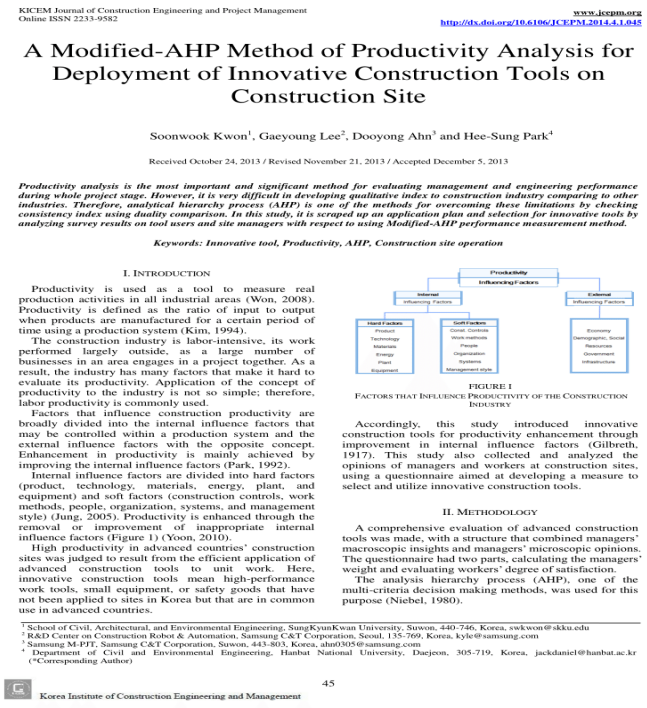
Methods Improvement For Construction Managers



KICEM Journal of Construction Engineering and Project Management
Online ISSN 2233-9582

www.jcepm.org
http://dx.doi.org/10.6106/JCEPM.2014.4.1.045

A Modified-AHP Method of Productivity Analysis for Deployment of Innovative Construction Tools on Construction Site

Soonwook Kwon[1], Gaeyoung Lee[2], Dooyong Ahn[3] and Hee-Sung Park[4]

Received October 24, 2013 / Revised November 21, 2013 / Accepted December 5, 2013

Productivity analysis is the most important and significant method for evaluating management and engineering performance during whole project stage. However, it is very difficult in developing qualitative index to construction industry comparing to other industries. Therefore, analytical hierarchy process (AHP) is one of the methods for overcoming these limitations by checking consistency index using duality comparison. In this study, it is scraped up an application plan and selection for innovative tools by analyzing survey results on tool users and site managers with respect to using Modified-AHP performance measurement method.

Keywords: Innovative tool, Productivity, AHP, Construction site operation

I. Introduction

Productivity is used as a tool to measure real production activities in all industrial areas (Won, 2008). Productivity is defined as the ratio of input to output when products are manufactured for a certain period of time using a production system (Kim, 1994).

The construction industry is labor-intensive, its work performed largely outside, as a large number of businesses in an area engages in a project together. As a result, the industry has many factors that make it hard to evaluate its productivity. Application of the concept of productivity to the industry is not so simple; therefore, labor productivity is commonly used.

Factors that influence construction productivity are broadly divided into the internal influence factors that may be controlled within a production system and the external influence factors with the opposite concept. Enhancement in productivity is mainly achieved by improving the internal influence factors (Park, 1992).

Internal influence factors are divided into hard factors (product, technology, materials, energy, plant, and equipment) and soft factors (construction controls, work methods, people, organization, systems, and management style) (Jung, 2005). Productivity is enhanced through the removal or improvement of inappropriate internal influence factors (Figure 1) (Yoon, 2010).

High productivity in advanced countries' construction sites was judged to result from the efficient application of advanced construction tools to unit work. Here, innovative construction tools mean high-performance work tools, small equipment, or safety goods that have not been applied to sites in Korea but that are in common use in advanced countries.

FIGURE 1
FACTORS THAT INFLUENCE PRODUCTIVITY OF THE CONSTRUCTION INDUSTRY

Accordingly, this study introduced innovative construction tools for productivity enhancement through improvement in internal influence factors (Gilbreth, 1917). This study also collected and analyzed the opinions of managers and workers at construction sites, using a questionnaire aimed at developing a measure to select and utilize innovative construction tools.

II. Methodology

A comprehensive evaluation of advanced construction tools was made, with a structure that combined managers' macroscopic insights and managers' microscopic opinions. The questionnaire had two parts, calculating the managers' weight and evaluating workers' degree of satisfaction.

The analysis hierarchy process (AHP), one of the multi-criteria decision making methods, was used for this purpose (Niebel, 1980).

[1] School of Civil, Architectural, and Environmental Engineering, SungKyunKwan University, Suwon, 440-746, Korea, swkwon@skku.edu
[2] R&D Center on Construction Robot & Automation, Samsung C&T Corporation, Seoul, 135-769, Korea, kyle@samsung.com
[3] Samsung M-FIT, Samsung C&T Corporation, Suwon, 443-803, Korea, ahn0305@samsung.com
[4] Department of Civil and Environmental Engineering, Hanbat National University, Daejeon, 305-719, Korea, jackdaniel@hanbat.ac.kr (*Corresponding Author)

Methods Improvement for Construction Managers. Front Cover. Henry W. Parker, Clarkson Hill Oglesby. McGraw-Hill, - Technology & Engineering - Get this from a library! Methods improvement for construction managers. [Henry W Parker; Clarkson H Oglesby]., English, Book, Illustrated edition: Methods improvement for construction managers / [by] Henry W. Parker [and] Clarkson H. Oglesby. Parker, Henry W.fizzysrattor.com: Methods Improvement for Construction Managers (McGraw-Hill series in construction engineering and management) () by.What is construction project management? Here are some ways the construction project manager can improve project management processes.Methods improvement for construction managers [by] Henry W. Parker [and] Clarkson H. Oglesby. - Subjects: Engineering > Management. Physical.Improving construction efficiency in your project is the fastest way to improve your bottom line, and Capterra Construction Management Blog.The model proposed a structured approach to help construction organisations improve their management processes in a structured manner. Building upon the .A good CWM tool also allows you to relay these changes to other managers and accounting offices in real time, providing a nearly email-free method of project.the success of improvement programs (such as senior management teamwork, statistical methods, cost of quality, supplier involvement, and customer service.A key factor influencing the reduction of construction time, is recognized as the factor of management continuity, the essence of which boils down to the need to .One approach for improving the situation is using lean construction. Lean construction results from the application of a new form of production management to.System (LPS) to improve construction planning practice and enhance site alternative management methods in construction, and give a good.Construction Projects, International Journal of Project Management, Vol. The general approach utilised for performance improvement was.