International Business Management 10 (18): 4311-4312, 2016
ISSN: 1993-5250

Main Critera Which Help to Identify Enterprises with Weak Dynamic

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Abstract: There are described some problems to form quantitative criteria for detection of enterprises with weak dynamic. These criteria can be used for compiling of rating of the most vulnerable enterprises during time of crises in order to create program of target support.

Key words: Enterprise with weak dynamic, crisis, rate of weak dynamic, target support, detection

INTRODUCTION

Sustainable and effective development of economy in condition of global instability and threat of crisis processes is impossible without detailed elaboration of strategies to support enterprises with weak dynamic which are very important for economy. Crisis-resistance of these enterprises significantly depends on availability of an optimal program to support them as well as on highly qualified specialists which are able to realize the program accurately. If means to reach maximum effect from its investment are limited, it is necessary to form accurate criteria which can visually demonstrate rate of resistance to crisis processes. The maximum effect consists in the most significant leveling of influence of crises on certain branch or enterprise. As far as, improper estimations of enterprise stress-resistance can aggravate influence of crisis on economy, the problem to form criteria which promote detection of enterprises with weak dynamic is of great urgency. According to experience (Topsakhalova and Kirilenko, 2009; Sedelnikov and Klimachyova, 2012) just enterprises with weak dynamic are the most vulnerable during time of crisis. This vulnerability is objective and connected with features of an enterprise, sales of finished products, preparation of highly qualified specialists which are involved in production and also with age of the fifth informational revolution. Now the revolution brings new branch in economy to the fore. This branch is an information industry. Creating of new informational technologies is one of the most important components of this industry (Wiener, 1948). At that, it is necessary to differentiate criteria which are connected with features mentioned above. If crisis even influences production and sales of strategic products such as oil and gas resources, new technologies and products which allow application of these resources will promote overcoming of crisis dynamic and turn crisis into local process. At the same time crisis in information industry would provide harmful consequences for whole economy which is developed due to creating of new informational technologies in present (Toffler, 2002).

MATERIALS AND METHODS

Criteria which help to identify enterprises with weak dynamic were formed in this article. The criteria are connected with features of production and sales of finished products. Quantitative criteria were formed according to main factors of enterprises with weak dynamic which were identified and described in article (Sedelnikov and Khnyryova, 2014). These criteria show rate of demonstration of the factor and help to identify enterprises with weak dynamic. Long production cycle was mentioned as the first factor. So, dimensionless criterion can be introduced:

$$n_1 = n_{pc} = \frac{T_{pc}}{T_{cr}} \quad (1)$$

where, T_{pc} stands for duration of production cycle, R_{cr} stands for critical duration of production cycle which is supposed to be equal to half a year because calculations of value-added tax for production, sales of products and service begin only after this term according to The Tax Code of the Russian Federation. For enterprises with minor production cycle such as Samarsky Zhirkombinat JSC (Myasnikov *et al*., 2010, 2011), T_{pc} is about one day. Therefore:

$$n_{pc} = \frac{T_{pc}}{T_{cr}} = \frac{1}{182.5} \approx 0.0055$$

For enterprises of fish industry which growths up whitebait (Sedelnikov and Khnyryova, 2014) T_{pc} is about 3 years. Therefore:

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$$n_{pc} = \frac{T_{pc}}{T_{cr}} = \frac{1095}{182,5} = 6$$

Probability that part of the products would be unfinished in condition of recession in demand for these products is large since crisis has begun. But it is true only for enterprises with high value of criterion (1). In this case, it is necessary to give special support to the enterprise with the purpose to prevent suspension of production. It relates to finishing of production as well as to sales of finished products. Low working capital turnover is the second factor of enterprises with weak dynamic. So, dimensionless indicator can be introduced:

$$n_2 = n_{ow} = \frac{T_{ow}}{T_{cr}} \quad (2)$$

Where:

T_{ow} = Duration of one work of capital turnover

T_{cr} = The critical duration which complies with T_{cr} in Eq. 1

Middle remains of the capital turnover counted on 1000 units are M_t = 2,46 million rubles for small-scale enterprise of fish industry with middle duration of production cycle equaled to 3 years which is mentioned above. Middle volume of sold production for this enterprise is equal to V_s = 6,43 million rubles. Then duration is equal to (Gorfinkel and Shvandar, 2007):

$$V_s = 1640 \text{ years}$$

Where the time period when the rate of application of working capital turnover is fixing is considered to be equal to 4 years. Production of potatoes can be another example. During seven-month production cycle middle remains of the capital turnover counted on one center of potatoes is equal to M_t = 138,2 rubles. Middle volume of sold production for this enterprise is equal to T_{ow} = 210. M_t/V_s rubles. Then, duration is equal to:

$$T_{ow} = \frac{210 \cdot M_t}{V_s} = 18 \text{ days}$$

Where the time period when the rate of application of working capital turnover is fixing is considered to be equal to 4 years.

RESULTS AND DISCUSSION

If crisis begins, probability of non-sale of some finished production will increase for enterprises with high value of criterion (2) because of recession in the demand. It is necessary to support only sale of finished products for the purpose of prevention of suspension of production opposite to previous situation. Thus, two main quantitative criteria which help to identify enterprises with weak dynamic and are connected with features of production and sale of finished products were formed as a result of the conducted research.

Further research with the purpose of development of an optimal strategy to support enterprises with weak dynamic will consist of formation of quantitative criteria which are connected with preparation of high-qualified specialists in condition of informational revolution.

CONCLUSION

Moreover, it will consist of formulation of integral criterion which helps to distinguish enterprises with weak dynamic from each other.

REFERENCES

Gorfinkel, V.Ya. and V.A. Shvandar, 2007. Economy of the Enterprise. Publishing House Unity-Dana, Moscow, Russia, Pages: 608.

Myasnikov, S.V., A.V. Sedelnikov and E.S. Khnyryova, 2010. Forecasting of sales volume of margarine. Eur. J. Nat. Hist., 6: 67-68.

Myasnikov, S.V., A.V. Sedelnikov and E.S. Khnyryova, 2011. Analysis of two approaches to modeling of sales volumes of margarine: Scientific notes. Electron. Sci. J. Kursk State Univ., 1: 43-49.

Sedelnikov, A.V. and E.S. Khnyryova, 2014. The main signs of the enterprises with weak dynamics needing additional grants during crisis. Mater. x Int. Sci. Pract. Conf. Sci. Horiz. Sheffield Engl., 1: 84-86.

Sedelnikov, A.V. and I.A. Klimachyova, 2012. Analysis of dynamics of indicators of the subsection D.A. Production of foodstuff across the Samara region during the crisis period for the purpose of creation of mathematical model. Humanitarian Soc. Sci., 1: 37-45.

Toffler, E., 2002. Shock of the Future. Publishing House AST, Moscow, Russia, Pages: 557.

Topsakhalova, F.M.G. and K.V. Kirilenko, 2009. Innovative Mechanisms of Economic Development of Agrarian and Industrial Complex of the Depressive Region. Russian Academy of Natural Sciences, Moscow, Russia, Pages: 250.

Wiener, N., 1948. Cybernetics: Or Control and Communication in the Animal and the Machine. MIT Press, Cambridge, Massachusetts, USA., Pages: 194.