JUST-IN-TIME MANAGEMENT IN THE READY MIXED CONCRETE INDUSTRY OF CHONGQING, CHINA

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Abstract
Implementing Just-in-time (JIT) management in the ready mixed concrete (RMC) industry appears viable. Although the Chinese government mandated that concrete required on site for medium and large construction projects in urban areas must be supplied ready mixed from off-site batching plants by 2003 in Chongqing, China, the implementation status of JIT techniques in the RMC industry in Chongqing has not yet been studied. Hence, the purpose of this study was to investigate the implementation status of JIT management in the RMC industry in Chongqing. The field study conducted of all RMC suppliers in Chongqing found that the demand pull system was adopted for cement procurement and RMC delivery, and the economic order quantity (EOQ) purchasing method was adopted for the procurement of aggregates, sand and concrete admixtures. The study also found that several important characteristics of JIT are seldom practiced by RMC suppliers in Chongqing. These are the use of sole sourcing vendors, vendor training, cross-training, preventive maintenance, stable schedule, quality circles, and the existence of a JIT team, JIT education, JIT champion and use of outside consultants.

Key words
Just-in-time, Production techniques, Implementation, Ready mixed concrete, Suppliers, Chongqing

INTRODUCTION

The just-in-time (JIT) philosophy is regarded by some as the most important productivity enhancement management innovation of the 20th century (Schonberger, 1982a). The JIT philosophy has attracted much attention by making operations faster, eliminating waste (Zhu, Meredith and Makboonprasith, 1994), achieving continuous improvement (Low and Chan, 1997), improving customer service, and building organizational competitiveness (Cheng and Podolsky, 1996). JIT also provides the right materials, in the right quantities and quality, just in time for production (Vokurka and Davis, 1996). JIT, also called the “Toyota Production System” (Monden, 1998), contains a body of knowledge that encompasses a comprehensive set of principles and techniques for the manufacturing industry (Norris, 1992).

Inspired by the success achieved through the implementation of the JIT philosophy in the manufacturing industry, Fan and Chong (1999) investigated the applicability of the JIT philosophy to the process of delivering steel reinforcement bars to construction sites. Steel reinforcement bars are used in almost every construction project. In addition, the delivery process is repetitive and relatively similar to the manufacturing process. Fan and Chong (1999) concluded that the application and implementation of the JIT philosophy to the delivery of steel reinforcement bars to construction sites in Hong Kong was feasible. Because the pre-cast concrete sector mirrors a manufacturing setting, Low and Choong (2001) also examined