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INFORMATION TECHNOLOGY DIAGNOSTIC SYSTEM FOR DETERMINING THE ECONOMIC STATE OF THE COMPANY

The development of a system for diagnosing a company's financial condition is a **crucial** and complex task, the solution of which requires use of the modern mathematical methods and information processing technologies. First and foremost, the complexity of the task is stipulated by the fact that to determine the financial condition of a company copious amounts of data is required, and furthermore, it is necessary to solve the problem of ambiguity in understanding the financial information due to the interdependence of financial parameters. In the IT market, many different systems of financial analysis exist [1]. For instance, significant international companies often implement Oracle Essbase [2]. This is a multidimensional system for analytical processing of financial data of a company (this includes both pre-installed and customised models for analysis and forecasting). Another tool for analysis is Fathom. This software allows assessing profitability, controlling cash flow, growth of KPIs. The QFinAnalysis service allows determining deviations in economic activity that may carry potential risks and diagnose bankruptcy. [3]. **Problem formulation.** Based on the analysis of products in the area of financial management in the IT market, a conclusion has been made that the existing software systems offer an analysis of the financial condition of an enterprise for making routine decisions on financial planning. Such decisions frequently are not associated with the strategic planning of the company. Therefore, the task of developing a diagnostic system of the financial condition remains substantial, this would allow not only to determine the financial condition of the company based on the results of its activity but also to generate some possible development strategies based on forecasts of the financial condition for the defined planning period. **As the solution of the problem,** and information technology (IT) diagnostic system for determining the economic state of a company is proposed. IT implements a financial analysis and generates the company development strategies. IT consists of seven main stages. Stage 1 - is the calculation of financial indicators based on data from financial statements for a certain period. The length of the period (for instance, the number of years) is selected presuming that the dynamics of the financial condition of the enterprise are determined in the context of changing market conditions on the basis of the analysed financial statements. Stage 2 - is the analysis of Return on Equity (ROE). As a result, the most important parameters that affect the structure and ROE are identified, as well as the company's business activity is assessed. Based on this, it is possible to assess the risks of losing the company's business reputation in the strategic period. Stage 3 - is the determination of the financial stability of the company. As a result, the degree of production and financial risk is assessed. Stage 4 - is the analysis of liquidity and solvency of the company. As a result, financial stability, the creditworthiness of the enterprise, and the risks of bankruptcy are assessed. Stage 5 - is the determination of the financial condition of enterprises in dynamics. This stage combines the results of prior stages 2,3 and 4. As a result, a certain aggregate indicator is obtained by which the financial condition of the company is determined. To implement this stage, it is proposed to use scoring and clustering methods based on the neural networks. Stage 6 - is the forecasting of the financial condition of the enterprise for the strategic period. The approach proposes to carry out the forecast for different scenarios of changes in market conditions (e.g., optimistic and pessimistic scenarios). Based on the predicted values of the parameters, the forecast of the ROE, financial stability, and solvency are carried out. Stage 7 - is the formation of variants for development strategies.

Conclusions. Considering the above-mentioned, the proposed IT diagnostic system will allow analysing the financial condition based on processing a large amount of heterogeneous data, making forecasts for strategic periods, and choosing a development strategy. Forecasts and the chosen strategy will be the basis for the development of financial plans as part of the company's development program.

Bibliography.

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