

## GREY RELATIONAL ANALYSIS OF R&D INPUT AND OUTPUT IN CHINA BASED ON A PANEL DATA

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### **ABSTRACT**

*Science and technology innovation is a crucial factor that affecting the comprehensive competitiveness and sustainable development of a country. And it is mainly derived from the guiding the R & D activities, including three types of activities, namely basic research, applied research and experimental development. According to the panel data of R & D input and output of China's regional R & D institutions, the Grey Relational Analysis method is used to analyze the relationship between R & D input and output of China's regional R & D institutions, and to obtain the important influencing factor of current regional R & D activity output in China. The research shows that the number of scientific papers produced areis greatly affected by the number of R & D personnel inputs, and the number of published scientific and technical works is generally more related to the investment, patents are more relevant to the three types of R & D activities, the formation of national or industry standards is significantly related to the funding and personnel input of basic research activities. Based on the results, the suggestions for improving R & D output and optimizing input resource structure are put forward.*

**KEYWORDS:** *Science and Technology Management, R & D Input and Output, Panel Data, Grey Relational Analysis*