle may favour the mass of raw materials, products, and the like. Therefore when identifying cost drivers it is necessary to take into account characteristics of the given production processes and activities.

Instead of 'cost drivers' some authors use the term 'output measures' of given activities (Ostrenga, Probst, 1992, pp. 5-9.). Thus output measure is an alternative term to cost drivers and in many cases it is the outcome of the activity of a specific cost driver. In other words, 'cost driver' and 'output measure' may be the same factor, although 'cost driver' is considered to be a broader concept. The output measure is simply the means of assigning the cost of each activity resource to the product, service, or some other cost object. In ABC cost allocation there are resource drivers, activity cost drivers, and process cost drivers. Resource drivers

describe the relationship between different types of costs and corresponding activities, i.e., they serve as a relevant basis for assigning a great number of costs to activities associated with them (the first step in the cost accounting procedure). For instance, the category of salary costs consists of different items: regular salaries, overtime pay, sick pay, holiday pay, bonuses, etc., then contributions (for instance, pensions, health insurance). Cost recording and salary-cost monitoring by given items is necessary because of legal requirements and the need for cost planning and control. This is necessary at the level of organizational segments but not at the level of activities. Hence the given items are summarized or included in a pool of costs before they are assigned to related activities, on the basis of stage-one cost drivers in accounting procedure. The given procedure is illustrated in Figure 3. Besides salary costs the illustration shows assignment of facility maintenance costs to related activities.

In stage two of the ABC approach, allocation of activities to performance measures is made on the basis of relevant cost drivers. We will point out some possible activity cost drivers, i.e., output measures of activities, in the example of procurement of material. Procurement negotiation activities: it is obvious that the level of costs related to these activities is influenced by procurement policy, i.e., by managers' decisions regarding the frequency of procurement (weekly, monthly, or when stocks reach a particular level). Therefore procurement policy is a cost driver, the output measure being the number of orders and the like. Receipt activities: the number of documents on receipt or units of received material are the consequence of procurement policy. Procurement policy is a cost driver, while the output measures are the number of receipts, the volume of stocks, and the like. Warehousing activities: warehousing costs usually account for costs related to physical units of measurement and throughput time costs. Cost drivers in this case are usually procurement policy, production policy, and the like, output measures being space in square metres, stock volume, stock storage, the need for special handling, etc. Activities related to meeting liabilities to suppliers: the cost driver is mainly liability policy, and output measure is the number of invoices.

**Figure 3.** Stage One cost drivers



Source: Gled, E., Becker, 1996, p. 124.

Performance measures indicate the level of satisfying customer demands as well as the company's competitive position. They refer to the criteria for the company's prospects regarding its successful existence and long-term growth and development. Indicators of the efficiency of a company's business operations are both financial and non-financial: replying to customer demands, reliability, innovation, flexibility, technological reliability, quality (of material, products, delivery), time (of production, delivery, servicing), etc. Monitoring and evaluation of company performance, provided by a well-organized ABC system, is a prerequisite for developing an adequate strategy.

In conditions of high, rising, and diversifying overhead costs, accompanied by severe competition and greater business risk as a consequence of global financial crisis, calculating a more accurate performance cost price is a must for strengthening and preserving the competitive advantage of modern companies. The calculation of a precise cost price is primarily influenced by appropriate allocation of overhead costs to cost objects, which is characteristic of the ABC approach and more consistent with the cause-and-effect principle than conventional technique (Jablan, 2008, pp.1207-1210). The application of the cause-and-effect principle, as the key condition for proper allocation, is confirmed by far greater use of cost drivers and output measures (these are often non-financial variables: the number of orders, the number of receipts, the

number of components, space in square metres, the number of hours of, e.g., control, and the like) on the activity list than traditional parameters (rates or quotas of overhead costs).<sup>3</sup>

The ABC methodology is more complex and detailed than conventional methodology. Still, the quality and diversity of information provided by the ABC approach significantly contributes to the effectiveness of decision-making. The cost accounting of cost objects in ABC comprises the following procedures:

1. Identifying the types of costs according to their allocation: direct costs, traceable costs, and non-traceable costs.
2. Determining the costs of certain activities and procedures related to non-traceable costs (they are assigned to activities on the basis of assessment or they are dealt with as expenses for an accounting period).
3. Identifying cost drivers and output measures of given activities (both primary activities and secondary activities).
4. Cost assignment of secondary activities to primary activities based on output measures of secondary activities.
5. Compiling a list of activities for each cost object.
6. Determining activity costs of cost objects.
7. Direct costs and non-traceable costs (if there is a possibility of assessment) are added to activity costs to determine the total costs of cost objects.

Activities consume resources, and cost objects consume activities. Processes are composed of a series of activities and are carried out in such a way as to provide the highest level of customer satisfaction, showed by indicators of success, owing to modern business operations that are adjusted to cost accounting and reporting procedures of the ABC system.

#### **4. STRATEGIC IMPLICATIONS OF ABC**

Managing today's businesses requires accurate and timely information on the cost of processes and activities, products, and other cost objects. By providing this information the ABC system creates value for company management, i.e., it facilitates insight into possible sources of cost leadership. ABC improves

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<sup>3</sup> An activity list is a specification of all activities and their output measures needed for a particular cost object.

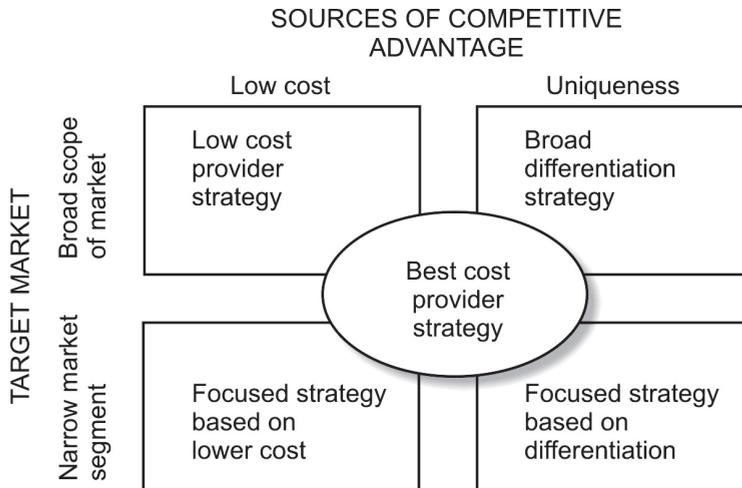
understanding of all processes of doing business and provides relevant information on:

- costs of cost objects in order to set selling prices, assortment choice, marketing channels, and the like;
- duration and costs of particular activities in the value chain, to manage activities with the intention of reducing or eliminating costs of particular activities, reducing or eliminating non-value-added activities, and increasing the efficiency of value-added activities to the customer (inside or outside).

Thus the ABC system gives information on costs of particular activities in order to manage processes and activities and continuously increase the efficiency of business operations and other company performances. Therefore it may be said that the ABC system has been designed to initiate a process of automatic decisions (Cooper, Kaplan, 1999, pp.279-281.).

The given information is beneficial to company management in assessing alternative ways of running the business and in making comparisons with other companies. In this sense it is obvious that ABC can be invaluable in formulating and implementing business strategies, and probably the most valuable in formulating the following generic strategies at the business level (as shown in Figure 4):

1. low-cost provider strategy
2. broad differentiation strategy
3. hybrid or a best-cost provider strategy
4. focused (or market niche) strategy based on lower cost
5. focused (or market niche) strategy based on differentiation.

**Figure 4.** Five generic competitive strategies

Source: Thompson, Strickland, 2001, p.151.)

Low cost strategy is based on achieving a lower total cost of production and delivery of products and customer service of a company/business, relative to competitors. Companies that implement this strategy can:

- form a lower sales price and thus attract customers who are price-sensitive. This should lead to increased sales of the same products and increased market share, and ultimately to greater total profit, or
- not change the selling price and thus maintain the same percentage of market share, but, thanks to the lower cost, achieve higher operating profit per unit, and therefore greater total profit.

There are two ways to achieve cost advantages over competitors, and these are control of the factors that cause the cost, and reconstruction of the value chain (Thompson, Strickland, 2001, pp.153-159.)

Factors that cause or predominantly affect costs (cost drivers) are in each activity in the value chain. These are:

- economy of scale,
- experience curve,
- cost of key inputs,

- connections with other activities in the value chain and value system (e.g., just-in-time delivery, on-line ordering from suppliers, etc.),
- resource sharing with some of the other business units within the same company,
- savings made by vertical integration or by outsourcing,
- strategic choices and operational decisions about the services provided to consumers, the number of functional and other characteristics of the product, the amount of wages, etc.

Reconstruction of the value chain leads to a significant reduction of total costs in relation to the method of controlling the factors that cause costs. The total cost is reduced through the following:

- the use of e-business technology,
- direct access to the end consumer,
- computer-aided design and production,
- reallocation of production capacity,
- ‘purification of product lines’ or elimination of unprofitable products from the product line.
- re-engineering of business processes and eliminating all activities that add value only slightly.

A low-cost strategy is especially suitable for situations where the price competition between suppliers in the industry is strong, when the product is largely standardized, when there are low switching costs from one supplier to another, when customers are many and have great bargaining power, and when companies entering the industry intend to perform with lower selling prices in order to gain a market share.

Differentiation strategy is an attractive competitive strategy in the case where customers’ needs and wishes are so different that is hard to imagine meeting them by the same product or service. Successful differentiation enables an enterprise to establish higher selling prices or to achieve larger sales, and/or to create customer loyalty.

Differentiation strategy causes rising production and distribution costs. In order to make this strategy profitable the company must make the difference between the selling price of the differentiated product and the selling price of the non-differentiated product bigger than the mentioned differentiation costs. This is where the usefulness of ABC can be seen and proved. ABC provides precise

information about achieved cost levels and their 'efficiency' – in the sense that those costs lead to product and service characteristics that make them different to those of competitors.

In the case of low cost strategy we talk about cost drivers. In the case of differentiation strategy we talk about value drivers. These are:

- functional characteristics that lower the customer's costs,
- functional characteristics that enhance the customer's performance,
- symbolic features that enhance customer satisfaction in an untouchable way.

In managing differentiation strategy it is useful to start from value chain analysis and to find possibilities for making products and services different (Thompson, Strickland, 2001, p.164.). Differentiation could be achieved through purchasing high quality material, superior design and construction, producing products of high reliability and duration, on-time delivery, superior technical support to customers, better conformity in buying, etc.

Hybrid strategy is focused on providing greater customer value for the same amount of money. It is an offer of products and services that meets customer expectations in terms of quality, number of additional services, and features and performance, but exceeds expectations in terms of price. Tools (tactics) for implementing this strategy are total quality management, introduction of a flexible production system, restructuring of the industry 'profit pool' (in the sense of taking profit generated earlier by suppliers or buyers), etc.

Focused strategies imply creating products and services for chosen market segments. The source of competitive advantage can be lower costs or added value. That strategy is particularly suitable when:

- the market segment is pretty rounded (recognized), large, and has high growth potential,
- the market segment is not the market leader's focus, and there is no company interested in servicing that segment,
- a company owes resources and capabilities for competitive advantage development.

Strategy formulation is followed by its implementation. In this process the most frequent changes are in strategic position, organizational structure, financial structure, etc. Reengineering of the business processes is one of the efficient ways

to organize change. It implies fundamental consideration and radical redesign of business processes and activities in order to achieve significant improvements in operations, primarily in the direction of reducing costs and/or adding value. With this technique significant attention is paid to the analysis of business processes and activities that make up these processes. This analysis enables management to accurately assess processes and activities, effectively develop existing processes through reengineering, and eliminate costly processes and activities and replace them with external sources. In addition, process and activity analysis is a foundation for the design and introduction of the ABC system and encompasses value chain analysis and definition of processes, definition of process output, definition of process input, construction and analysis of the process diagram, activity analysis, construction and analysis of the activity diagram, specification of resources that consume activities, determination of the duration of certain activities and maximum available capacity, activity classification and construction, and analysis of detailed diagrams (Gled, Becker, 1996, p.98; Drury, 2004, pp. 382-395; 611-613; 951-964.).

Process and activity analysis based on the ABC system should identify problems in the business process, such as high costs (compared to other companies), quality problems (by monitoring non-financial data on quality control, analysing capacity use), bottlenecks (insufficient equipment capacity, logistics problems), and customer satisfaction (in terms of number of complaints, positive customer feedback, etc.). Based on identified problems and analysed possibilities, improvements of business processes are carried out, such as modelling and simplifying business processes, reducing the frequency and duration of activities, eliminating or reducing non-value-added activities, waste reduction and elimination of capacity reduction, evaluation of alternative possibilities and cost reduction. The above listed improvements should result in cost reduction accompanied by maintaining or raising customer satisfaction with the aim of creating business processes that are effective - enable customer satisfaction along with expected (desirable) profit; efficient - are carried out incurring minimal costs; and flexible - i.e., adaptable to changes in customer demand and other terms of doing business.

The ABC system provides an information basis for permanent cost reduction at all levels of the company. This is achieved by continuous monitoring of the business process and elimination of resource waste. In certain cases costs are rising (investment in new technology), so they are reduced in the long-term with the intention of reaching the target cost, i.e., reducing the difference between planned cost and target cost to a minimum both in the stage of product concept

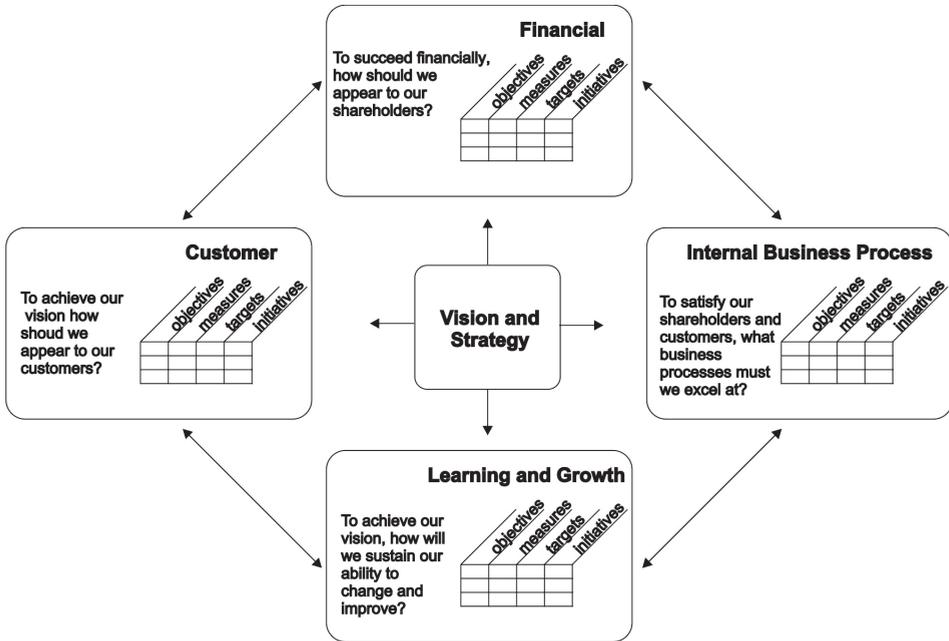
and its effective production and sale, via rationalization of costs in these stages (Everaert et al., 2006, pp. 236-263., McNair, 2007, p. 14.). Target costing is a cost management technique which connects customer demands with product characteristics. One of the determinants of target cost, selling price, is based on the relationship between markets and company performance. Modern methods of market research, evaluation of company performance, and other valuable information obtained from the ABC system, provide elements for defining the selling price. The second determinant of target cost is target profit, set by the company's global strategy. Establishing the target cost demands inclusion of all costs which are to be incurred during the product lifecycle. The target cost as the difference between selling price and the target profit is a framework for designing the production and sale concept of a certain product.

The ABC methodology, which provides accurate and timely data on costs and numerous financial and non-financial data on different cost objects, is a valuable information basis for alternative business decision-making. ABC reports on the profitability of suppliers, products, marketing channels, customers, process and activity costs, as well as on measures and assessments of critical factors of success, and facilitates development of relevant strategies and their implementation and control (Shank, Govindarajan, 1992, pp.11-21). Nowadays ABC is a generally accepted costing system, which provides important support in operating, financial, and strategic decision-making (Stratton et al., 2009, pp.31-40.). ABC's information supply is useful not only in the strategic planning process, but also in the process of strategy implementation.

Basic ABC continues in the form of activity-based management (ABM) and activity-based budgeting (ABB). Seen together, ABC, ABM, and ABB constitute activity-based programs (AMP). Such programs are often offered by consulting companies. The great benefit of these programs is demonstrated when real individuals are able to access the right information in the right format that will help them to deliver performance improvement (Anderson et al., 2004).

Significantly, modern strategic management practice adopted the techniques of the Strategy Map and the Balanced Scorecard (BSC). BSC was born in an environment of pressure from financial markets. It is based on the principle of maximizing long-term shareholder value (not short-term value) (Kaplan, 2006, p.133.) BSC presents a comprehensive system of goals and their measures, tasks, and initiatives. That system includes financial goals and measures as well as operating goals and measures. These measures are divided into four perspectives: financial, customer, internal business process, and learning and growth (Figure 5).

**Figure 5.** BSC framework for translating strategy into operative terms



Source: Kaplan, Norton, 1996, p.9.

ABC and BSC are two modern and complementary concepts. A direct relationship exists when all relevant information relating to competitive advantage achievement are included in the BSC. That means that it will also include information generated by ABC. It is logical that most of the goals and measures are located in the financial perspective. The usual goals in this perspective are revenue growth, rising productivity, and lower costs. But all these are given in aggregate form. The solution is to formulate some goals and measures from the perspective of internal business processes. This perspective is the place of value creation. Since internal business processes consist of activities, ABC represents the necessary support for the cost and effect analysis of these activities.

All internal processes can be classified in four groups:

1. operations management processes,
2. customer relationship processes,
3. innovation processes,
4. regulatory and social processes.

Operations are basic, everyday processes by which products and services are produced and delivered to the end customers. There are four processes:

- receiving inputs from suppliers,
- transformation of inputs into outputs,
- distribution of outputs to customers,
- risk management.

Customer relationship management processes expand and deepen relations with target customers. There are four basic processes in this group:

- selection of target customers based on market segmentation,
- attracting target customers,
- maintaining customers,
- increasing the volume of activities per customer.

Innovation processes often enable penetration of new markets and market segments. There are four processes in this group:

- identifying opportunities to develop new products and services,
- research and development portfolio management,
- design and development of new products and services,
- new product and service launching.

Relationship management with the social and regulatory community is responsible for several dimensions of corporate social responsibility:

- protection of the environment,
- improving safety and health,
- improving employment practice,
- investment in the local area.

These processes create opportunities for attracting and engaging good employees, reducing the number of environmental, safety, and health accidents, contributing to increased productivity, reputation, etc.

Managers should identify the basic goals and measures of their achievement within all these processes. A good example of these goals and measures is found in Table 1.<sup>4</sup>

**Table 1.** Example of several goals and measures in the process of transforming inputs into outputs (source Kaplan, Norton, 2004, p.71.)

<b>Goals</b>	<b>Measures</b>
Lowering production costs	<ul style="list-style-type: none"> <li>• The costs of activities of key operating processes</li> <li>• The costs per unit of output</li> <li>• The costs of marketing, sale, distribution and administration as percentage of total costs</li> </ul>
Continual process improvement	<ul style="list-style-type: none"> <li>• The number of processes with significant improvement</li> <li>• The number of eliminated processes with no added value</li> <li>• The rate of defective products</li> <li>• The costs of control and testing</li> <li>• Total quality costs (prevention, assessment, internal and external failure)</li> </ul>
Improvement the speed of the process	<ul style="list-style-type: none"> <li>• Cycle time (from the start of production to completing)</li> <li>• The time of the process (real time of producing.)</li> <li>• The efficiency of the process</li> </ul>
Improvement the utilization of fixed assets	<ul style="list-style-type: none"> <li>• The percentage of capacity utilization</li> <li>• Equipment reliability</li> <li>• Number of interruptions in production due to equipment problems</li> <li>• Flexibility (scope of products/services that can be produced by the same capacities)</li> </ul>
Improvement the efficiency of net current assets	<ul style="list-style-type: none"> <li>• Inventory turnover ratio</li> <li>• Buyers' turnover</li> <li>• The percentage of stocks with low turnover</li> <li>• Cash to cash cycle</li> </ul>

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<sup>4</sup> Recognizing the fact that presentation of goals and measures for all the processes and perspectives would significantly expand the paper, as well as being significantly beyond the paper's framework and goal, we have opted for a review of several goals and measures within single process.

## 5. CONCLUSION

ABC is not only a new approach to cost accounting, but also a precondition for a more quality and modern way of managing a company. The basic characteristics of the ABC approach are:

- the calculation of a more accurate cost price of cost objects, since it applies new, more adequate techniques of overhead cost allocation;
- providing understanding and monitoring of business processes and activities, and a more transparent cost structure, because of methodology adjusted to the company's operations;
- focusing on process and activity output, not only on resource consumption, thus providing relevant information on management;
- numerous financial and primarily non-financial variables which facilitate permanent assessment of company performance;
- data on efficiency and effectiveness of company activities which stress the need for eliminating or reducing non-value-added activities to customers;
- focusing on understanding and interpretation of cost structure, not only on cost measurement, which enables companies to better predict and control future costs;
- complementarity with the generally accepted technique of strategic planning and implementation, BSC.

The ABC methodology provides an excellent foundation for cost tracing, analysis, and management, which entails making quality operational and strategic decisions as a basis for the long-term orientation of a company. On the operational level the ABC system provides company management with information about the cost of various cost objects. Seen from the strategic standpoint of view, ABC directly informs management about the possibilities of achieving competitive advantage based on low cost, and also about possibilities of achieving competitive advantage based on value added as a result of effective expenditure incurred. It follows that ABC is a powerful tool whose use improves company competence in managing competitive advantage.

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