ASSESSING THE SCALE AND READINESS OF COMPANIES TO ENTER THE WORLD MARKET OF INFORMATIONAL TECHNOLOGIES

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Abstract: *The article determines the readiness assessment of IT companies to enter the world market of informational technologies, which is based on the weighted average degree of expert evaluation's manifestation in its total diagnostic parameters that characterize readiness to enter the world market of informational technologies and that can be manifested in its activities to varying degrees. It is proposed to use specially created numerical measurement scale that has a gradation in the proportions of the golden section, corresponding to different degrees of readiness of IT companies to enter the world market of informational technologies.*

Keywords: *scale evaluation, Delphi method, IT companies, average expert assessment, principle of golden section, Fibonacci numbers*

INTRODUCTION

In previous research materials the author offered to assess the readiness of IT companies to enter the world market of informational technologies by analyzing the degree of manifestation in its totality diagnostic parameters that characterize readiness to enter the world market of informational technologies and that can be manifested in varying degrees of activity [10]. Determination of the manifestation degree of IT companies to assess above-mentioned parameters is offered by expert estimates based on the Delphi Method for each parameter, which has been formed the total average expert assessment of manifestation degree of totality parameters in IT companies.

It is necessary to use special numerical measurement scale that would have a gradation corresponding to different readiness degrees of IT companies to enter this market. There is a choice of such scale, grounding its gradations and numerical values definition of these gradations that this article is devoted to.

MATERIALS AND METHODS

To achieve the *aim of the article*, such scientific methods as generalization, comparative analysis and the method of golden section were used.

Proposed numerical rating scale is a dimensionless scale that provides comparability of different physical parameters of each region and defines all values of object parameters evaluation, which are of universal character, that can be used both as parametric as well as nonparametric input information; and actually it is a four-scale assessment of the readiness of IT companies to enter the world market of information technologies (*Figure 1*).

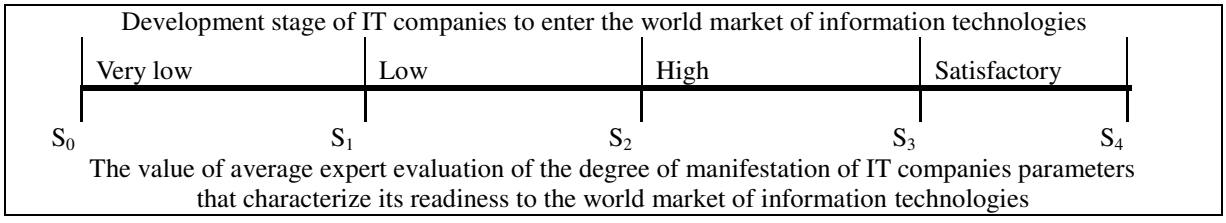

Figure 1: Scale for assessing the readiness degree of IT companies to enter the world market of informational technologies

Source: compiled by the author

Development stage of IT companies to enter the global information technology market is relatively divided into very low, low, high and satisfactory levels.

The value of S_0, S_1, S_2, S_3 and S_4 are average expert evaluation limit the values of the evaluation, which serve for different degrees of readiness graduation of IT companies to enter the world market of informational technologies.

S_0 is average expert evaluation, where its value meets the minimum possible level of expert evaluation, that is equal to 0. S_4 is average expert evaluation, where its value is the maximum possible level of the expert evaluation, that is equal to 1. S_1 is average expert evaluation, where where its value meets the minimum value of the expert evaluation. S_2 is average expert evaluation, where its value meets possible value of expert assessment. S_3 is average expert evaluation, where its value meets the possible value of this expertise. Thus, it is proposed to use the golden section principle for calculation of specific values S_1, S_2 and S_3 due to the following reasons.

The principle of the golden section is a well-known principle of proportionally division of the whole into unequal parts, where the whole refers to most of the whole part, as the greatest part refers to the lower part. In percentage rounded sense the use of the golden section principle in the first stage of distribution leads to separation of the greater part (62%) and lower part (38%). In the second phase of distribution its share in the ratio is approximately 38% and 24%, and a minority of shares in a ratio is approximately 24% and 14%. Such distribution may be extended further. It is well-known that the proportions of the golden section appear in the outside world, body building, architecture, music, poetry and other spheres, including the financial and economic fields [7].

Analysis of the Financial Markets as a method of forecasting prices on the basis of the consideration of market movement charts (price, volume and open positions) for the previous period is largely based on the golden section principle and long-term observation. Traders showed that movement schedule corresponds to market laws "Fibonacci numbers", which are based on the principle of the golden section [3].

The principle of the golden section is applied in business management. It is the basis of the harmonious management concept, as well as the essence to ensure the necessary conditions for the sustainable development of complex of social market. Economic system uses in its structure of proportions of the golden section [5, 7, 9].

Organization of the development of golden section principle makes possible developing ways of harmonious and sustainable development. The proportions between elements of different systems that meet the principle of the golden section allow ensuring such important properties of the system as harmony, systemic and structural stability, as well as minimum costs of maintaining the stability of the system [9].

Interesting data were obtained using the golden section principle to analyze stability of macroeconomic and commercial structures. For example, if between the major market indices as a complex economic system were established proportions similar to the proportions of the golden section, the market is considered stable and harmonious [3; 9].

The proportions of the golden section were manifested both in proportions of prices in the market price range and in the proportions between financial and economic performance of companies. Thus, analysis of companies, where were such proportions, showed that they were in a state of stable balance in their market niches. Their costs of maintaining the stability of this state are minimal [5; 6].

Taking into account the above said, we note that in the article it was assumed that the grading scale for assessing the degree of readiness of IT companies to enter the world market of information technologies in the proportions of the golden section will provide a harmoniously balanced scale on which can be obtained reliable and stable estimates and forecasts.

RESULTS

By calculating S_1, S_2 and S_3 as the average expert assessment of the manifestation degree in IT companies using abovementioned parameters and the proportions of the golden section, were obtained values of 0.38, 0.62 and 0.86.

Preliminary assessment of the reliability of developed scale for assessing the readiness degree of IT companies to enter the world market of informational technologies was based on the comparison of their gradations and their numerical values and their numeric values of well-verbal numeric scale after desirability of E. Harrington, who is attributable to psychophysical scales and designed to match the physical and psychophysical parameters [8, p. 84].

The choice of E. Harrington desirability scale comparison was due to the fact that it is similar to dimensionless numerical scale and widely used in the economy for the readiness assessment of the innovation strategy implementation into the enterprise [2], evaluation of innovative projects [4], formalization of the complex index of enterprise competitiveness [1] and other assessments.

Comparison of the developed assessment scale and the E. Harrington desirability scale shows their high correlation (*Table 1*).

Table 1

Comparison of the developed assessment scale and the E. Harrington desirability scale

E. Harrington desirability scale		Scale for assessing the readiness degree for the world market of informational technologies	
Graduation (desirability)	Numeric value	Graduation (readiness)	Numeric value
Very high	0.80-1.00	High	0.86-1.00
High	0.63-0.80	Satisfactory	0.62-0.86
Average	0.37-0.63	Low	0.38-0.62
Low	0.20-0.37	Very low	0.00-0.38
Extremely low	0.00-0.20		

Source: compiled by author according to [8, p. 84]

DISCUSSION AND CONCLUSIONS

The scale for assessing the readiness degree of IT companies to enter the world market of informational technologies is used on the basics:

- Average values of expert evaluation within the range from S_0 to S_1 (from 0 to 0.38) correspond to the state including IT companies, where the readiness degree to enter the global informational technology market is estimated to be very low, i.e. it is fundamentally unable to make out to the foreign market even in the longer term (red light);
- Weighted average expert evaluation values from S_1 to S_2 (from 0.38 to 0.62), inclusive correspond to the state of IT company, where the readiness degree for the world market of informational technologies is assessed as low, that it is not ready for entering this market (red light), but its total available capacity can be regarded as access to the world informational technology market on the long term, provided appropriate policy decisions;
- Weighted average expert evaluation values from S_2 to S_3 (from 0.62 to 0.86), inclusive correspond to the state of IT company, where the readiness degree for the world market of informational technologies is assessed as satisfactory, i.e. it is ready to relatively entering this market, but the efficiency may have low output without taking appropriate measures to compensate the negative impact of the weaknesses of IT and risk (yellow light);
- Average values of expert evaluation within the range from S_3 to S_4 (from 0.86 to 1) meet the state including IT companies, where the readiness degree for the world market of informational technologies is assessed as high, that it is fully prepared to enter the this market (green light).

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