Transition Structure to Change of Technological Progress through Developing Attribute Mapping Model on Patent Information

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Abstract

To maximize the R&D productivity under the restricted funds and manpower, we first have examined the mechanism about the optimizing process of R&D input variables. It has been an urgent problem for the government and the firms to solve.

Therefore, the main objective of this study was to analyze the structure of the efficiency of R&D input variables and the attributes of patent information as the output by the R&D activities in the major manufacturing industries(electric & electronics, machinery, chemical, textile) in the period of mid-70 - mid-90 by the development of 「 mapping technique 」.

To attain the objective we first have examined the attribute of time-lag which depends on the absolute, and the cumulative values between the input and the output. And on the basis of this result we have made an analysis of the impact to extract the main variables affecting patent by industries.

Moreover, according to time trend of the impact variables we have analyzed the structure of R&D efficiency, which will be changed with time, and at the same time have analyzed the variation structure affected by patent information each industry. It has been aimed at constructing technological development patterns by Korea industries.

Possible alternative methods for this study was multivariate statistical methods which include correlation analysis, multiple regression analysis, extrapolation method. And we have used several methods based on the patent mapping theory, and have tried to develop a new method for analyzing patent information.

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