

Supply Chain Management Strategy for Recycled Materials to Support Sustainable Construction

Mochamad Agung Wibowo¹, Hadjar Seti Adji², Moh Nur Sholeh³

Sustainable Construction as a construction method is beginning to gain traction among Indonesian contractors, but with the dearth of research, knowledge, socialization and strategic support in this field, there are many obstacles towards *en masse* adoption in Indonesia: for it to be applied “effectively” and for it to become part of a “strategic method”. The concept of Sustainable Construction primarily emphasizes the wise use of resources (primarily natural resources), thereby systematically guaranteeing the fulfillment of future needs. Implementation of Sustainable Construction is done most straightforwardly through the application of the 3Rs: Reduce Reuse Recycle. The implementation of the 3Rs would theoretically have an impact on the efficiency of material use in two important groups, which consist of permanent material, and temporary material. However, the use of recycled materials is still hampered by the difficulty of field implementation; this is attested by the low scores attained in green building certification. This study will analyze the strategies needed to support sustainable construction in relation to supply chain management for recycled materials, which have not been implemented well in Indonesia, whereas it has the highest impact in contributing to the effectiveness of sustainable construction. The aim of this study is to analyse supply chain performance in recycled materials in construction projects. The measurement used is the Supply Chain Operations Reference (SCOR) model with perfect order fulfilment and overall value at risk as a Key Performance Indicator (KPI). The result of the study is the percentage of material that could be used by the management of supply chain. The more fulfilled the KPI perfect order fulfilment, the more complete the use of material to support sustainable construction.

Keywords : supply chain management, recycled materials and sustainable construction

1. Ir Mochamad Agung Wibowo, MM, MSc, PhD is lecturer at Civil Engineering Department, Diponegoro University

2. Ir Hadjar Seti Adji M.EngSc is Head of Research and Technology Division PT PP (Persero) Tbk

3. Moh Nur Soleh ST is student of Magister in Civil Engineering Department, Diponegoro University