Estimation Methods of Cost of Competitiveness Potential of a Transport Enterprise

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Abstract: The article deals with a methodological approach to the cost estimation of competitiveness potential of a transport enterprise. The sequence of estimation of competitiveness potential of a transport enterprise is suggested to be carried out in several stages. A competitive status of the transport enterprise is defined at the first stage by means of a construction of competitiveness matrix. The competitiveness coefficient of transportation service is defined at the second stage. Then competitiveness of all services of transport enterprise is analyzed and the average value of competitiveness of all transport and related services is obtained by means of defining the estimation. Having defined the indicators of competitiveness and the cost of transport enterprise, we estimate market cost of competitiveness potential appropriately. At the next stage of the analysis of efficiency of control of competitiveness potential it is necessary to estimate achievement of development aims and strategic plan of the transport enterprise. In order to estimate the development efficiency and competences implementation and competitive advantages in terms of the market we use traditional approach to the analysis of efficiency according to the effect and cost of the resources spent for its obtaining.

I. INTRODUCTION

Scientific achievements in formalization of the management theory for the enterprise potential development, market competitiveness, competitive advantages formation and their implementation confirm that there is a sufficient theoretical basis formation of the tools for estimating the potential and competitiveness of transport enterprises.

Lack of systemacy and particular specialization in researches concerning kinds of transport and transportation are still the problems.

According to Vovk O.M., estimation of the enterprise potential is concerned with the integral representation of current and future abilities of the economic system to transform input into economic benefit by means of its inherent enterprising capacities and to reach the aim in this way. (Vovk 2013).

Competitiveness potential analysis is based on the methods used for defining the market place of the enterprise and

Revised Manuscript Received on November 15, 2019
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influence of the external environment. But competitiveness estimation doesn't solve the problem of strategic raising the potential cost and effectiveness of its use.

Volosova V.O and Petukhov O.M. consider that the relative nature of the concept should be taken onto account during the process of substantiation of estimating competitiveness of production of concrete enterprise: production competitiveness can be defined only by means of comparison with the similar production; every customer has his/her own criterion for estimation of production, which is confirmed with a specific market. (Volosova and Petukhov 2014).

Objectives: Development of methodological approach to estimating competitiveness potential, which is opposed to the actual methods, based on combination of analysis of internal and external environment of transport enterprise.

II. METHODS

The theoretical and methodological basis of the research is given the scientific works of the classics of economic science, the works and publications of leading scientists and specialists in the field of the theory of economics, theory of innovation, philosophy, marketing, management, as well as special methodological literature on the development and realization of enterprise potential. To solve the problems of this study, common scientific methods were applied: the method of estimating the potential cost, the method of estimating the cost of the potential of competitiveness, the methods of estimating quantitative and qualitative indicators of resources.

Questions of the theory and practice of the enterprise potential management have been studied by a large number of scientific works by native and foreign economists, such as: I. Ansoff, I. Blank, R. Grant, O. Dobikina, I. Dolzhanskiy, P. Drukker, F. Evdokimov, O. Korenkov, N. Krasnokutskaya, E. Lapin, O. Oleksyuk, M. Porter, I. Repina, V. Ryzhikov, O. Fedonin, O. Freidman, D. Chernikov, V. Shchelkunov and many others. The essence and content of competitive potential are researched in the works of G. Azoev, L. Balabanova, A. Voronkova, V. Heitz, V. Gerasymchuk, V. Dykan, B. Karlof, I. Kirchata, D. Stephen, O. Tridida, V. Chobitok etc. In the works of B. Bachevsky, Y. Knyazyk, T. Lebed, I. Trailers, E. Tsybulska, the concept of the competitiveness potential of enterprises is partially revealed.

Despite considerable scientific interest in the problem outlined, it has not yet been systematically reflected in scientific research. Due to the diversity of approaches to the coverage of these topics in scientific publications, not all essential aspects of effective management of enterprises' competitiveness potential have been reflected in the scientific

literature. The problems of developing the theoretical, methodological, and practical recommendations to improve the management of the potential of competitiveness of the transport enterprises have been studied insufficiently.

III. RESULTS

The suggested methodological approach to the estimation of the efficiency of competitiveness potential is based on estimation of quantitative and qualitative indicators of resources and capacities and represents the effectiveness of competences implementation and competitive advantages at the market.

In order to substantiate the methodological approach to assessing the efficiency of competitiveness of transport enterprises, a method of "estimation of the cost of competitiveness potential" was suggested, which takes into account the economic parameters of the resources, opportunities and competences of economic potential and its development in a competitive environment in the form of competitive advantages. Is grounded on the analysis of the effect on the aggregate value of internal and external factors.

IV. DISCUSSION

Complex integral methods which are based, as a rule, on expert researches of effect of one or another factor, have been widespread lately. One-purpose methodological approaches enable to solve problems concerning analysis of the state of the enterprise potential or to fix an integrated criterion to define competitive status and place of the enterprise at the market.

Graphic methods of the analysis of potential competitiveness of the enterprise make it possible to define the place of production or enterprise in the market environment. In case of a substantiated choice of estimating parameters it is possible even to define raising provision for competitive status.

Analysis of the methods of the production competitiveness estimation and enterprises potential has shown that the set of indicators of the effect of environment is the basis for estimation. Indicators consistency and choice are formed by setting the aims of estimation, basic features of estimated object, consistency and tools for estimating, and the environmental factors.

At transport enterprises estimation of the competitiveness potential is usually carried out by means of integral or graphic methods. Transportation services or enterprises of the same market are the object of estimation (Mikhailenko 2013, Kano Noriaki et al. 1984, Dubovik 2012), at that the estimation is based on expert determination of the set of indicators and estimation of weight factors in integral criterion of comparison using parametric technique.

There are several methods of competitiveness estimation, but integral factors are mainly used. In combination with graphic or rating methods they represent the place of service or enterprise at the market. However, there are no estimation of management control for competitiveness potential and analysis of environmental influence on potential formation and implementation.

To substantiate methodological approach to estimation of the potential competitiveness efficiency of transport enterprises it is suggested to take into account economic parameters of resources, possibilities and competences of economic

capacity and its development in competitive environment in the form of implemented competitive advantages.

The sequence for estimating the competitiveness potential at transport enterprises should correspond to the stages of the process of potential development control as well as to the principles and functions of its implementation (Fig. 1).

The common formula for rating the resources cost at the input is the following:

$$C_{ijic} = \sum_{j=1}^{g} \sum_{i=1}^{n} (P_i * V_i) * \frac{\sum_{\kappa=1}^{K} Im_\kappa}{K} * \frac{\sum_{\kappa=1}^{K} If_\kappa}{K} * \frac{\sum_{\kappa=1}^{K} \Pi m_\kappa}{K} * \frac{\sum_{\kappa=1}^{K} I\inf_\kappa}{K} * \frac{\sum_{\kappa=1}^{K} Iiin_\kappa}{K} * \frac{\sum_{\kappa=1}^{K} \Pi u\text{в}_\kappa}{K} * \frac{\sum_{\kappa=1}^{K} In_\kappa}{K} * \frac{\sum_{\kappa=1}^{K} Iia_\kappa}{K} \quad (1)$$

where $C_{ij}ic$ – initial cost of i-kind of resource from j-source of supply, P_i – cost of resources, V_i – volume of demand for resources, i – kind of resources, n – number of kinds of resources, j – sources of supply, g – number of sources of supply, I_m – indicators of material resources, I_f – indicators of bankroll, I_{inf} – indicators of information resources, I_{inn} – indicators of innovative resources, I_{inv} – indicators of investment resources, I_n – indicators of natural resources, I_{ia} – indicators of intangible assets, k – indicator of i-group of indicators, K – number of indicators of resources type.

So, the cost of resources involvement to the enterprise is defined by the expenditure approach to the estimation of the enterprise potential and accounts the influence of the market factors.

Having defined the initial cost of resources involvement, that accounts not only the price of the resources but also the influence of processes of supply and putting into operation, we estimate a further change of the resources cost of competitiveness potential in the transport enterprise activity. In the process of control, it is important to define the trends of the influence of indicators change of use and optimality of resources composition for reducing cost of services, increasing correspondence with customers' demands and quality and competitiveness at the market. (Tab. 1).

Time of economic activity of transport enterprises concurs with the moment of services provision. That's why not only the processes of change of money value (we did it using the tools of discounting), but also change of market conditions for resources involvement should be accounted when estimating competitiveness potential.

So, the next stage of estimating competitiveness potential is implemented by
means of a comparative approach to the estimation of potential cost using the method of sales comparison:

$$C_{ij}r = C_{ij}n * I * \sum_{n=1}^{N} Kn \quad (2)$$

where $C_{ij}r$ – renewed cost of competitiveness potential, Kn – correcting coefficient according to parameter n, I – price index for resources in the period from their purchasing to the moment of their estimation.

Estimation of the efficiency of formation and rise of competitiveness potential at transport enterprises, which is changed under the influence of internal environment and effectiveness of control systems, is done by means of analysis of the processes of the assets capitalization. This method is used for estimation of the market status of the enterprise and represents the influence of effectiveness and profitability to competitive level of the enterprise. The common formula for defining the market

cost of the potential is the following:

$$Cr = \frac{NOP}{Kc} \quad (3)$$

where Cr – cost of competitiveness potential according to the results of its implementation, NOP – net operational profit, Kc – capitalization coefficient.

The next stage in the efficiency estimation of competitiveness potential control is defining the level of its market capabilities, which are interpreted in specific status. For this purpose we define competitiveness of the transport enterprise at the market. It should be taken into account that the internal economic potential is a potential forming factor. Rating estimation shouldn't be the result of estimation. It should be expressed as an indicator of competitiveness influence on the potential cost and efficiency. Therefore we suggest using a grade method for defining the competitiveness. The sequence of estimation of potential competitiveness of transport enterprises contains two main components:

1. Competitive status of the transport enterprise is defined by means of constructing matrix of competitiveness. Indicators of the efficiency of the resources use and capacities are analyzed, and the significance of the indicators is defined experimentally. Then perspective and depressive spheres of control are analyzed by means of the radar of competitiveness and value of competitiveness of the transport enterprise (K_{te}) is formalized into a unit system of estimation.

2. Coefficient of transport service competitiveness is defined by the following formula:

$$K_i = \sum_{i=1}^{n} L_i \left(\frac{P_i}{P_{ie}} \right)^{\beta_i} \quad (4)$$

where $i = l, \ldots, n$ – number of service parameters which take part in estimation; L_i – coefficient of importance (significance) in comparison with the rest essential service parameters; P_i – actual value of i-parameter; P_{ie} – desired or reference value of i-parameter which makes it possible to meet demands of the customer; $\beta_i = +1$, if the rise of P_i value favors the growth of the service competitiveness (e.g. service reliability etc.). $\beta_i = -1$, if the rise of P_i value results in decrease of service competitiveness (e.g. terms, price, etc.).

Then competitiveness of all services of the transport enterprise is analyzed and the average value of competitiveness of all transport and related services is obtained by means of defining the estimation:

$$K_n = \sum_{i=1}^{J} \frac{P_i}{P_{ie}} / J \quad (5)$$

where K_n – competitiveness coefficient of aggregate transport and related services, j – number of services at the transport enterprise.

It should be noted that the values obtained also vary from 0 to 1, as by estimating competitiveness of transport enterprise.

Having defined the indicators of competitiveness and cost of the transport enterprise, we estimate the market cost of competitiveness potential according to the formula:

$$C_{CPTE} = (C_{ij} r * K_n + Cr * K_{te}) / 2 \quad (6)$$

where C_{CPTE} – cost of competitiveness of potential of the transport enterprise,. K_{te} - coefficient of competitiveness of the transport enterprise.

At the next stage of the analysis of effectiveness of control of competitiveness potential it is necessary to estimate the achievement of development aims and strategic plan of the transport enterprise. There to, actual indicators of competitiveness (enterprise, production) and cost rise (as potential so goodwill) are compared with the planned ones. It makes it possible to define dynamics of competitiveness potential development, to reveal problems and prospects for controlling resources, capacities or methods of control system.

In order to estimate development efficiency and competences implementation and competitive advantages in terms of the market we use a traditional approach to efficiency analysis according to the effect and cost of the resources spent for its obtaining. The author of the article considers as the effect either net profit of transport enterprise or goodwill growth:

$$E_{CPTE} = NP / C_{CPTE} \quad \text{or} \quad E_{CPTE} = G / C_{CPTE.} \quad (7)$$

V. CONCLUSIONS

The relevance of the study of the role and impact of the enterprise competitiveness in the processes of increasing and realizing its potential, as an important and methodologically productive factor in the development of the economic system, is due to the increasing uncertainty of the conditions of the enterprises functioning, increased competition for the markets, as well as the need for efficient use of technological opportunities, justification of conditions of competitive partnerships, increase of profitability level and rate of capitalization, as well as the market status.

LIMITATIONS

In order to evaluate the effectiveness of the development and implementation of competencies and competitive advantages in the market environment, we use the classic approach of analyzing efficiency by the effect and cost of resources spent on obtaining it, although other approaches to making efficiency analysis could be used.

RECOMMENDATIONS

In order to estimate the potential for competitiveness in transport, it is important to ensure systematicity, to avoid narrow specialization in research on modes of transport and modes of transportation taking into account transport features.

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9. Fig. 1. The process of estimating competitiveness potential* *developed by the author.*

10. Table 1. Criteria for resources optimization in the process of efficiency estimation of competitiveness potential control at transport enterprise.

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