Scientific Annals of Economics and Business
65 (2), 2018, 215-226
DOI: 10.2478/saeb-2018-0014

Risk Evaluation of the Reengineering Projects: A Case Study Analysis

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Abstract

Work objective includes the development of risk level estimation method for the implementation of the business processes reengineering projects at the instrument-making enterprises based on fussy set theory. The article analyzes and highlights the risks in the system of project management and reengineering programs for business processes at enterprises. The risk groups and their types that can arise during the reengineering of business processes at instrument-making enterprises are systematized and allocated, in particular: investment, financial, organizational, technical, technological, operational and informational. To assess the impact of these risks on the effectiveness of reengineering projects, a method based on the theory of fuzzy sets is proposed.

Keywords: reengineering technological business process; risk; instrument-making enterprise; fuzzy set theory.

JEL classification: C49; O32; P42.

1. INTRODUCTION

Risk is inherent in business. Without risk, there would be no motivation to conduct business. But a key principle is that organizations should accept risks that they are competent enough to deal with, and "outsource" other risks to those who are more competent to deal with them (Olson and Dash Wu, 2015).

High risk level in the course of business processes reengineering is one of the important aspects, which serves as a constraining factor for the heads of the instrument-making enterprises in decision-making regarding implementation of the projects in the technological business-processes reengineering. The presence of such risk is stipulated by

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lack of information about practical experience in these projects development and implementation conditions, resistance of the employees to such changes, resource limitation.

The issue of the risk level calculation in the course of the business processes reengineering has become even more relevant, as long as it assists the heads of the enterprises in economically justified decisions-making regarding the project implementation because an insufficient consideration of risks may lead to direct losses under the condition the developed project does not correspond to the realities of its practical implementation, or vice versa – the heads reject reengineering losing the possibility to improve business processes efficiency, explaining that by high risk level. Such preconditions cause the necessity of the risk level assessment for the reengineering projects implementation at the domestic instrument-making enterprises. Given the facts presented, the paper analyzes and highlights the risks in the system of project management and reengineering programs for business processes at enterprises. The method based on the theory of fuzzy sets was selected to assess the impact of these risks on the effectiveness of reengineering projects.

Our paper is structured as follows. Section 2 presents critical review of the literature devoted to risk evaluation which is followed by presentation of the basic material of the research in Section 3. Section 4 describes methodology and data construction. Then research results and discussion are presented in Section 5. And finally, we present the conclusions of our study in Section 6.

2. LITERATURE REVIEW

By expanding the scope of the risk assessment of business processes reengineering projects, a number of domestic and foreign professional literature was investigated and processed. All investigated works can be divided into groups, each of which reveals separate aspects of the research. In particular, the first group included research works on reengineering, which show that the theory of business process reengineering is actively developing by scientists as a modern management tool, and a growing number of scientific works, in which the conceptual bases of business process reengineering, its main elements, principles, methods, means, which helps to successfully implement this tool in practice. These questions were studied by numerous scholars, such as: Vynohradova (2005), Hammer and Champy (1997), Cherep and *et al.* (2009) and Chukhrai and Matvii (2015).

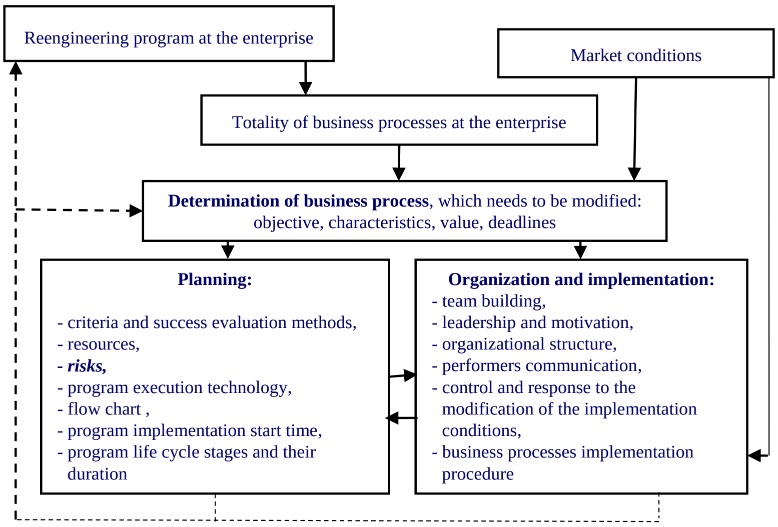
The second group includes scientific achievements, which reveal the theoretical aspects of risk as one of the planes of the problem under study. A thorough analysis of the risk as an economic category, the history of the concept of risk management, the versatility of its interpretation, as well as a critical view of risk management is disclosed in the papers (Dionne, 2013; Boholm, 2016). Lexin (2016) revealed the risk communication in the risk management system and provided experimental data on the usefulness of risk characterization. The papers of Grimaldi and et al. (2012) and Koutsoukis (2010) describe risk management standards as a prerequisite for a modern organization management approach and describe the risks for choosing methods for project risk management. In turn, Michalak (2017) launches the concept of operational risk and claims that this operational risk is connected with the basic business activity and it is depicted in different ways. This risk is most often perceived as a probability of bearing operating loss or failure to achieve the expected level of operating profit as a result of improper or unreliable internal processes, people and system or resulting from external phenomena.

The monitoring of the research papers revealing the issues of risk assessment in the course of business processes reengineering projects implementation has shown that the papers of Illiashenko (2010) deserve special attention, where the author reveals methodological approaches to the risks analysis in the reengineering projects implementation. Robson and Ullakh (2007) have considered the risks analysis issues in the course of practical implementation of the reengineering business processes. Taraniuk (2013) gave a comprehensive assessment of the alternative business processes reengineering programs at the industrial enterprises by economic risk types.

However, handling the particular values of these or those risks, in most of the models of their evaluation it is necessary to indicate their events probability, which right from the beginning is unknown. To avoid this one should apply a fuzzy set theory in order to assess the risks. The bases of the fuzzy set theory have been laid in the works of numerous domestic and foreign scientists, in particular, for the assessment of the certain processes risks at the industrial enterprises. In such a way, such authors as Kuzmin and Kulyniak (2011) offer to use this method to assess the risk level of the leasing activities at the machine-building enterprise. Miasnykov (2017) offers to apply the fuzzy set theory tools to assess the forthcoming risks of the machine-building enterprises innovative potential in a context of uncertainty. It is also worth mentioning that Panukhnyk (2016) took the fuzzy set theory as a basis for the offered estimation model to determine the level of formation of possible modernization directions for control technologies at the instrument-making enterprise in the municipal economic system.

3. PRESENTATION OF BASIC MATERIAL OF THE RESEARCH

In order to prove the reasonability of the business processes reengineering projects implementation, taking into consideration the substantial indeterminacy of the conditions for their implementation, it is necessary to develop the justified measures for the potential risks neutralization. The development of such measures provides the presence of a pretty precise evaluation of not only the amount of potential losses and probability of their occurrence but also the influence of separate factors on the general project risk (Illiashenko, 2010).



Source: Illiashenko (2010)

Figure no. 1 – Business processes reengineering programs of the enterprise control chart

Illiashenko (2010) presented the position of risk analysis in the development and implementation control system for the business processes reengineering projects at the enterprise (Figure no. 1). As can be seen from the figure, at this particular planning stage of the reengineering programs, all the associated risks should be estimated in order to develop the measures to reduce their level, which is one of the mandatory conditions of success in the course of business processes reengineering implementation at the instrument-making enterprises.

With the purpose of objective calculation of the risk level in the course of business processes reengineering projects implementation at the instrument –making enterprises it is necessary to take into consideration all kinds of risks, which may arise herewith. For these reasons, given the high risk profile in the planning process of the reengineering program presented in Figure no. 1, the authors (we) systematize the groups of risks and identify their species (Figure no. 2).

4. METHODOLOGY AND DATA CONSTRUCTION

Taking into account the above, we will assess the degree of risk of the project of reengineering the technological business process of the instrument-making enterprise. To do this, consider (apply) the methodology for assessing the risk of inefficiency of a business process reengineering project based on fuzzy descriptions, for this we make the following assumptions:

- all the investment receivables coincide with the beginning of the investment process;
- the evaluation of the liquid cost of the project is carried out "post factum" after the end of the project life.

Then the correlation for the *NPV* reengineering project will appear as follows:

$$NPV = -I + \sum_{t=1}^{T} \frac{\Delta CF_t}{(1+r_t)^t} + \frac{C}{(1+r_{T+1})^{T+1}} \qquad (1)$$

where I – the starting investment volume in the reengineering project, UAH; T – the amount of scheduled intervals (periods) of the investment process, which correspond to the reengineering project life, months or quarters; ΔCF_t – increment of the money flow y in t^{th} period from implementation of this reengineering project, UAH; r_t – discounting rate, chosen for t^{th} period with consideration of the expected capital value assessment used in the project (expected long-term loan rate), relative units; C – liquid net asset value formed during the in the course of the reengineering process (including the residual fixed assets value in the enterprise balance), UAH; $(T+1)$ – time interval that does not refer to the reengineering project life but is distinguished in the model for the fixation of the settlement payments end period for all of the parties participating in the investment process, when the final financial result of the project becomes definite.

The business process reengineering project is recognized as effective when *NPV* is evaluated according to the formula (1), more definite project level G (in the most widely spread case $G = 0$).

If all the parameters in the formula (1) are «fuzzy», in other words their exact planning value is unknown, then it is reasonable to use the triangular fuzzy numbers having a type membership function as the primary data, as it is shown in Figure no. 3. These numbers represent the following statement: «Parameter A approximately equals to $\bar{a}$ and is definitely within the following range [a_{min}, a_{max}]».

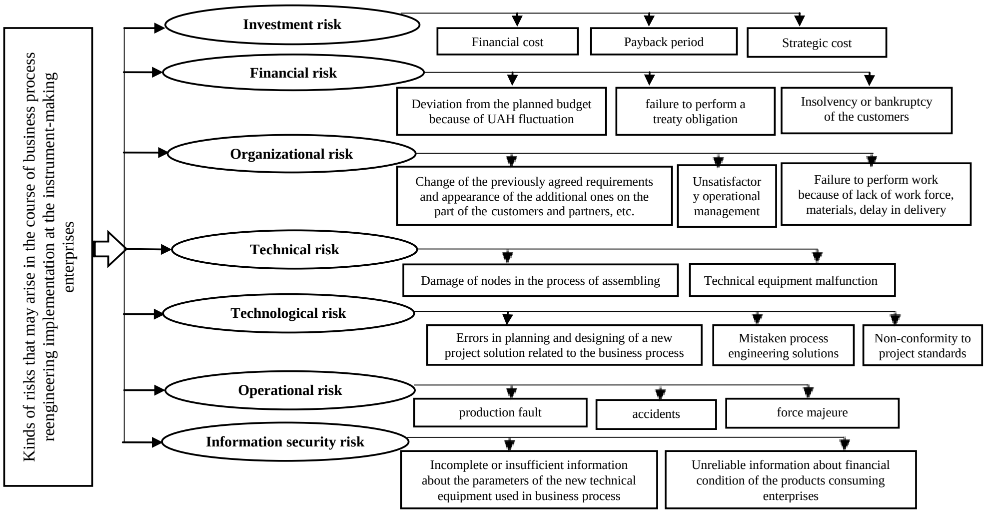


Figure no. 2 – Risk groups and their types that may arise in the course of business process reengineering projects implementation at the instrument-making enterprises

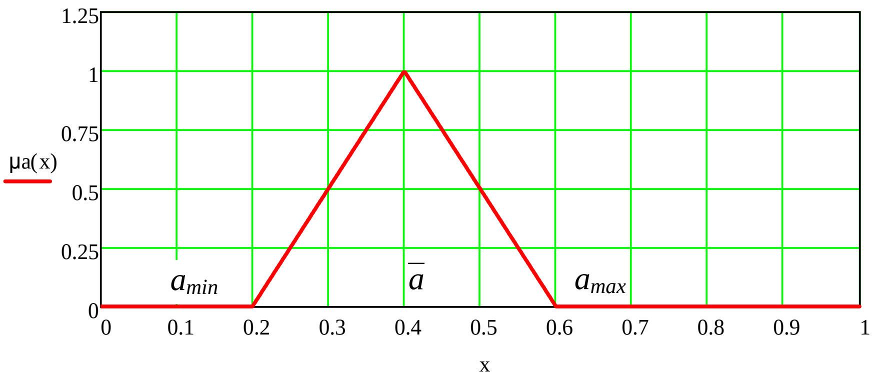


Figure no. 3 – Triangular number $\underline{A}$ = (*0,2; 0,4; 0,6*)

The received description allows the reengineering project developer take the ranging information [a_{min}, a_{max}] and the most expected value $\bar{a}$ as the primary one, and then the corresponding triangular number $\underline{A} = (a_{min}, \bar{a}, a_{max})$ as the built one. Then we are going to call the following parameters (a_{min}, $\bar{a}$, a_{max}) as the meaningful points of the triangular fuzzy number $\underline{A}$. Generally speaking, the allotment of three meaningful points of the primary data is widely spread in the investment analysis. Often these points are compared with subjective probability of the corresponding («pessimistic», «normal» and «optimistic») initial data scenarios. However, the decisions-making person has no right to operate probability, the values if which can be neither determined nor assigned. Therefore, in the investment analysis we replace the notion of «eventuality» with the notions of «expectation and possibility».

Now one may set the following set of fuzzy numbers to analyze the reengineering project efficiency:

1) $\underline{I} = (I_{min}, \overline{I}, I_{max})$ – an investor may not estimate exactly what investment resources level he will possess at the moment of the decision-making;

2) $\underline{r_t} = (r_{t\,min}, \overline{r_t}, r_{t\,max})$ – an investor may not estimate exactly the capital cost used in the reengineering project (for example, the correlation between own and borrowed funds, as well as interest of the long-term loans);

3) $\underline{\Delta CF_t} = (\Delta CF_{t\,min}, \overline{\Delta CF_t}, \Delta CF_{t\,max})$ – an investor forecasts the range of monetary results for the reengineering project implementation with consideration of possible fluctuation of the prices for the products being sold, cost of customer-related resources, terms of taxation, influence of other factors;

4) $\underline{C} = (C_{min}, \overline{C}, C_{max})$ – an investor inexplicitly imagines the potential conditions of future sale of the active business or its liquidation;

5) $\underline{G} = (G_{min}, \overline{G}, G_{max})$ – an investor inexplicitly imagines the criterion under which the reengineering project may be recognized as effective or by halves is aware of the fact what could be understood under the term of «effectiveness» upon the completion of the investment process.

It is worth mentioning that in the case any of the parameters $\underline{A}$ is definitely known or has been explicitly set, then the fuzzy number $\underline{A}$ is degenerated into the real number A with the fulfillment of conditions $a_{min} = \overline{a} = a_{max}$. Herewith, the essence of the method remains unchanged.

In such a way, the assignment of the investment choice in the above-mentioned statement includes the decisions-making process under the «fuzzy» conditions, when the decision is achieved by merging of objections and restrictions.

To transform the formula (1) into the form suitable for the application of fuzzy basic data, let's make use of a segmental method.

We set a fixed belonging level α and determine a corresponding to it probability intervals to two fuzzy numbers $\underline{A}$ and $\underline{B}$: $[a_1, a_2]$ and $[b_1, b_2]$, respectively. Then basic operations with fuzzy numbers come down to operations with their probability intervals. And operations with intervals, in their turn, are expressed through the operations with real numbers – intervals boundaries:

- "addition" operation:

$$[a_1, a_2]\ (+)\ [b_1, b_2] = [a_1 + b_1, a_2 + b_2] \tag{2}$$

- "subtraction" operation:

$$[a_1, a_2]\ (-)\ [b_1, b_2] = [a_1 - b_2, a_2 - b_1] \tag{3}$$

- "multiplication" operation:

$$[a_1, a_2]\ (\times)\ [b_1, b_2] = [a_1 \times b_1, a_2 \times b_2] \quad (4)$$

- "division" operation:

$$[a_1, a_2]\ (/)\ [b_1, b_2] = [a_1 / b_2, a_2 / b_1] \quad (5)$$

- "raise to the nth power" operation:

$$[a_1, a_2]\ (\wedge)\ i = [a_1, a_2^{i}] \quad (6)$$

For each fuzzy number in the base value structure we receive a probability interval $[I_1, I_2]$, $[r_{t1}, r_{t2}]$, $[\Delta CF_{t1}, \Delta CF_{t2}]$, $[C_1, C_2]$. And then, for the set level α, by means of substitution of the corresponding intervals boundaries in (1) according to the rules (2-6), we receive:

$$\begin{aligned}[\mathrm{NPV}_1, \mathrm{NPV}_2] &= (-)\ [\mathrm{I}_1, \mathrm{I}_2]\ \ (+)\,(\sum_{t=1}^{T})\,[\frac{\Delta CF_{t1}}{(1+r_{t2})^{t}}, \frac{\Delta CF_{t2}}{(1+r_{t1})^{t}}] \\ &(+)\ [\frac{C_1}{(1+r_{T+1,2})^{T+1}}, \frac{C_2}{(1+r_{T+1,1})^{T+1}}] = [-\mathrm{I}_2 + \sum_{t=1}^{T}\frac{\Delta CF_{t1}}{(1+r_{t2})^{t}} + \frac{C_1}{(1+r_{T+1,2})^{T+1}}, \\ &-\mathrm{I}_1 + \sum_{t=1}^{T}\frac{\Delta CF_{t2}}{(1+r_{t1})^{t}} + \frac{C_2}{(1+r_{T+1,1})^{T+1}}].\end{aligned} \quad (7)$$

Having been given an acceptable digitalization level by α on the belonging interval [0, 1], we can reconstruct the resulting fuzzy number $\underline{NPV}$ by approximation of its belonging function μ_{NPV} by means of broken curve according to the interval points.

Often it turns out to be possible to bring $\underline{NPV}$ to the triangular type, being limited by calculations of meaningful points of fuzzy numbers of the basic data. It allows calculating all the key parameters in the risk level assessment not approximately but based on analytical correlations.

The final value if the project inefficiency risk level (Voronov and Maximov index) is calculated in the following way:

$$V\,\&\,M = \begin{cases} 0, & if\ G < NPV_{min} \\ R\times(1+\dfrac{1-\alpha_1}{\alpha_1}\times ln(1-\alpha_1)), & if\ NPV_{min} \le G < \overline{NPV} \\ 1-(1-R)\times(1+\dfrac{1-\alpha_1}{\alpha_1}\times ln(1-\alpha_1)), & if\ \overline{NPV} \le G < NPV_{max} \\ 1, & if\ G \ge NPV_{max} \end{cases} \quad (8)$$

where:

$$R = \begin{cases} \dfrac{G - NPV_{min}}{NPV_{max} - NPV_{min}}, & if\ G < NPV_{max} \\ 1, & if\ G \ge NPV_{max} \end{cases} \quad (9)$$

$$\alpha_1 = \begin{cases} 0, & if\ G < NPV_{min} \\ \dfrac{G - NPV_{min}}{\overline{NPV} - NPV_{min}}, & if\ NPV_{min} \le G < \overline{NPV} \\ 1, & if\ G = \overline{NPV} \\ \dfrac{NPV_{max} - G}{NPV_{max} - \overline{NPV}}, & if\ \overline{NPV} < G < NPV_{max} \\ 0, & if\ G \ge NPV_{max} \end{cases} \tag{10}$$

Having examined the expression (8) for three separate cases, we receive:

1. In case $G = NPV_{min}$ (extremely low risk) $R = 0$, $\alpha_1 = 0$, $G' = NPV_{max}$, and the passage to the limit into (8) gives $V\&M = 0$.
2. In case $G = G' = \overline{NPV}$ (average risk) $\alpha_1 = 1$, $R = (NPV_{max} - \overline{NPV})/(NPV_{max} - NPV_{min})$, the passage to the limit into (8) gives $V\&M = (NPV_{max} - \overline{NPV})/(NPV_{max} - NPV_{min})$.
3. In case $G = NPV_{max}$ (extremely high risk) $R = 1$, $\alpha_1 = 0$, $G' = 0$, and the passage to the limit into (8) gives $V\&M = 1$.

In such a way the risk level *V&M* takes on a value from 0 to 1. Every investor, on the basis of his/her investment advantages can classify the *V&M* value, distinguishing for him/herself a segment of the unacceptable risk values. More detailed gradation of the risk levels is also possible. For example, if to introduce «a risk level» linguistic variable with its term-range of values {Insignificant, Low, Average, Relatively high, Unacceptable}, then every investor will be able to make his/her own description of the corresponding fuzzy subsets, having defined five belonging functions $\mu(V\&M)$.

5. RESULTS AND DISCUSSION

As a practical realization of the offered method let's calculate the risk level in the course of business process reengineering for the TERRA dosimeter assembling at PE RDE Sparing-Vist Center.

In such a way, to calculate risk level in the course of the business process reengineering for the TEPPA dosimeter assembling let's make use of the following data: TERRA dosimeter price– 2500 UAH; dosimeter prime cost – 800-1000 UAH; dosimeter production rate within 1 month:

- minimum – 5 pcs;
- maximum before the reengineering – 555 pcs;
- maximum after the reengineering – 800 pcs.

Correspondingly, the money flows including tax on income payment (18%), will monthly equal to:

- minimum – 5×(2500-1000)×0.82=6150 (UAH);
- maximum before the reengineering – 555×(2500-800)×0.82=773670 (UAH);
- maximum after the reengineering – 800×(2500-800)×0.82=1115200 (UAH).

The money flows growth from the reengineering business process implementation will equal to – 1115200-773670=341530 (UAH).

The expenditures for the reengineering business process implementation for the TERRA dosimeter assembling equal to 850 thousand UAH.

Let's apply the above-mentioned risk assessment method to the business process reengineering project for TERRA dosimeter assembling. The basic data of the reengineering project of this business process are as follows: $T = 12$ *months,* $\underline{I} = 850$ *thousand UAH* – exactly known investment amount, $\underline{r_1} = \underline{r} = \underline{r_2} = (0.25;\ 0.45;\ 0.65)$ *relative values* on a per year basis, $\underline{\Delta CF_1} = \underline{\Delta CF} = \underline{\Delta CF_2} = (6.2, 173.8, 341.5)$ *thousand UAH/month*, $\underline{C} = (0, 0, 0)$ – residual value of the project equals to zero, $\underline{G} = (0, 0, 0)$ – *NPV* positive value is the effectiveness criterion .

Calculation data according to the formula (7) for the belonging levels $\alpha = [0, 1]$ with step 0.25 are presented in Table no. 1.

Table no. 1 – Calculation data of the business process reengineering project efficiency for TERRA dosimeter assembling

α	Probability intervals according to the belonging level of α for:		
	r	***ΔCF***	***NPV***
1.00	[0.45; 0.45]	[173.8; 173.8]	[805.0; 805.0]
0.75	[0.40; 0.50]	[131.9; 215.7]	[376.0; 1255.0]
0.50	[0.35; 0.55]	[90.0; 257.7]	[-33.2; 1728.0]
0.25	[0.30; 0.60]	[48.1; 299.6]	[-423.7; 2223.2]
0.00	[0.25; 0.65]	[6.2; 341.5]	[-796.3; 2743.1]

Approximation of μ_{NPV} function shows its proximity to triangular type (Figure no. 4) and this type we will use in our calculations.

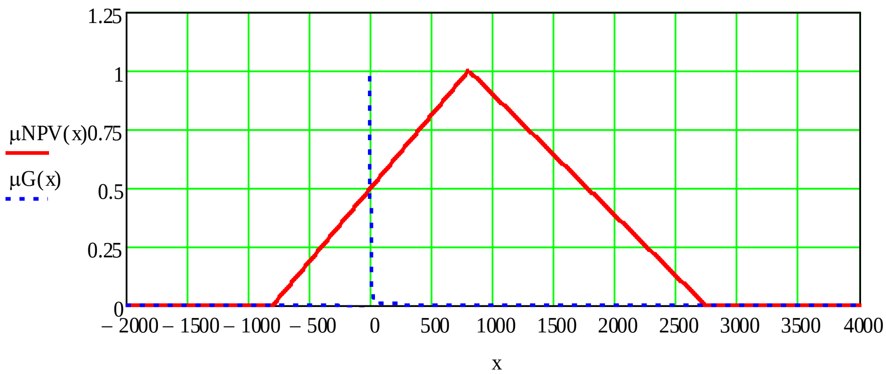


Figure no. 4 – Bringing of the *NPV* belonging function to triangular type

$$\mu_{NPV}(x) = \begin{cases} 0, & if \quad x < -796{,}3 \\ \dfrac{x + 796{,}3}{805 + 796{,}3}, & if \quad -796{,}3 \le x < 805 \\ \dfrac{2743{,}1 - x}{2743{,}1 - 805}, & if \quad 805 < x \le 2743{,}1 \\ 0, & if \quad x > 2743{,}1 \end{cases} \tag{11}$$

Let there was made a positive decision about the employment of capital in business process reengineering project for TERRA dosimeter assembling. Then $\alpha_1 = \mu_{NPV}(0) = 0.497$, $G' = \mu_{NPV}^{-1}(\alpha_1) = 1783$, and according to (8-10), $R = 0.225$, and $V\&M = 0.069$.

To construct a “risk level” linguistic variable with its term-range of values {Insignificant, Low, Average, Relatively high, Unacceptable}, let’s calculate the *V&M* value, which will correspond to the term of «Relatively high» risk. For this purpose changing the investment amount we match such value when *NPV* of the project according to the belonging level $\alpha = 1$ equals to zero. It will be $\underline{I}$ = *1655 thousand UAH.* All other basic data of the project remain unchanged.

Calculation data according to the formula (7) for the belonging levels α = [0, 1] with step 0.25 are presented in Table no. 2.

Table no. 2 – Calculation data of the project efficiency when $\underline{I}$ = *1655* thousand UAH

α	The probability intervals according to the belonging level of α for:		
	r	***ΔCF***	***NPV***
1.00	[0.45; 0.45]	[173.8; 173.8]	[0.0; 0.0]
0.75	[0.40; 0.50]	[131.9; 215.7]	[-429.0; 450.0]
0.50	[0.35; 0.55]	[90.0; 257.7]	[-838.2; 923.0]
0.25	[0.30; 0.60]	[48.1; 299.6]	[-1228.7; 1418.2]
0.00	[0.25; 0.65]	[6.2; 341.5]	[-1601.3; 1938.1]

Approximation of μ_{NPV} function in this particular case will look as follows (Figure no. 5):

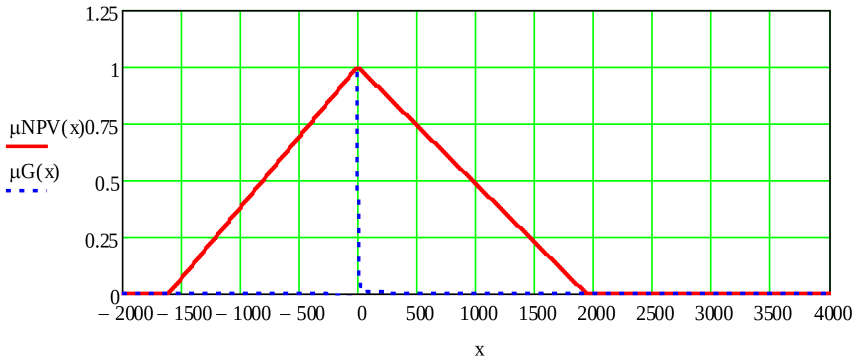


Figure no. 5 – Bringing of the belonging function to the triangular type in case of «Relatively high» risk level

$$\mu_{NPV}(x) = \begin{cases} 0, & if \quad x < -1601{,}3 \\ \dfrac{x + 1601{,}3}{0 + 1601{,}3}, & if \quad -1601{,}3 \le x < 0 \\ \dfrac{1938{,}1 - x}{1938{,}1 - 0}, & if \quad 0 < x \le 1938{,}1 \\ 0, & if \quad x > 1938{,}1 \end{cases} \tag{12}$$

Then $\alpha_1 = \mu_{NPV}(0) = 1$, $G' = \mu_{NPV}^{-1}(\alpha_1) = 0$, and, according to (8-10) $R = 0.452$, and $V\&M = 0.452$.

The rule for identification of risk level for the evaluated business process reengineering project at the enterprise based on Voronov and Maximov (*V&M*) index value has been calculated according to the formula (8) presented in Table no. 3.

Table no. 3 – Identification of risk level of the business process reengineering project at the enterprise according to the *V&M* index value

***V&M* value interval**	**Risk level (linguistic variable)**	**Level of the estimated certainty (belonging function)**
$0 \leq V\&M < 0.02$	Insignificant	$\mu_1 = 1$
$0.02 \leq V\&M < 0.12$	Insignificant	$\mu_1 = 10 \times (0.12 - V\&M)$
	Low	$\mu_2 = 1 - \mu_1$
$0.12 \leq V\&M < 0.16$	Low	$\mu_2 = 1$
$0.16 \leq V\&M < 0.26$	Low	$\mu_2 = 10 \times (0.26 - V\&M)$
	Average	$\mu_3 = 1 - \mu_2$
$0.26 \leq V\&M < 0.32$	Average	$\mu_3 = 1$
$0.32 \leq V\&M < 0.42$	Average	$\mu_3 = 10 \times (0.42 - V\&M)$
	Relatively high	$\mu_4 = 1 - \mu_3$
$0.42 \leq V\&M < 0.5$	Relatively high	$\mu_4 = 1$
$0.5 \leq V\&M < 0.6$	Relatively high	$\mu_4 = 10 \times (0.6 - V\&M)$
	Unacceptable	$\mu_5 = 1 - \mu_4$
$0.6 \leq V\&M \leq 1.0$	Unacceptable	$\mu_5 = 1$

The risk level identification results for the business process reengineering project of the TERRA dosimeter assembling attests to the fact that this risk level may be classified as 51% «insignificant» and 49% «low».

6. CONCLUSIONS

To provide a successful implementation of the business process reengineering projects accompanied by high risk level, which is a constraining factor for the heads and managers of the enterprises in a decision-making process regarding implementation of such projects, as a result of the carried out investigation there have been systematized and distinguished the risk groups that exist in the course of business processes reengineering at the instrument-making enterprises, among which: an investment, financial, organizational, technical, technological, operational and information security risk. In order to evaluate the effect that these risks have on the efficiency of the reengineering projects there has been offered to use the method, which is based on fuzzy set theory (in particular, triangular numbers). The advantage of this methods over the existing ones is that it does not require any probability values for occurring of these or those negative events, which are unknown and cannot be positively identified as long as are random variables. Therefore, in the offered investment analysis there was replaced the notion of «eventuality» with the notion of «expectation and possibilities». Besides, there has been developed a rule for identification of the risk level to evaluate the business process reengineering projects based on Voronov and Maximov index value.

In exemplification of the offered method application there was carried out an economic and mathematic modeling of the risk level assessment in the course of business process reengineering for the TERRA dosimeters assembling at PE RDE Sparing-Vist Center. The calculation data are indicative of the fact that the risk level in the course of reengineering of the studied business process may be classified as 51% «insignificant» and 49% «low», which proves the expediency of this project implementation.

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