

BUSINESS PROCESSES EVALUATION WITH THE SUPPORT AND ENSURING OF ENTERPRISE ECONOMIC SECURITY

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Abstract. The development potential of any enterprise is due to its economic security. Support for economic security should be implemented with the help of reliable tools for monitoring and evaluating the efficiency level of its system mechanisms. Ensuring economic security will be as stable as possible if the reference points that indicate the optimal trajectory of business processes control are able to take into account all significant influence factors. Such reference points are indicators for evaluating business operations and economic security. It is important for the indicator to have in its structure all the significant influence factors. The criteria of business processes functioning efficiency used as such reference points have been analyzed in the paper. Main universal influence factors that have to be present in the business process and economic security assessment indicator expression are identified.

The definitions of a business process are analyzed, the key characteristics of the definitions are identified, and the author's vision of the essence of the concept is proposed in the light of the prospects for further research.

Keywords: business process, performance evaluation, economic security, efficiency criteria, economic security level.

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Introduction

The goal of any business owner is to get the maximum opportunity to increase the company's payment capacity (which is estimated through the resulting cash flow), the company's value for potential buyers (which is estimated through business value) and the company's internal value (which is estimated through equity). This result is achieved in the event that all the functioning units of the enterprise and its processes operate in a streamlined mode. At the same time, a necessary condition for a well-functioning business process is ensuring the economic security of the enterprise. In turn, the extraction of funds from the functioning of business processes in order to invest in parallel processes for further business development is possible only with the support of economic security at a high level. In other words, sustainable economic security is the basis for the reliability of the enterprise and its development. One of the main guidelines indicating the best solution of operational, tactical and strategic business objectives is a correctly chosen and adequately evaluating management criterion. Such a criterion is an integral part of the economic security system, since its structure should include all significant factors influencing economic stability. In addition, the criterion should adequately assess the process so that the choice of parameters of business processes and the result of their functioning most closely meet the expectations of the owner

of the enterprise. Therefore, the analysis of the assessment of business processes with the support and ensuring economic security in the article is carried out through the analysis of the applied criteria for evaluating their effectiveness. Consequently, the search or development of an indicator that really solves the problem of evaluating the effectiveness of business processes with maximum accuracy is a pressing issue in our time.

Analysis of the existing definitions of the concept of a business process with the support and ensuring the economic security of an enterprise

In this regard, it is important to understand what is the category called “business process”, and which criteria are important for an adequate assessment of its efficiency. Currently there are many interpretations of this concept. For example, one of the most accurate formulations expressed in the work of M. Hammer, J. Champi, defines a business process as a set of various activities, within which one or several types of resources are used at the input, and as a result a product is created that It is of value to the consumer (*Hammer, Champi, 2000*). A similar interpretation of the business process definition exists in the authors work I. I. Mazur, V. D. Shapiro, who also claim that the purpose of the business process is to release a product or service that is necessary for the client (*Mazur, Shapiro, 2001*).

The key point in business process definition formulating is deciding the question of the goal of its implementation. The first part of the definitions is practically common to all interpretations, since scientists are reduced to common opinion that business process is a set of specific actions that use limited resources as operation input products. Their transformation is aimed at obtaining the final result as an output product. A number of operations carried out in the process of implementing a business process are involved in common goal achieving. The second part of the definitions explains the realization of the business process very goal, which in many cases is defined as the release of a product or service that meets consumer expectations (Fig. 1).

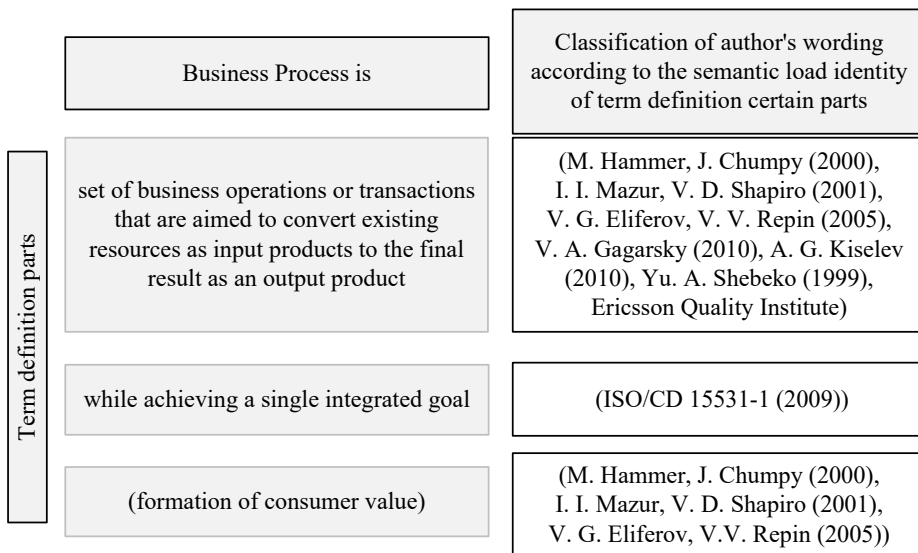


Fig. 1. Authoring classification of definition parts of "business process" concept

So, on Fig.1 it is emphasized that many authors, in their business process definitions, say that the finish goal of the business process is to satisfy the consumer expectations.

However, the authors interpretations does not indicate a point that would say that the business process actions should solve problems aimed at achieving the common goal, which is defined in ISO / CD 15531-1 (2009).

This fact is explained by the fact that the goal of the implementation of any business process should be as consistent as possible with the goal of the enterprise owner that is the maximum opportunities. The degree of realization of opportunities is directly proportional to the degree of receipt of added value from the implementation of the business process. The consumer value level obtained as result of the business process implementation is one of the factors influencing the effective achievement of the enterprise's goal.

Summing up, we can say that the common thing is that a business process is a set of operations designed to transform input products (resources), the result of which is to obtain an output product in order to maximize the capabilities of the enterprise through value added (profit).

Analysis of criteria for the business processes efficiency evaluating

An indicator that provides the best degree of consistency of the enterprise owner goals with results of business processes is a certain indicator that, on the one hand, determines of resource efficiency, and on the other hand, would be taken into account when assessing the enterprise economic security.

In other words, it can be said that correctly selected and adequately evaluating the effectiveness of business processes is criterion for choosing the optimal control mode and operation of enterprise processes, and is also an integral component in supporting and ensuring the enterprise economic security. Indeed, as noted in the article (*Mishchuk, 2015*), the category such as economic security includes two components, namely, the economic security of an enterprise and the economic security of its stakeholders. At the same time, indicators that are used in efficiency evaluating of business processes to ensure both of these components are guidelines for their effective management.

When choosing or developing an indicator and calculating an assessment of the efficiency of business processes, it is necessary to implement the following steps:

1. Analysis of influence factors.
2. Determination of quantitative values for specific parameters of the business process influence.
3. Definition of a system of quantitative indicators used to assess the effectiveness of business processes and the calculation of the values of their parameters.
4. Analysis of the obtained values of the coefficients of business process management efficiency (comparison of the actual value of the normative).
5. Formulation of conclusions about the efficiency of business process management.

It is the definition of the indicator that evaluates the efficiency of the business process, is a key point from all stages.

Also, the efficiency business processes assessment can be represented as a model.

Thus, the authors of the article propose the following model of business process assessment (Fig. 2).

Over the years, an enormous number of scientists and practitioners have been working on the development of criteria for the optimal development of business processes (*Tsirlin,*

1986). Among them are also foreign authors (*Zhao, Ding, Jin, 2011*), and domestic (*Morkun, Tron, 2014*).

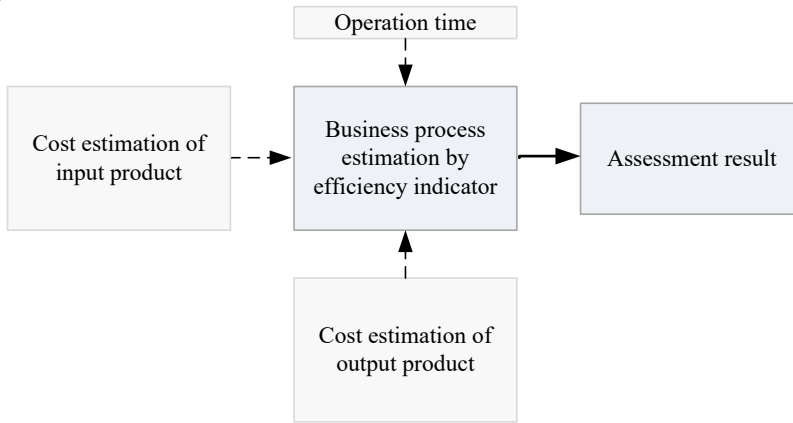


Fig. 2. Business process assessment model

Some authors suggest using indicators such as mathematical models for calculating the efficiency of business processes of enterprise (*Fedoseev, Garmash, Dayitbegov, 1999*) as a similar index, while other authors call conditions and external factors and criteria factors as the enterprise economic development internal influence (*Barinov, 2015*). It was also noted that “the stability and sustainability of the business process functioning implies protection against the influence of negative impacts generated by factors of the external and internal environment” (*Business economics, 2014:118*).

The result of determining the efficiency is used to evaluate any business process, regardless of the type of operating activities. Therefore, scientists have developed a whole set of indicators to determine their efficiency.

According to study of L. L. Gritsenko and A. V. Vysochina the following indicators can be attributed to the set of key indicators (*Gritsenko, Vysochina, 2012*) fig. 3:

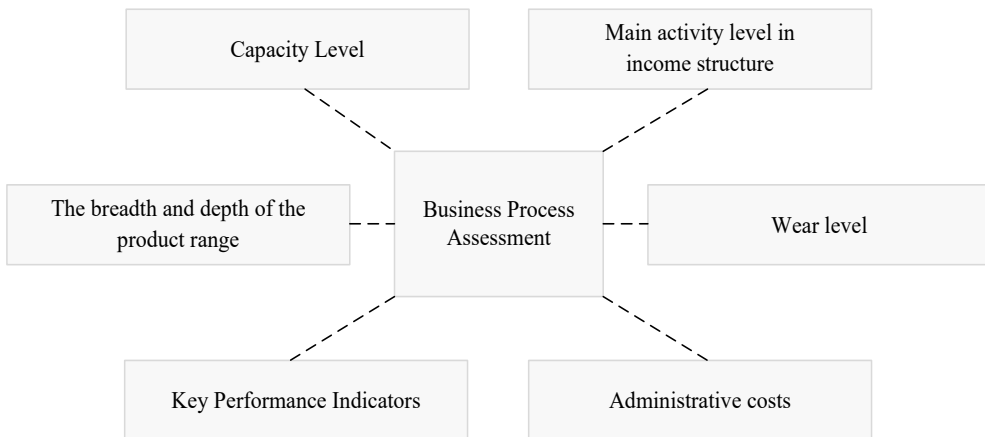


Fig. 3. Key indicators for evaluating business processes

Compiled by the author based on a synthesis of material from (*Gritsenko, Vysochina, 2012*)

With the enterprise economic security support the business processes have to effectively use the limited resources, and in this case, the most efficient resources use of the enterprise ensures the maximization of its added value. This is due to the fact that the enterprise resources efficiency limited makes it possible to improve business processes, and allows you to get the maximum result from their management (*August-Wilhelm Scheer, 1999*). However, the vision of the goals of business processes among different researchers are different categories. So, for example, the authors Chornobay L. I., Duma O. I. noted the consumer value as business processes (*Chornobay, Duma, 2013:131*), and the authors Gorlachuk V. wrote the one as production (*Horlachuk, 2010: 263*).

However, it is not noted that through the business process implementation the enterprise owner main goal as maximizing opportunities, including the maximizing value added is achieved. This, in particular, provides the possibility of parallel investment in other business processes. As you know, as faster we can get free funds from the implemented business operations, then faster we get the possibility for their further investment in parallel business processes. This will allow the company to be flexible with respect to rapid and unexpected changes in market environment factors. According to the investigation of R. Faal, S. Paterson, D. Oberth business processes control firstly is difficult task, as it requires a flexible management system and secondly it requires the correct choice of an adapted criterion (*Phaal, Paterson, Probert, 1998: 541*). This is due to the fact that the processes in the enterprise are cross-functional and in many respects interrelated.

According to the same authors, only if the criterion is chosen correctly, the enterprise can get the maximum profit (*Phaal, Paterson, Probert, 1998: 550*). Since the correctly chosen by the criterion business process functioning mode is one of the most important conditions for stability, efficient economic activity and economic security of an enterprise, and in itself testifies to the development of a functioning business.

Due to the lack of unified concept for the approach of evaluating business processes and the attempts of scientists to derive a universal criterion for evaluating effectiveness, they usually ended in failure (*Bundy, 1988*).

Scientists shared the view that it is impossible to formulate one general optimization criterion for processes, which could be consistent with the initial criterion of the entire enterprise system (*Barsky, Plaksin, 1967:37*).

There is a number of performance indicators and management quality indicators, each of which defines a particular aspect of business processes is traditionally introduced by the authors in Table 1 for the comparative assessment of the processes functioning. The Table 1 presents mathematical models of indicators that are used by the authors as indicators for business processes efficiency assessing. In other studies, in which the analysis was carried out, the authors did not provide enough information for the practical implementation of the assessment of business processes.

In this case, it is problematic to use these indicators in the tasks of assessing the level of economic security.

To solve the global assessment of the business processes efficiency the multi-criteria analysis methods are actively used (*Morkun, Tron, 2014*). In this case, the final result of the evaluation to choose the best functioning mode of the process under investigation is often formed subjectively.

A common approach is one in which the development of an optimization criterion is based on the use of mixed estimates derived from the scaling of significant basic factors.

Table 1

Analysis of the estimated indicators for business processes efficiency assessing

№	Author	Indicator	Expression
1	Demchuk O.V., Arefieva S.G., 2015	Profit	$P = GP - C$, where P – profit, C – cost, GP – gross profit
2	Parmakli D.M., 2011	Profitability ER	$ER = \frac{P - C}{C}$
3	Tsirlin A. M., 1986	Tsirlin indicator EC	$EC = \frac{P - C}{TO}$, TO – operation time
4	Lutsenko I. A., 2016	Efficiency indicator EL	$EL = \frac{(P - C)^2 TO_1^2}{P \cdot C \cdot TO^2}$, $TO_1 = 1$
5	Sklyar M.A., 2014	Estimated indicator for calculating the income	$PDV = \sum_{i=1}^T \frac{R_i}{(i+1)^i}$, PDV – capitalized object value, R_t ($t=1...T$) – income brought by the object in t-year, T – service object life, i – capitalization rate.
6	Sefeedpari P., 2012	Technical efficiency	$TE_j = \frac{u_1 y_{1j} + u_2 y_{2j} + u_n y_{nj}}{v_1 y_{1j} + v_2 y_{2j} + v_m x_{mj}} = \frac{\sum_{r=1}^n u_r y_{rj}}{\sum_{s=1}^m v_s x_{sj}}$ TE_j – technical efficiency of j object, x and y – input product and output product; v and u – weight coefficients of each input and output product; s – input product ID; r – output product ID.
7	Losev V.S., Kozerod L.A., 2012	Business processes integral efficiency indicator Y_{EBP}	$Y_{EBP} = \frac{Y_{EBP1}}{Y_{EBP0}}$, where Y_{EBP0} – Integral indicator of business process efficiency before restructuring; Y_{EBP1} – Integral indicator of business process efficiency after restructuring

Thus, the study (Kharchenko, Babeychuk, Slyunyaev, 2009) uses a generalized criterion, that is formed from the results of processing the extremes values of integral indicators and which the authors define as the “efficiency criterion”. The reliability of the evaluation of the developed indicators as performance criteria in the works is also not justified. The conclusion about the incorrect use of this approach can be made on the basis of formal attribute, since the measurement units of the variables used are quantitatively compared with each other.

Among the indicators used to characterize the purposeful activity of the controlled system, a special place is occupied by the class of absolute indicators, reflecting the amount of profit received. Another important indicator is “resource efficiency” or simply “efficiency”.

Experts in the field of management conduct continuous controversy about what the essence of this indicator is and what the ratio and / or relationship between such concepts as profitability, result, performance, efficiency, effect, productivity, etc. (*Demchuk, Arefieva, 2015*).

Such discussions are largely related to the fact that traditional economic indicators are widely used for solving accounting problems.

Considering the one-to-one correspondence of minimum costs to the maximum profit in a number of production operations, performance management issues are defined as cost management, and the optimization task is the search for minimum costs or maximum profits.

However, in a number of works it is noted that efficiency is manifested in the synergistic effect of profit, and therefore, when determining efficiency, it is necessary to take into account the cumulative effect of profit. In this regard, the concept of "capitalization" is actively used (*Kiselnikov, Sorochaykin, Tyukavkin, 2013*).

Now to assess the enterprise business process efficiency, an independent selection of the performance criterion from the package of indicators is identified by the KPI (*Maiju, Lonnqvist, Schiuma, 2014*) and further development of this direction in the form of BSC indicators system (*Sun, 2015*). It should be noted that in one study, the proposed indicator for assessing the systems functioning and processes was not systemically justified as an indicator of the resource efficiency.

So, with the support and maintenance of economic security, it is important to use an adequate benchmark with which you can build the optimal trajectory of enterprise management and ensure a high level of economic security of the functioning system. Such guideline has to serve as specific criterion for calculating the business processes efficiency (*Serdiuk, 2016*).

However, in many cases, the criteria proposed in the studies by the authors have not been tested for an adequate assessment of both the effectiveness and the assessment of the economic security degree in practical implementation.

Conclusions and suggestions

Ensuring economic security at the proper level is the key to successful and stable development of both business processes and the general development of an enterprise. It is important to understand the factors of influence that should be in the structure of the indicator, evaluating the business processes efficiency. As the research analysis of the used and proposed performance criteria showed that none of them was confirmed in an adequate assessment in the process of practical implementation. In the article, the authors proposed an assessment model based on a single assessment indicator, which may allow to further automating the assessment of business processes in order to speed up the analysis and build an effective management line. Thus, this will positively affect the level of ensuring the economic security of the enterprise as a whole.

Analyzed options for determining business processes and proposed the author's version of the definition of this concept. The goal of the implementation of the business process as the receipt of an enterprise's added value to obtain maximum opportunities has been corrected. Also proposed is a model for evaluating business processes according to the criterion of efficiency. It has been found that an important factor in influencing the assessment of economic security and business process evaluation is the valuation of input process products, process time and valuation of output process products. What combination of these indicators should be in the expression of the evaluation criterion is the subject of further research.

The time of implementation of business processes must be adequate to the volume and quality of the valuation of the resulting output product. Therefore, to ensure economic security, among the criteria used, it is necessary to select those whose structure includes the time factor, and also to verify these criteria for the adequacy of the results of their evaluation.

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