

SUPPLY CHAIN COSTS ANALYSIS USING ACTIVITY-BASED COSTING: CASE STUDY IN REBAR SUPPLY

Yong-Woo Kim¹ and Jinwoo Bae²

ABSTRACT

The activity-based costing method was used to compute rebar supply chain costs. This paper describes the model developed, the calculated costs, and sensitivity analysis results, followed by the relatedness to lean principles. Many literatures and consulting companies discuss how to reduce total costs in supply chain. But the first question to improve supply chain profitability should be to understand where the costs are spent in your supply chain and where the opportunity for improving your profits exists.

Many opportunities to reduce total cost in supply chains, which are responsible for unnecessary overhead costs. The activity-based costing method was used to develop supply chain costing model. This paper discusses the benefits of activity-based costing in supply chain costs using a case study in rebar supply chain. This paper contributes to the knowledge of lean construction domain in that the activity-based costing method is adopted in supply chain costing so that stakeholders can make use of the ABC costing data to reduce total supply chain costs to achieve the project objective, not their internal production objectives.

KEY WORDS

Supply chain costs; rebar supply; activity-based costing

INTRODUCTION

Many literatures and consulting companies discuss how to reduce total costs in supply chain. But the first question to improve supply chain profitability should be to understand where the costs are spent in your supply chain and where the opportunity for improving your profits exists. Anderson (2004) argued that many opportunities to reduce total cost in supply chains, which are responsible for many unnecessary overhead costs such as resources to generate forecasts and production planning, inventory control, place purchase order, and receive materials.

Reinforced concrete structures are commonly preferred with steel structures in building construction. While reinforced concrete structures comprise thousands of components, a structural framework is constructed in three basic sequential activities: preparing formwork, installing rebar and pouring concrete. Supply chains for the components need to be well managed in order to achieve project goals. Among the

¹ Yong-Woo Kim, Assistant Professor, College of Built Environment, Department of Construction Management, University of Washington, Seattle, WA. E-mail: yongkim@u.washington.edu

² Jinwoo Bae, Ph.D. Students, Construction Management Program, Department of Civil Engineering, University of Washington, Seattle, WA. E-mail: jbae@u.washington.edu