

Identification on perceived complexity and influencing factors of construction contractors in China

Shuyu Wang¹, Tongyin HAN¹, and xuning chen¹

¹Shijiazhuang Tiedao University

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Abstract

Underestimating the impact of complexity is an important reason for the poor performance of large-scale construction project management. The purpose of this paper is to improve the understanding of the perceived complexity of contractors, identify the complexity factors of construction projects in China, and provide basic research results for the treatment of complexity. From the perspective of contractors in the construction implementation stage, the literature on construction projects complexity is sorted out, and 17 initial indicators of influencing factors are determined through document analysis and expert interviews. Taking 130 questionnaires as samples, 17 influencing factors passed reliability and validity tests. Through exploratory factor analysis (EFA), a four-dimensional framework for influencing factors of perceived complexity of construction project contractors is proposed, including Social Complexity, Environment Complexity, Technical Complexity and Stakeholder Complexity. Among those factors, the project funding, geological conditions, survey and design quality, stakeholder relationships are the key factors affecting the perceived complexity of construction project contractors in China. The research results are mainly applied in the field of construction project complexity management, which can provide basis and reference for the complexity management of railway, highway, subway and other large engineering construction projects.

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