A FACTOR ANALYSIS MODEL FOR ASSESSING THE PERFORMANCE OF THE CONSTRUCTION INDUSTRY: THE CASE OF SHANGHAI

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Abstract
The past two decades have witnessed the steady growth of the Chinese economy. As a major contributor to the economy development, the construction industry in China has also grown at an even pace. Like the cliché 'you cannot improve what you cannot measure', it is crucial to measure the performance of the construction industry in order to maintain its growth and reduce its drawbacks over the long-term. This research, therefore, aims to develop a model for evaluating the performance of the construction industry by using the factor analysis method. A case study of Shanghai is conducted on the basis of the proposed assessment model by using relevant data from 1999 to 2004. The results indicate that the annual performance of the construction industry in Shanghai is moving towards a better direction, particularly from the year 2002 on. It is also found that the proposed model using factor analysis method can overcome the shortcomings of other similar assessment methods in terms of obvious correlation among the initial indicators and subjectivity in determining the weights of the indicators. The model also has great potential in being applied to other similar regions which have the same characteristics as the construction industry as Shanghai.

Keywords
Construction industry, assessment, factor analysis, model, Shanghai

INTRODUCTION

The Chinese construction industry is one of the largest and fastest expanding markets in the world (Zhao et al., 2009). While enjoying benefits resulting from a steady growth, how to maintain its high speed development remains an unsolved problem. In spite of the many studies that have been conducted on the performance of the construction industry [such as Jin et al. (2005), Lin et al. (2003) and Song et al. (2006)], a consensus has yet to be reached. Generally speaking, the construction industry (CI) consists of a very long industry chain which, in turn, makes it difficult to continue the industry’s development without being affected by a set of complicated factors. During the past two decades, how to construct an appropriate model by integrating crucial factors that will enhance the construction industry’s performance has attracted increasing attention among researchers and practitioners.

After constructing a model containing various indicators fitting in one region, the effective assessment of the construction industry’s performance, to some extent, will highly depend on the method chose for calculation and analysis. Previous studies in this field showed that the prevailing methods adopted would generally fall into two categories: one is termed subjective weighting methods and the other is objective weighting methods. By using subjective methods,