

MULTIVARIATE MODELLING OF FINANCIAL RESULTS: A PREDICTIVE ASPECT

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Bazarbayeva Aynura Raximnazarovna

1st year of Master's degree

Nukus state pedagogical institute named after Ajiniyaz

(Republic of Karakalpakstan, Nukus)

Abstract

The contemporary epoch is characterised by a series of occurrences that bear substantial economic ramifications. In the context of a challenging financial sector environment, the necessity for companies to expand and evolve remains persistent. It is noteworthy that entrepreneurial activity in Uzbekistan, despite the increased risks, is characterised by the constant addition of new market players. The formulation of a comprehensive strategy for enterprise development necessitates a meticulous examination of its operations to discern both its competitive strengths and vulnerabilities. It is imperative for the sustainable functioning and development of the organisation that past financial results are not only assessed, but also analysed prospectively in order to identify dominant trends. The findings of retrospective and forecast analyses of financial indicators directly impact the quality of decisions concerning profit optimisation, thereby establishing a foundation for the development, enhancement and fortification of the competitiveness of a commercial organisation. The relevance of the chosen topic is determined by these circumstances.

Keywords

the economic environment, the market, forecasting, forecasting methods and extrapolation.

It is widely acknowledged that the economic environment is subject to the influence of numerous interacting and excluding factors. In order to ensure the continuous adaptation of the economic object to the changing conditions of work, it is essential that all efforts are directed towards this aim. Consequently, while the probabilistic nature of the forecast renders it relatively innocuous, the same cannot be said for the plan to collapse. Forecasts and plans are developed in advance of events, yet their efficacy is contingent upon the degree to which these events align

with the forecasts and plans. In a market economy, the predictability of events is rather low due to the stochastic nature of phenomena. Consequently, forecasts and plans formulated on the basis of historical data must be continually refined as conditions evolve.

In economically developed countries, forecasting can typically be categorised into two forms: centralised and decentralised.

The fundamental principles of forecasting can be categorised as follows:

Systematicity can be defined as the requirement for there to be mutual linkage and subordination of the object, background and forecasting elements.

It is imperative to ensure consistency in the coordination of search and normative forecasts of varying natures and temporal advancement.

Variability is defined as the requirement to develop forecast variants based on forecast background variants.

The necessity for continuity necessitates the modification of forecasts when novel information pertaining to the subject in question becomes available.

The most common forecasting methods include:

Extrapolation is a forecasting method that involves calculating indicators as a continuation of a dynamic series into the future according to the identified pattern of development. In essence, extrapolation is the process of transferring patterns and trends from the past to the future, based on the interrelationships of indicators within the same series. The method enables the discernment of indications of a series extending beyond its limits. The efficacy of extrapolation is confined to the domain of short-term forecasts.

In consideration of the observed stability in the consumption of goods, a prediction of sales can be made through the utilisation of the arithmetic mean formula, which calculates the mean value of a set of numbers based on their average daily sales volume.

The extrapolation of sales data for homogeneous products in the shop revealed that on the 11th day of operation, as well as on the 12th and 13th days of operation, the sales of goods can reach 2.5 kilograms.

Conclusion. The mean forecast error is predicted to be 0.026kg. It is estimated that daily flour sales will total 2.5 kilograms.

The most common heuristic method is the method of expert judgement. The fundamental premise of this approach entails the systematic collection and processing of expert opinions and recommendations pertaining to the subject under investigation. The foundation of the expert judgement method is predicated upon a survey. The organisers are tasked with the responsibility of conducting interviews

with experts, ascertaining the object and goals of expertise, selecting the most suitable experts, and assessing their competence. They are also required to analyse and summarise the results of the expertise.

Extrapolation methods are predicated on economic and statistical methodologies of assessing indicators for previous periods, determining trends in their development and transferring the identified pattern to the future.

The most elementary forecasting method is the application of average absolute growth and average growth rate of a dynamic series.

A key disadvantage of the moving average method is that it assigns equal weight to all data points utilised in the calculation of the average.

Another method of extrapolation is the exponential smoothing method. This method can be used in the development of medium-term forecasts. The exponential smoothing method is characterised by the fact that, in order to calculate the smoothed level, it is utilised solely the value of the previous levels of the series, with a specific weight assigned to each. As the process progresses, observations decrease as they deviate from the point in time at which the smoothed value of the series is determined.

In order to facilitate the processes of forecasting and planning, a wide variety of specialised methods are employed, the application of which ensures the attainment of highly accurate results. These include: morphological analysis; forecast scenario; forecast graph and 'goal tree'; correlation and regression analysis; method of group accounting of arguments; factor analysis; pattern recognition theory; calculus of variations; spectral analysis and others.

In conclusion, it is evident that the forecasting of the company's financial results constitutes a pivotal element in the formulation of a robust strategic framework. The accuracy and reliability of the forecasts of financial results have been shown to have a significant impact on the quality of management decisions made, and consequently, the effectiveness of the organisation's future activities.

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