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ORGANIZATIONAL AND METHODOLOGICAL ASPECTS OF TIME-DRIVEN ACTIVITY BASED COSTING

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Abstract

The specific organizational and methodological framework of Time-Driven Activity Based Costing (TDABC) includes calculation of two parameters. The first is the capacity cost rate. This rate is calculated as the quotient of the cost of the capacity supplied and practical capacity of the resources supplied. The practical capacity is expressed as the actual time of using the resources for the realization of a business activity. In order to adequately allocate the costs of resources to the cost objects based on the capacity cost rate, it is necessary to determine the time required for the realization of the business activities. The time variable is the basic cost driver and the second key parameter of TDABC. It is determined using time equations. Therefore, the general aim of this paper is to analyze the key organizational and methodological aspects of the implementation and functioning of TDABC, in particular, the ways and the importance of determining the practical capacity, but also the role, importance and the process of creating time equations.

Key words: Time-Driven Activity Based Costing, capacity cost rate, practical capacity, time equation, time drivers.

ОРГАНИЗАЦИОНО-МЕТОДОЛОШКИ АСПЕКТИ ОБРАЧУНА ТРОШКОВА ПО АКТИВНОСТИМА ЗАСНОВАНОГ НА ВРЕМЕНУ

Апстракт

Специфичан организационо-методолошки оквир обрачуна трошкова по активностима заснованог на времену (ТДАБЦ) подразумева процену два параметра. Први параметар су трошкови ресурса по јединици времена. Ови трошкови израчунавају се као количник укупних трошкова свих ресурса потребних за реализацију конкретних пословних активности и практичног капацитета. Практични капацитет изражава се у времену ангажовања свих ресурса који се ефективно користе за реализацију пословних активности. Како би се на основу трошкова ресурса по јединици времена трошкови ресурса адекватно пренели на носиоце трошкова, неопходно је утврдити време потребно за реализацију пословних активности. Варијабла време представља основни узрочник трошкова и

други кључни параметар ТДАБЦ-а. Поменуто време утврђује се помоћу једначина времена. Отуда је општи циљ постављен у овом раду разматрање кључних организационо-методолошких аспеката имплементације и функционисања ТДАБЦ-а, пре свега, начина и важности утврђивања практичног капацитета, али и улоге, значаја и креирања једначина времена.

Кључне речи: обрачун трошкова по активностима заснован на времену, трошкови ресурса по јединици времена, практични капацитет, једначине времена, фактори трајања активности.

INTRODUCTION

Time-Driven Activity Based Costing (TDABC) is thought to have originated from Activity Based Costing – ABC. The ABC system is based on a simplified assumption that a specific type of business activity always requires the same amount of time. In most cases, this assumption is not reality-sustaining since time required for one business activity might fluctuate under the given circumstances and/or multiple factor interference. The novelty of TDABC is the incorporation of the time variations regarding the realization of a specific business activity into cost calculation. TDABC allows the complexity of the business operations expressed by different times spent for the realization of specific business activities to be simply incorporated into the cost calculation by means of time equation. Based on the time that is set by the time equation and cost capacity rate, TDABC enables a more efficient cost allocation and a more accurate calculation of the product cost.

The aim of this study is to discuss the basic organizational and methodological aspects of TDABC (the calculation of the cost capacity rate, identification of practical capacity and calculation of the duration of business activities) in the context of a more accurate cost allocation and calculation of the product cost. Bearing in mind the research goals, the study will predominantly rely on social sciences and its methodological procedures and techniques, primarily on qualitative methodology and descriptive analysis of research problems. Also, the paper will present the findings of the empirical research on the application of TDABC in the world and in the country.

There are four parts of the paper. The first part discusses conceptual and methodological premises of TDABC, highlighting the calculation of the capacity cost rate. The second part addresses the issues of the practical capacity significance and it deals with different methods of determining the practical capacity. The third part is dedicated to time equations - their role, importance and different aspects of formulation. The fourth part deals with the issue of the practical application of TDABC.

TIME-DRIVEN ACTIVITY BASED COSTING: CONCEPT AND METHODOLOGY

The maxim *Time is money* has been known since time immemorial. To calculate the time cost more efficient, that is – the time unit cost, is made possible by the creation and development of TDABC (Gilbert, 2007, p. 2). The idea of the TDABC development is thought to have originated in the early nineties of the 20th century. The idea is the result of collaboration between Harvard professor Kaplan and Anderson and his consulting company – Acron Systems. Almost simultaneously they both came up with the same idea on the possible improvements of ABC. Anderson worked on the development of the time equation and the estimates of the average time of realization of activities and processes, with the aim of increasing the efficiency of ABC. Kaplan had analyzed practical capacity and time, as possible variables to be used for expanding ABC. Also, in the book *Cost and Effect*, renowned authors Kaplan and Cooper explain that the cost accounting system can be formed depending on only two parameters: the capacity cost rate (cost per unit of time) and the capacity usage also per unit of time. By integrating Anderson's time equations and Kaplan's vision of capacity planning TDABC has been created. It has been promoted as a system of exceptional information performances which enables a full insight into the historical and future performances, efficient and effective short-term and long-term decision making and evaluation of effectiveness in resource, activities and company's business processes managing (Everaert, Cleuren, & Hoozee, 2012, p. 41-48; Todorović, 2013).

The procedure realization of TDABC, in terms of organization and methodology, includes the following steps (Malinić, Todorović, 2011, p. 209; Everaert, Bruggeman, 2007, p. 17):

- identification of resources (pull resources) required to perform activities and their costs,
- determining the practical capacity of every resource pull, expressed in the number of work hours,
- determining the capacity cost rate, dividing the total cost by practical capacity expressed by the number of work hours,
- analysis of the activities for the purpose of time equation building, including the selection of time drivers and their incorporation into the time equations,
- determining the time required to perform each business activity based on the time equations,
- multiplying the capacity cost rate and a pre-determined time for the purpose of calculating the relevant (corresponding) part of the costs.

It is obvious that the TDABC methodology is requiring only two sets of estimates: the capacity cost rate and the time required to perform each business (Kaplan, Anderson, 2007a, p. 9). The capacity cost rate per

unit of time is determined by dividing the total cost by practical capacity. Total costs are the costs of all resources required to perform a specific business activity. Accordingly, the required resources/capacity for a specific activity realization and their costs (the capacity costs) are determined and considered in their total, (aggregated) sum (Szuhta, 2010, p. 53). To estimate the practical capacity, TDABC identifies the quantity of the resources that actually perform activities. Consequently, determining the product costs is based on the capacity costs that are actually spent within the process, and not on the volume (extent) of all supplied resources (Janjić, Todorović, 2012, pp. 237-252).

The role of the capacity cost rate is indisputable in terms of the realization of the TDABC methodology. However, the basic premise of TDABC is that the total costs are determined for the same organizational level for which the practical capacity is determined. Only in this case as their quotient – a valid cost capacity rate per unit of time will be determined.

METHODS AND IMPORTANCE OF PRACTICAL CAPACITY DETERMINATION

Literature dealing with the issue of TDABC most often emphasizes the theoretical or ideal, as the maximum possible, the technical capacity and practical attainable capacity. The practical capacity is always lower than the theoretical since it takes into account all of its objective and subjective conditional reductions. If the machine is, for example, available for use 40 hours a week, which is the theoretical capacity, its practical capacity can amount to 40 hours or less, i.e. it represents a real-time usage.

Practical capacity is often expressed in percentage ranging from 80% to 85% of the theoretical capacity. The point is that it predicts that 20% or 15% of working time is used for breaks, arrival and departure from work, communication, etc., or for repairs of the equipment, or changes and fluctuations in work schedule (Antić, Georgijevski, 2010, p. 505). Additional reasons for the reduction of the theoretical capacity are: non-working days, technical repairs, production preparation, equipment maintenance, employees' work breaks, etc. Concerning the TDABC procedures, it is believed that the practical capacity is most valid because it is achievable and sustainable in the long term. Simply put, determining the practical capacity is equal to determining the capacity utilization.

Different Approaches to the Practical Capacity Determination

Practical capacity can be determined for the level of the organizational unit, center of responsibility, enterprise, or for the level of business processes. Experience shows that the determination of the costs and capacity utilization, at the level of departments, is the simplest and fastest approach to the organizational and methodological design of TDABC. The capacity cost

rate at the department level is valid as a parameter only when the activities within the department spend the same or similar amount and mix of resources. The use of different volume and mix of resources for the realization of the activities within a department causes inadequacy of the capacity cost rate at the department level. If the structure of the required resources varies considerably, i.e. differs for each activity, the capacity utilization should be determined for the level of the process. Determination of the capacity cost rate at the process level, and thus the level of capacity utilization, is recommended in the case when for different processes different measures for expressing the capacity of the process are used (for example: square or cubic meters, hours of work, and the like may lead to similar situation) (Szuhta, 2010, p. 54).

Determining the practical capacity as the denominator of the capacity cost rate can be realized in several ways. The most commonly mentioned approaches in literature are the arbitrary and analytical (Kaplan, Anderson, 2007, p. 52). The arbitrary approach is based on the assumption that the practical capacity is expressed as a percentage of the theoretical capacity. If it is assumed that the regular employees' working time is 40 hours a week, the practical capacity will be less due to the assumed work breaks, i.e. it can amount to, for example, 32 hours (which is 20% lower than the theoretical capacity). Similar arbitrary assessment can be made for facilities and equipment. It seems that the level of capacity utilization, determined this way, is rather arbitrary and that the assumption of a fixed percentage of capacity utilization is hardly sustainable in the long term, since it does not maintain the reality of the realization of the enterprise business activities.

The analytical approach starts from the theoretical capacity and its reduction for a precisely determined amount of unproductive time of workers and equipment. Determining the practical capacity, e.g. of the labor force, begins with the total number of days in the year (365), which is then deducted by the number of weekends and other non-working days (assuming that the number of working days is 261). The calculation should include the number of non-working days for different purposes, for vacations, sick leave, etc. (assuming it is 33 days, we get $261 - 33 = 228$, or 19 working days per month). Daily working time (assuming that is 7.5 hours, i.e. 450 minutes a day) should be deducted by work breaks and other interruptions (assuming that it is 70 minutes). Effective and productive daily working time is 380 minutes ($450 - 70$), which on a monthly basis of 19 days is 7.220 minutes (Kaplan, Anderson, 2007, p. 53). In the developed countries, with tight legislation regarding working time, monthly practical capacity is smaller, about 7.000 minutes. On the other hand, the developing countries, including Serbia, are characterized by a higher number of working days in a week (often 6), longer daily working hours (8 hours or more), and the practical capacity of the labor force on a monthly basis is more than 150 hours (9.000 minutes).

Factors Affecting the Determination of the Practical Capacity

Factors that influence the determination of the practical capacity are the manner of expressing the capacity, subject of capacity determination (workers or equipment), and various external factors. Capacity does not have to be expressed only in working time of workers or equipment. Storage capacity, for example, can be expressed in the available space (square meters), for the means of transportation in possible cubage (cubic meters) or carrying capacity (the maximum number of kilograms that can be loaded), for digital devices (information systems) in memory size in gigabytes, etc. The manner of expressing the resource capacity does not affect the basic principles of the practical capacity calculation. The logic is the same. The usage of various measures for expressing the capacity will influence only the difference in the expression of the capacity cost rate per unit of time (or cubic meter, square meter, or gigabyte). Moreover, not only that the determination of the practical capacity of the labor force will not be the same for each type of worker (workplace, education level), but a variety of factors should also be taken into account in determining the practical capacity of the labor force and equipment. For example, the practical capacity of certain equipment will not be the same in the first and in the fifth year of its use.

The influence of the external factors, for example, the seasonal nature of operations on the practical capacity is possible to be described with a hypothetical example. The presumption is that the practical capacity of an enterprise expressed in time in the first four months of the year amounted to 10.000 hours per each month, and the remaining eight months 5.000 hours per month. The total monthly capacity costs during the period of an increased demand amounted to $1.200.000$ and during the period of a lower demand to 800.000 per month. The capacity cost rate can be calculated in several ways. The first ignores the effect of the seasonal nature of operations, i.e. assumes the same volume of the resource acquired for the entire year ($1.200.000$). In this case, the average capacity cost rate is obtained by dividing the total annual costs ($14.400.000$) by annual practical capacity (80.000). The capacity cost rate (per year) is 180 dinars per hour of work. This approach ignores the difference in the required resources for the period of an increased and the period of a lower demand, i.e. the period of an increased demand requires more resources to be acquired. The second approach relies on the assumption that the same volume of the resources is acquired for the entire year. It calculates a monthly capacity cost rate, for the period of an increased demand ($1.200.000 \div 10.000 = 120$ dinars) and for the period of a lower demand ($1200\,000 \div 5000 = 240$ dinars). The cost rate in the period of an increased demand is half the cost rate in the period of a lower demand. This makes no economic sense, since the first period requires more resources to be acquired. According to

the third approach the capacity cost rate is calculated for both mentioned periods, but at different assumptions. The capacity cost rate in the period of a lower demand can be easily determined by dividing the capacity cost by the determined practical capacity ($6.400.000 \div 40.000 = 160$ per hour). The determination of the capacity cost rate for the period of an increased demand must be based on the fact that the realization of the activities and meeting the increased demands does not cause the engagement of the resources (and their costs) only in the period of an increased demand, but also during the rest of the period of a lower demand. The period of an increased demand requires not only the capacity resources used during this period but also the cost of the resources acquired but remaining unused during the period of lower demand. Hence, the total capacity cost for the first four months will not only include the costs incurred during this period ($4 \times 1.200.000 = 4.800.000$), but also the costs of the resources that would not be used during the remaining eight months ($1.200.000 - 800.000 = 400.000 \times 8 = 3.200.000$). The total capacity cost in this period will amount to $8.000.000$ ($4.800.000 + 3.200.000$). Since the practical capacity for these four months is 40.000 hours, the capacity cost rate will be 200 dinars per hour. These calculations conform better to the economic reality (Kaplan, Anderson, 2007, p. 57). The cost rate in the period of an increased demand is more expensive, because it requires more capacity resources. Taking into consideration the seasonal nature of the activities and including the seasonal impact on the determination of the capacity cost rate provides an outstanding contribution to a more accurate allocation and cost calculation.

Effects of the Practical Capacity Determination

Although the practical capacity is one of the basic parameters of TDABC, some enterprises have implemented a faster and simplified approach to the cost modelling without determining the practical capacity. Without assessing the practical capacity, actual monthly costs of the department are directly assigned to the transactions, products, or customers (cost objects) only on the basis of the data on the actual time required for each activity. In that case, the capacity cost rate would be determined as a quotient of the total actual costs and total actual time spent. However, assigning the costs to activities proportional to the time they spend without taking into account the practical capacity has many disadvantages. Firstly, it is not determined whether certain activities or processes are being realized under or over the full capacity. Secondly, there is no possibility of the realization of the *what if* analysis and activity-based budgeting. Last and most important is that not taking into account that the excess capacity in the calculation causes that costs, which are allocated to the cost objects, include both the actual costs of the resources spent (cost of used capacity) and the

costs of the unused capacity. Although the practice shows that there are enterprises that use both approaches, with and without determining the practical capacity, the second approach that takes into consideration the cost of the used and unused capacity is considered to be more appropriate from the perspective of creating a better information base, through a more precise cost allocation.

Essential TDABC seeks to identify and determine the volume of the costs of the unused resources. Making the distinction between the costs of the used and unused resources aims to allocate the costs of the resources to the cost objects only when the resources are actually consumed (Buchheit, 2003, pp. 549-565). TDABC is characterized by a specific treatment of the production costs, where only the costs actually spent in the activities of creating an output are considered the production costs, which results in t all the costs of the unused capacity being treated as the costs of the period (Tsee, Gong, 2009, p. 41-54). The importance of the information on the cost of the unused capacity is multiple: it is possible to identify the potential bottlenecks, discover the cause of their emergence, and determine an alternative use of the unused capacity.

BUILDING THE TIME EQUATION

The quantitative basis of TDABC consists of time equations. Using the time equations, the time consumed by an activity can be expressed as a function of different characteristics, the so-called time driver. Time drivers are variables that determine the time needed for an activity realisation. They can take the form of a continuous (weight of a pallet or distance in kilometers), discrete (the number of orders, the number of credit checks) or indicator variable (type of customer: old vs. new; type of order: normal vs. urgent) (Everaert, Bruggeman, 2007, p. 17; Todorović, 2013).

The total time required for the realization of certain business activity is obtained by adding the normal (standard) time and the additional time required for performing the modified forms of the same activity, caused by its variations. Due to the time equations and time drivers, TDABC easily incorporates variations in the time required for the realization of various types of business activities, i.e. TDABC rejects the simplified assumption of the traditional ABC that the realization of a certain business activity always requires the same amount of time to be processed (Kaplan, Anderson, 2007, p. 12).

A key aspect of the organizational and methodological designing of TDABC is the creation of the time equations. This is an essentially important activity, and on its accuracy the quality of the data on the time of the activity realization, its cost, and the accuracy of the product cost information depends. The process of designing the time equation requires first, to identify the business activities, to determine the time drivers, to

estimate the normal (standard) time required for each business activity, and to estimate the time required for each activity variation (Todorović, 2014, pp. 253-264). This procedure can be presented in a hypothetical example of order processing at a sales department. The business activity „order processing" includes: entering order, entering every order line, setting up a new account (in the case of a new customer), and order confirmation. Therefore, the processing of the order depends on three time drivers: X_1 – the number of order lines, as the discrete time driver, X_2– type of customer (new vs. existing), as the indicator time driver, and X_3 – type of order (normal vs. urgent), as the indicator time driver. The indicator variable takes the value 1 in case of a new customer (or urgent order) and 0 for an existing customer (or normal order). The analysis of the time required for the realization of the activities indicates the following: entering information about the received order requires 4 minutes, entering information about each order line takes 2 minutes, setting up a new account takes 10 minutes, and order confirmation time is 15 minutes. Based on the above, we can construct the following time equation (processing time of an order = T):

$$T = 4 + 2 \times X_1 + 10 \times X_2 + 15 \times X_3.$$

The processing time of an urgent order with 5 order lines for a new customer generates the following time equation: $4 + 2 \times 5 + 10 \times 1 + 15 \times 1 = 39$ minutes.

In general, the time required to perform a particular business activity can be expressed as a function of various characteristics, i.e. the so-called time driver. Hence, the time required to perform the event K of the activity J, with the p possible numbers of the time drivers X, generates the following time equation (Everaert, Bruggeman, 2007, p. 18):

$$T_{j,K} = \beta_0 + \beta_0 X_1 + \beta_2 X_2 + \beta_3 X_3 + \ldots\ldots\ldots + \beta p X p, \text{ where}$$

$t_{j,k}$ – time required to perform event K of activity J,
β_0 – constant amount of time for activity J, independent of the characteristics of event K,
β_1 – time consumption for a unit of time driver 1, when $X_2, X_3, \ldots X_p$ are constant,
X_1 – time driver 1, X_2 – ime driver 2, Xp – time driver p,
p – the number of time drivers that determine the time needed to perform activity J.

For low-cost or low-variability processes, a single time driver can be sufficient. Building the time equation is mandatory for high-cost processes and for the processes with significant variability. With regard to the design and implementation of the time equations, it is necessary to:

- start TDABC with high-cost and time-consuming processes;
- precisely define the scope of the processes, what initiates them and when;
- correctly determine the key time drivers for each activity, or the most significant factors which influence the consumption of time (capacity);
- use readily available cost drivers;
- strive for simplicity;
- engage employees to help build and validate the cost model (see more: Kaplan, Anderson, 2007, pp. 35-36).

Assigning the actual cost directly via time equation is simple and quick. The time equations provide flexibility and increase the performance of TDABC. They contribute to the accuracy of TDABC, without a simultaneous complexity of the cost calculating. The accuracy of the TDABC model arises from its ability to encompass the resource demands from diverse operations by adding more elements to the time equations. It becomes easier to update the TDABC model and to reflect the changes in the operating conditions, since the time equations are constantly changing with an increase in the number and complexity of business activities. The time equations provide managers with a capability to simulate the future, improve the budgeting process, efficiently analyse the capacity, and continuously improve the business processes. However, we should not ignore the potential errors and different risks in the process of the building of the time equations. The risk factors can negatively affect the results of the cost accounting; therefore it is necessary to manage them (Cardinaels, Labro, 2008, pp. 735-756; Fortin, Rousseau, 1998, pp. 269-276).

PRACTICAL APPLICATION OF TDABC

Regarding TDABC, it should be noted that its implementation started at the beginning of the 21st century. The analyses show that by 2006 more than 200 U.S. companies have implemented TDABC. According to the data from 2008, more than 100 companies from the Fortune 1000 implemented TDABC. Some of these are: Sysco Foods, Fairchild Semiconductor, Coca Cola, AmerisourceBergen, Johnson & Johnson, Target, Fisher Scientific, Citigroup, Charles Schwab, Deutsche Bank and Union Bank.

In Serbia, there are relatively few studies that consider the questions of the accountants' familiarity with and the distribution of the contemporary cost accounting systems, particularly TDABC. Regarding the organizational and methodological aspects of TDABC there are no specific empirical data.

An empirical research was conducted in May 2011. The sample consisted of 84 participants. The results showed that 62.5% of the respondents were not familiar with the ABC system, while 80.5% of respondents were not familiar with TDABC (Todorović, 2013, p. 254).

During 2013, a survey that included 45 companies was conducted. The analysis showed that 60% of the analyzed companies organize cost accounting, but only 40% of them organize the detailed calculation of the costs per cost centres (in a group of accounts 92, 93 and 94). These companies have implemented the traditional cost accounting systems, primarily based on the actual costs (81%). Less than 10% of the respondents know the characteristics and apply some of the modern costing systems. Low average score below 3 (on a scale of 1 to 5) for all of the contemporary cost accounting systems indicates a very poor knowledge of the respondents. The respondents are least familiar with the TDABC system. Exactly 44.74% of the respondents gave a rating of 1 for the question on the degree of familiarity with TDABC (Janjić, Todorović, Jovanović, 2014, pp. 429-443).

The results of the studies in the world (Kaplan, Anderson, 2007, p. 123) point out that TDABC appears as one of the most effective instruments for the valuation of the effects of the lean concepts implementation and as an important source of support for the implementation of lean strategies. In this regard, a multiple case study was conducted that included four companies from Serbia. The aim was to investigate the relationship between the lean concept and the overall changes in the area of cost accounting, and particularly the place and role of TDABC in terms of the implementation of the lean concepts. The results showed that one of the analyzed companies actively uses TDABC and that its implementation is the consequence of the implementation of the lean techniques. In this company, TDABC allows the production of new reports and information relevant for the purposes of an efficient decision-making and control of operations. It also enables the analysis of the business processes efficiency and capacity utilization. Time combined with capacity represents the primary basis for the cost allocation in this company.

The other two companies do not apply TDABC in its original form, while the fourth company failed to respond regarding TDABC. However, the analysis, particularly in the segment of performance measurement, clearly indicates the elements of TDABC. The analyzed companies use the time as an essential element in the calculation of costs and express different costs in relation to the time variable (Todorović, 2013, p. 253). A survey has opened up many questions and dilemmas particularly in the area of the organizational and methodological aspects of TDABC. This topic will certainly catch the attention of researchers in the future. It is expected that a more detailed understanding of the organizational and methodological issues of TDABC will contribute to its wider acceptance in business practice.

CONCLUSION

The organizational and methodological design of TDABC requires, first, the determination of the capacity cost rate, which raises the problem

of determining the practical capacity and second, the identification of the time required for the realization of specific business activities, which requires the creation of time equations.

TDABC starts from the average ability of the employees to carry out business operations, and the practical capacity is expressed as a percentage of the theoretical capacity. The calculation begins with the estimates of the practical capacity, which from the very beginning creates a realistic view of the resource availability. TDABC reveals the costs of the unused capacity and treats all the costs of the unused capacity as the costs of period. The costs of the unused capacity may represent a significant element, and their elimination or reduction may represent an important area of management. The analysis can reveal potential areas in which capacity shortages occur, if the expected demand exceeds the current available capacity. The data produced and information can serve as a good basis, especially in terms of managing capacity.

TDABC incorporates time equations in the methodology of cost calculation. The use of the time equation results in the increase in the precision and accuracy of cost calculation. The use of the time equations leads to a simpler and more efficient system update. A large amount of data is taken from the company's information system, the internal documents are used, and there are fewer interviews with the workers, all of which contributes to a greater flexibility of TDABC. TDABC can be easily updated in order to reflect the changes in the operating business conditions, so that it could be successfully applied to the intensively changing environment. The cost capacity rate is also the subject of the updates since two factors influence its change. The first is the change in the resource price, which affects the dimension of the costs, and the second is the change in the efficiency of the performing activities, which implies either less time or few resources to perform the activities. Especially important is that the model is updated based on the actual events that require assessment.

Finally, the quality of the established organizational and methodological solutions directly determines the success of the implementation, the quality of product cost information, and overall performance of the cost accounting reporting model based on TDABC. The knowledge of the key aspects of the organizational and methodological preparation is the most important prerequisite for a successful implementation and functioning of TDABC. This is supported by the data presented, regarding a small number of Serbian companies which apply TDABC and a low level of familiarity of the accountants with TDABC. Future research of the organizational and methodological aspects of TDABC should contribute to overcoming these problems.

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ОРГАНИЗАЦИОНО-МЕТОДОЛОШКИ АСПЕКТИ ОБРАЧУНА ТРОШКОВА ПО АКТИВНОСТИМА ЗАСНОВАНОГ НА ВРЕМЕНУ

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Резиме

Обрачун трошкова по активностима заснован на времену (ТДАБЦ) представља савремени систем обрачуна и управљања трошковима који подразумева примену унапређене методологије обрачуна трошкова засноване на једначинама времена и факторима трајања активности. Настао је 1990-их са циљем превазилажења и елиминисања недостатака традиционалног обрачуна трошкова по активностима (АБЦ). Суштинске иновације ТДАБЦ-а су да укључује у обрачун трошкова практични капацитет, односно степен искоришћености капацитета и варијаблу време. Количник укупних трошкова и практичног капацитета даје трошкове ресурса по јединици времена. Њихова примарна функција је пренос трошкова ресурса на носиоце трошкова у складу са захтевима (потребама) носилаца трошкова за тим ресурсима. Поменут пренос спроводи се на основу времена потребног за реализацију конкретних пословних активности, које се утврђује помоћу једначина времена.

Према томе, организационо-методолошко конципирање ТДАБЦ-а најпре подразумева израчунавање трошкова ресурса по јединици времена, чиме се отвара проблем одређивања практичног капацитета и утврђивање времена потребног за реализацију конкретних пословних активности, што захтева креирање једначина времена. Постоји више приступа за мерење практичног капацитета, али суштина сваког од њих је утврђивање стварно ангажованих и потрошених ресурса (капацитета предузећа). Примарни циљ овог система јесте пренос само трошкова стварно потрошених ресурса на носиоце трошкове. Трошкови неискоришћеног капацитета имају карактер трошкова периода. За утврђивање времена потребног за реализацију одређених пословних активности ТДАБЦ користи једначине времена. Креирање једначина времена веома је комплексан и важан аспект организационо-методолошког утемељења ТДАБЦ-а будући да одређује квалитет извештајног модела обрачуна трошкова. Коначно, познавање кључних аспеката организационих и методолошких припрема представља најважнију претпоставку успешне примене ТДАБЦ-а.