Study the Application of Neural Network in the Prediction of Regional Integrated Transport Structure

Huiyuan Jiang, Jiang Li
Transportation College, Wuhan University of Science and Technology
Wuhan, Hubei Province, 430063, China
Email: p930212h@public.wh.hb.cn **Tel.:** +86 (27)86581330

ABSTRACT

Each transport method in the transport system has its own technical economic characteristics and application range. However, in the past, each transport method was usually investigated separately in the quantitative analysis of transportation development trend. It obviously has some shortages. And it is always a technological problem to analyze the development trend of the comprehensive transportation structure with mutual effect of each transport method. The presence of the artificial neural network provides us a new way to resolve this problem. Although the BP network is suitable for the short-term estimate, after its self-adapting in algorithm and error correction it can also be suitable for the long-term estimate. This article establishes a neural network model according to the principle of artificial neural network, for the structure prediction of the comprehensive transport freight transportation volume and the freight transportation turnover. We have displayed the running result of the model which has been proved to conform to the natural law of transport economic development with an example of the comprehensive freight transport system in a Province. Therefore, the BP network is more suitable to the multi-factor complicated transport system, which is unable to be expressed or analyzed by overt formulas.

Keywords: Neural Network, Integrated Traffic, Cargo Structure, Forecast.