

PROCEDURE FOR FORECASTING THE EVOLUTION OF INDICATORS OF A MACHINE-BUILDING ENTERPRISE

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The article deals with the task of forecasting the evolution of indicators of a machine-building enterprise.

The analysis of the problem and formulated the problem of the study. A review of methods for solving the problem of forecasting.

Among the variety of approaches to solving problems and the requirements put forward, the prediction on the basis of neural network technology and regression analysis satisfy the requirements. Neural network technology is chosen and because it is a well-established and with this type of problems and solutions, and the regression analysis because, according to published sources, it is used in 60% of cases, Rep.

The enterprise model is represented by the "black box" type. The model has 8 inputs and 3 outputs. Inputs are parameters that can most strongly affect outputs. Outputs are the most important parameters reflecting the state of the enterprise.

For the research of neural network technology, the "multilayer perceptron" network type was chosen and two neural network architectures were selected. One with two hidden layers of 10 neurons each, and the second with four hidden layers of 10 neurons.

Provident numerical studies. The regression model does not have sufficiently high accuracy and gives deviations from the original data. This is due to the simplicity, which is expressed in linearity, for this type of model.

The neural network provides high accuracy of the model, and the increase in layers improves the quality of the model. This is due to the increase in nonlinearity with the passage of data from the layer to the layer.

Privation testing the quality of the models. For this, $\frac{3}{4}$ of the available statistics was selected, models were synthesized on its basis, and the percentage deviations for each month of statistics not participating in the model creation were obtained. Dressed not give large abnormal deviations, the best is a neural network model, and the worst regression.

With the help of the generated models, the prediction of the coverage of the market segment, liquidity ratio and profit were made.

The results show that market segment coverage will grow. This is due to the likely decrease in the volume of products from competitors. By the liquidity ratio will fluctuate, but gradually decrease.

They show that in the enterprise there will be a recession of profit that's means only deterioration states enterprises. Leadership follows immediately to accept measures to the damage from the crisis a situation that approaching, it was is minimal.