The Mechanism of Formation of the Resource Potential of a Functioning Enterprise Taking into Account the Risk

Voronina N.V.
Pacific State University, Khabarovsk, Russia

Steksova S.Yu.
Pacific State University, Khabarovsk, Russia
e-mail: nat_vnv@mail.ru

Abstract—The article presents a comprehensive study of the mechanisms for the formation, implementation and effectiveness evaluation of the resource potential use. The evaluation is based on a multilevel system of indicators taking into account the specified characteristics of the corresponding resources. While working out this evaluation system it required developing the terminology for the theory of the resource potential formation and realization as a determined system. Potential components according to the organization levels and risk types were emphasized. Methodical bases of the enterprise resource potential evaluation were improved. The quantitative significance of investment risk subtypes was defined. Main potential directions of the enterprise development were determined taking into account all available opportunities and limitations. Potential control indicators system was worked out taking into account the influence of the internal and external environmental factors. The use effectiveness of the company’s resource potential was evaluated on the basis of an unambiguous quantitative assessment using the taxonomic method with the help of a composite index based on the additive functional dependence. Final evaluation of the resource potential management system was made taking into account the impact of investment risk. Factors which are the basis of dividing enterprises into four groups were determined and systematized. Mechanism for estimation of the resource potential use efficiency as well as recommendations for its further development were proposed.

Keywords—resource potential, investment risk, effectiveness of the use, composite index.

I. PROBLEM STATEMENT

The main condition of the current stage of development is not the quantitative increase in the potential, but the rational use of the one that exists and its increase in the directions where it is possible to obtain socio-economic returns. The development and competitiveness of any enterprise depends on the assessment of the use of all available resources. In this regard, a quantitative assessment of the degree of the enterprise resource potential use will allow to make timely decisions in order to optimize the components of the resource potential and to search for internal reserves of development. The analysis of the publications devoted to the estimation of the efficiency of the enterprise resource potential use showed that the approaches based on the matrix model, SWOT analysis, competitive environment analysis, integrated resource-market approach and others, have their limitations and application difficulties. In most cases, they do not take into account the risk factors that influence the formation and return of the resource potential [1-13, 17-19].

II. PROBLEM SOLUTION

The resource potential of the enterprise is the aggregate of the resources of the economic entity at its disposal, the resources that characterize the possibility of a given socioeconomic system to implement a purposeful activity taking into account the influence of the internal and external environment factors [14]. Based on the analysis of the internal environment of the aggregate of a number of functioning enterprises, the composition of the resource potential was revealed. It is an ordered set of the enterprise’s possibilities, with the use of which the realization of its basic functions is ensured (Table 1). At a time when the market is not ideal, the impact of environmental factors limits the use of each type of potential. These restrictions can be represented by the appropriate type of risk.

| TABLE 1. COMPOSITION OF THE RESOURCE POTENTIAL BY SUBSYSTEMS |
|---------------------------------------------------------------|
| Components | The enterprise potential by organization levels | Components |
| Property potential | Financial and economic level | Financial and economic risk |
| Sales potential | | |
| Logistic potential | | |
| Financial potential | | |
| Investment potential | | |
| Innovation potential | | |
| Scientific and technological potential | | |
| Intellectual potential | Organizational and economic level | Social risk |
| Potential of enterprise life cycle | | |
| Human resources potential | | |
| Market potential | Organizational and business level | Criminal risk |
| Competitive potential | | |
| Productive-progressive potential | Technical and technological level | Industrial and technological risk |

Copyright © 2019, the Authors. Published by Atlantis Press.
This is an open access article under the CC BY-NC license (http://creativecommons.org/licenses/by-nc/4.0/).
The authors expanded the multilevel system for assessing the resource potential, which was subsequently used to determine the effectiveness of its functioning (see Fig. 1). The result of the evaluation should be a clear, unambiguous, symbolically expressed result. Therefore, a complex quantitative assessment will be carried out using a composite index based on the additive functional dependence. This index is formed from a great number of particular factorial features, which are characterized by the corresponding indices.

To bring the dissimilar particular indices of the potential to a comparable form, the multidimensional average procedure for preliminary standardization (normalization) of their values is applied.

$$R = \frac{\sum_{i=1}^{n} p_i \cdot j_i}{\sum_{i=1}^{n} j_i}$$  \hspace{1cm} (2)

where $n$ – number of indicators; $p_i$ – characteristics of the indicator; $j_i$ – the weight of the indicator.

In this study, the risk level was estimated with the help of expert assessments and four subtypes of investment risk were marked out. These subtypes have a significant impact on the resource potential of the enterprise: social; criminal; financial and economic; industrial and technological. As a result of the expert survey, the significance of each type of risk was quantitatively determined (Table 2).

| Risk type                        | Significance |
|----------------------------------|--------------|
| Social risk                      | 0.14         |
| Criminal risk                    | 0.07         |
| Financial and economic risk      | 0.85         |
| Industrial and technological risk | 0.11         |

In accordance with the above methodology and taking the risk into account, a comprehensive assessment of the resource potential is performed.
Potential was tested using the data of a hundred enterprises of the Khabarovsk Territory and it is presented in Table 3. The enterprises are divided into four groups based on the factors restraining their overall economic growth: the high cost of materials, structures and products; insolvency of customers; high level of taxes; shortage and deterioration of construction machines, insufficient machinery and equipment leasing.

According to the classical definition, efficiency is the relationship between the results obtained and the resources involved, reasoning from this, the condition of the effectiveness of the enterprise resource potential use is determined by the following inequality:

\[ E = \frac{\Delta P}{\Delta P^*} \geq 1 \]  

(3)

where \( E \) - effectiveness; \( \Delta P \) - change in financial results of the enterprise activities; \( \Delta P^* \) - change in the level of the enterprise resource potential.

If \( E > 1 \), then the enterprise resource potential is used quite effectively and the enterprise has the opportunity to increase its value. If \( E < 1 \) the enterprise resource potential is used inefficiently and it is necessary to revise the enterprise development strategy taking into account external and internal factors. If \( E = 1 \) the resource potential is used quite effectively but there are no grounds for its further increase.

To evaluate the effectiveness of the potential use a "conditional standard model" should be created. The standard in this case will be the best value of the indicator for each type of potential among the enterprises in question. The results of the calculation and the effectiveness evaluation of the resource potential use are presented in Table 4.

Based on the evaluation of the efficiency of the enterprise resource potential use, it is possible to adjust its value and form a set of measures for its further development.

### III. Conclusion

In the economic practice of functioning enterprises, incomplete use of resources and opportunities for their processing is observed. Real consumption of resources is always less than the existing possibilities of use. In this regard, options for the possible use of available resources are presented. Absolute opportunity, when the size of resources to the full allows you to realize the activity. Real - additional growth of resources does not affect the increase in performance; unit costs per unit of production sharply increase. Effective - the results of activities are achieved by minimum resource costs. In order to effectively use the potential, it is necessary not only to know its composition and species, but also the conditions for using resources in which it is possible to achieve the desired result.

### References

1. Azoev, G.L., Chelenkov, A.P.: Competitive advantages of the company. Moscow (2007).
2. Arenkov, I.A., Salikhova, Ya.Yu.: Competitive potential of the enterprise: model and development strategies. Problems of modern economy. St. Petersburg: Publishing house of SPbGU EF (2011).
3. Kabdeshev, N.K.: Industrial potential of an industrial enterprise. Moscow (1989).
4. Sazonov, V.G., Lomonosova, E.V.: Increasing the efficiency of using the resource potential of enterprises: problems and solutions. Izvestiya of the Far Eastern Federal University. Economics and Management, (169) (2014).
5. Neyf, N.M., Dozorova, N.A.: Evaluation of the resource potential of the enterprise based on the matrix model. Izvestiya of the Nizhevolzhsk Agro-University Complex (2012).
6. Goncharov, V.N., Shkovkolyas, A. Sh.: Evaluation of the resource potential of enterprises/Economic and socio-humanitarian studies. № 2 (2016).
7. Fonotov, A.G.: Resource potential: planning, management. Moscow: Economics (1985).
8. Romanov, A.P., Gubanova, M.N.: The economic potential of the enterprise and its relationship with resource and production potentials. Issues of modern science and practice. University of. VI Vernadsky (7-9) (2010).
9. Dorofeeva, V.V.: The method of factor assessment of the influence of the external environment on the activities of enterprises. Discussion (2013).
10. Graboviy, P., Petrova, S., Poltavitsev, S.: Risks in the Modern Business. Moscow: Economics (1994).
[11] Yermasova, N.: Risk management of the organization. Moscow: Litres (2017).

[12] Golaydo, I.M.: Investment potential of the region. Regional economy: theory and practice, (17) (2008).

[13] Babicheva N.E.: Integrated methodology for the economic analysis of the development of organizations using the resource approach. Economic analysis: theory and practice / N.E. Babicheva - 1 ed. add. (2013).

[14] Steksova S.Yu.: Evaluation of the competitiveness and efficiency of the use of the re-source potential of the enterprise: monograph / S.Yu.Steksova - Khabarovsk: publishing house of the National University (2017).

[15] Steksova S.Yu.: Resource potential of the construction company and evaluation of its efficiency: monograph / Smirnov BV, Stesova S.Yu. - Khabarovsk: publishing house of the National University (2014).

[16] Krasnokutskaya N.S.: Potential of the enterprise: training. allowance. N.S. Krasnokutskaya - Krasnoyarsk: TsNL (2015).

[17] Kiryukhin, V.V.: Investment risk in the analysis of investment attractiveness. Problems of the modern economy, (3-4), pp. 240-243 (2006).

[18] Melnikov, V.S.: Investment risk in the analysis of the investment climate and attractiveness. Siberian Financial School, (3), pp.99-105 (2003).

[19] Voromina, N.V.: Management of innovation resources of enterprises. - Khabarovsk: publishing house of the National University (2010).

[20] Review of the main enterprises and organizations of Khabarovsk Krai, development statistics. LNCS Homepage, http://habstat.gks.ru, last accessed 2017/12/01.