

## INDICATOR MODELS FOR ASSESSING THE EFFECTIVENESS OF BUSINESS

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***Summary:** The effectiveness of business systems is a key issue for survival of these systems (but not only them). Hence, the need of modern management theory that focuses its interest to the question how to ensure the effectiveness of business system. However, in order for management theory to give an answer to the question it is important to resolve some "technical" issues among which, of course, is those related to measuring the effectiveness of business systems, because if you do not know how to express the effectiveness of business systems, it is difficult to say whether commercial system is realized or not realized adequate effectiveness. The purpose of this paper is to presents potential approaches to measuring the effectiveness of business systems and then develops a model by means of standard indicators that will be best able to express the efficiency of business systems.*

***Keywords:** measurement of performance efficiency, business system, the organization*

### 1. INTRODUCTION

Effectiveness is defined as the degree of fulfillment of objectives, which ultimately means insurance of products/services that represent values to customers. In other words, a business system that ensures the right products/services at the right place at the right time is effective. Hence, is understandable, the effectiveness of business systems is the key question of survival of these systems (but not only them). Hence, the need of modern management theory that focuses its interest on the issue, to ensure the effectiveness of business systems. As it is stated: *"In time of rapid changes and uncertainty those business systems that continuously create new knowledge, distributing them through new business models, new technologies, new products or new services are successful."*<sup>1</sup>

In order for management theory to give the answer to that question, it is important to resolve some "technical" issues among which certainly includes that which relates to measuring the effectiveness of business system. If it is not known how to express the effectiveness of business systems, it is difficult to find out whether business system is achieving an adequate level of efficiency or not.

However, measurement of efficiency is not as simple as it may seem at first glance. Namely, the fact is that it is necessary to be able to measure the effectiveness of various business systems, and within each of them measure the effectiveness of different organizational levels. It should be borne in mind that between the efficiency measures are key differences in the nature of frequency of measurements, sources of data controllability. From the above it is evident the problem of measuring the effectiveness of design models for each business system. Effectiveness can be viewed from various aspects and as a consequence, different approaches have developed to determine the effectiveness of different models of standard indicators, through which will be best able to express the effectiveness of business systems.

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<sup>1</sup> Drašković Milan, et.al., "Intellectual capital – a competitive advantage of modern business systems", *International Journal of economics and law*, Vol.2, No. 4, FORKUP, Novi Sad, April 2012., pp. 27

## 2. LEVELS OF EXPRESSION AND MEASUREMENT OF EFFECTIVENESS

In a study of measuring the effectiveness of business systems, one of the initial questions that arise is that which refers to the level of the measuring. Namely, it is known that business system consists of multiple levels of which usually generalize three basic: individual level, group level and the level of business systems as entirety. In accordance with this, there are three levels of efficiency:

1. Efficiency of individual
2. Efficiency of group
3. Organization efficiency

In the context of each of these levels is very important to determine the method of measurement and presentation of effectiveness.

1. Individual effectiveness emphasizes the execution of individual tasks of employees at the lowest organizational level. Tasks that individuals end up are very different given the opportunity to express performance. Usually three types of tasks distinguish tasks in information processing and management tasks, for which are used various measurement methods: often the effectiveness at this level managers evaluate routinely.

2. In the business systems individual rarely work alone, isolated from the others in the organization, but usually work in formally established or organized groups in large companies: in big multi-division enterprises divisional and functional groups (departments) differ. In terms of measuring the effectiveness, these groups organize the appropriate forms of responsibility. Each center of these centers has its effect, which is expressed by different criteria, so there is a need to develop an adequate system of measuring the effectiveness of these centers.

3. Business system is comprised of individuals and groups - it is treated as an organization. Therefore, organizational effectiveness consists of individual and group efficiency. However, organizational efficiency is greater than the sum of individual and group effectiveness, which is a result of this synergy effects. Of that arise the need to form a separate system of measuring the effects of the business system that will meet the three interested groups (stakeholders) – owners - shareholders, the top management and other stakeholders.

Group effectiveness depends on the individual, while organizational effectiveness depends on individual and group efficiency. From the aspect of the business system, it is important to determine the causes for which effectiveness has been achieved at each of these levels. In this context, each level of effectiveness can be considered as a variable caused by the other variable (i.e. causes of effectiveness).

The literature on management and organizational behavior presents the results of different studies is that different theories about the causes of the effectiveness of each of the three levels of analysis.

Individual effectiveness:

Causes:

- Ability
- Skills
- Knowledge
- Attitude
- Motivation
- Stress

Group effectiveness:

Causes:

- Cohesiveness
- Leadership
- Structure
- Status
- Role
- Norms

Organizational effectiveness:

Causes:

- Environment
- Technology
- Strategy
- Structure
- Processes
- Culture

Accesses in determining the effectiveness:

Effectiveness can be viewed from various aspects, which, consequently, have developed different approaches to this phenomenon. However, in theory and practice usually can be find three approaches to the definition of effectiveness, namely:

1. Target approach to effectiveness
2. Systemic approach to effectiveness
3. Multiply-constituency approach

It should be noted that business systems must be able to use each of the three approaches when appropriate.

Target approach to effectiveness.

A feature of the target access is to highlights the central role of achieving a goal as criterion of effectiveness assessment. Under this approach, there is a business system to achieve certain goals. On that basis were developed a number of concepts from which the most famous one is based on management by objectives (MbO). It is a comprehensive concept that integrates many of the key management activities in a systematic way and that is consciously focused on efficient and effective achievement of organizational and individual objectives. Its essence is that for every new pre-determined objectives that needs to be achieved, periodically control its requirements. MbO requires to define so-called, Key Result Areas-KRAs) and Key Indicators-KIS, for all levels of management on the principle of cascade, from the top to the bottom of the business system.

### **3. THE SYSTEMATIC APPROACH TO EFFECTIVENESS**

The systematic approach to analyzing organizational behavior and emphasizes the necessity of maintaining the basic elements of the cycle of input-process-output, and adapting the general business environment that supports system. It starts of systems theory to describe the internal and external behavior of the organization, it emphasizes the connection between the business system with the environment and that the environment receives inputs, transforms them into outputs, and (inputs in altered form) returns the environment.

Systems theory emphasizes two important conclusions:

1. Final durability of the system depends on its ability to adapt the requirements of the environment.
2. In meeting these requirements, in center of the business interest must be the total cycle of input-process-output. Therefore, the effectiveness criteria must express both aspects, and efficiency must be precisely defined accordingly.

Multiply constitutive approach to effectiveness

System approach to effectiveness highlights the importance of access to the external environment and the balance between different parts of the system of which business system is only one part. In practical and concrete terms, access to multiply constituency means achieving a balance between different parts of the system satisfying the interests of the constituent parts of the business system (i.e., individuals and groups). Therefore, the theory can be used to multiply the constituency combination of the two previously mentioned approaches in order to gain access to the appropriate organizational effectiveness.

In other words, it is possible to link all three levels of effectiveness from the point of all interested parties (stakeholders) for its achievement. Each of stakeholders expects from the business system to behave in accordance with its expected benefits, with the expectations of all concerned need not to be congruent with each other.

#### 4. THE CRITERION OF EFFECTIVENESS

Management and others with an interest in the organization must have indicators to assess the likelihood of its stability. In practice, managers use a number of short-term indicators of long-term stability, including productivity, efficiency, accident, overruns, lack of, quality, degree of recovery, morale and satisfaction of employees. Any of these criteria may be relevant for a particular purpose.

Production, quality, efficiency, flexibility are short-term satisfaction of the efficiency criteria.

Two other criteria - development and competitiveness - complete model of time dimension.

These two criteria reflect efficiency in the middle period of time. However, the main criterion of effectiveness is the stability of system. If managers do not achieve satisfactory performance of short and medium terms, criteria of effectiveness and durability cannot be guaranteed.

Manufacturing	Competitiveness	Flexibility
Quality	Development	
Efficiency		
Flexibility		
Satisfaction		
Short term	Medium term	Long term

Figure 4: *Model of time dimension of efficiency*

#### 5. MODEL OF EFFECTIVENESS STANDARDS

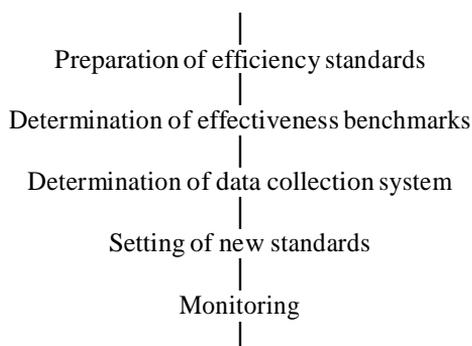
Standard in the original significance is a form with which is possible to compare items and actions. It means regulations to determine certain characteristics of a product or define a numerical value, size, units, names, properties and actions. According to that, in terms of objects this standard work can be defined as the target size that should be achieved by individuals, groups or business systems as entirety. Accordingly, sizes leads to the conclusion of individuals, groups or organizations. In other words, the effectiveness appears here as a measure of achievement of results at each measuring level. Therefore, it is one of the key

questions to determine the effectiveness. In this regard, Figure 5 shows some basic standards of effectiveness by the levels. Criteria defined like this are the basis for setting standards of effectiveness, and for that purpose, the manner of their determination is given.

### **The way of setting standards of effectiveness**

From what said above we can conclude that efficiency standards are the result of which will be achieved if the specified key tasks performed in satisfactorily way. These results must be realistic, but stimulating. Two categories of standards of effectiveness differs - quantitative (measurable) and qualitative (estimable). The abundance of standards is based on the effectiveness of selected indicators (benchmarks) which is then calculated from the data of specific companies and thus forms a standard-size.

In contrast, there is the target size to be achieved, and the realization that in relation to the standard-size indicates the achievement of the objective. While standard-size excerpts from works in the past, the target size should be derived from the expected achievements in the process of establishing actions in the future. The whole action of standard defining could be shown in Figure 5.



*Figure 5: The process of establishing standards of efficiency*

Preparation of standards of effectiveness is oriented primarily to define the level and temporal dimensions of a standard, and then specify the goals that are expected to achieve and fulfill the technical activities associated with establishing standards of effectiveness. It is necessary to define the possibility of determining the effectiveness of measures for each target size of the selected levels of effectiveness in a given period of time.

The selected criteria should be quantitative (and qualitative) expressed, which is possible only by using the appropriate database: it is therefore necessary to pre-format data collection system in order to determine a standard-size. For this, it is necessary to adjust the accounting system, and focus on measurement output rather than input controls.

Appointment of new standards is the most important phase in the whole process. They, as mentioned before, are derived from the expected to achieve in the future, and generally use a benchmarking process that comes to comparing the target size or standard efficiency. After standards of effectiveness are determined, it is necessary not only to monitor their implementation, but their operation in practice, and report the findings to be taken and new activities to improve them.

### **Temporal dimensions of efficiency standard**

Temporal dimensions of effectiveness standard are an important element of the model since it is only in the dynamics can make the correct conclusions about the effectiveness of business

system. It should be borne in mind that effectiveness standards vary depending on, about whether it is short, medium or long period. The most important for the long-term is sustainability (persistence) of business systems, while virtually all other standards are in function of that sustainability. Therefore, it is necessary to identify constantly the causes of individual, group and organizational effectiveness in the short term, medium term and the long-term. It is important because a business system can be effective in terms of some standards that apply in the short to medium term, and that in the long-run there is no chance for survival. Therefore, maintaining of an optimal balance means balancing of the organization over time

Level		Stakeholders	Potential effectiveness standards
<b>Organ. level</b>	<b>Business system</b>	Owners - Stockholders	ROI;ROE;EPS;DPS;VA; ROVA;ROVA/ROI;MVA;EVA;SV
		Top manager	ROI;ROE;EPS;SV, various qualitative criteria
		Others	Different, considering the number and diversity of interested employees: labor productivity, customers, sales volume, and suppliers, material use, country, size of income, etc
<b>Group level</b>	<b>Divisional units</b>	Investment centers	ROI;ROA,ROCE
		Profit centers	Profit
		Income centers	Income
		Cost centers	Costs
	<b>Functional units</b>	Manufacturing	Production performance, performance per worker, productivity processing, utilization of materials, the course of production, capacity utilization, the effect of repair, the effect of fleet
		Purchasing	Acquisition speed, price development, control the price index, the dispersion of the volume of procurement, the use of storage
		Selling	Realization of sales, net income, employment status, the coefficient, the success of supply, the index of customers
		Finance	Liquidity, the level of cover constantly connected permanent capital, the degree of coverage of permanent capital, the level of capital, ROI, cash flow
		Personnel	Staff turnover, the average wage, performance per hour, profit contribution
<b>Individ. level</b>	<b>Jobs</b>	Manufacturing tasks	Quantitative and time standards, natural and value standards
		Department tasks	Appraisal of performance
		Managerial tasks	Key results

Figure 6: The potential efficiency standards

## 6. RESUME

Measuring the effectiveness of business systems is very complex. Model of indicators to measure the effectiveness of business systems related to the measurement of individual, group and organizational effectiveness, but the model includes indicators for all levels of management. Therefore, it should be noted that the standards of efficiency vary depending on whether it is a short, medium or long-term period. The most important for the long-term existence is the business systems, while virtually all other standards in the function of that sustainability.

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