WASTE CONTROL IN CONSTRUCTION PROJECTS WITHIN THE GAUTENG PROVINCE

CIVN7019A RESEARCH REPORT

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ABSTRACT

The motivation of the study is to determine how construction managers control waste on site in Gauteng province. The aim of the study is to establish a better understanding of how to reduce or eliminate construction waste from building construction projects through the application of lean techniques.

The objectives are to identify the causes of construction waste, to determine sustainable methods used during the construction process, to allow construction management to play a part in reducing waste generation, to identify the main types and volumes of construction material waste, and to review this from a lean perspective. The study uses an inductive approach through structured interviews of ten construction managers as a means of data collection. Data analysis is executed by using Microsoft Excel coding to arrange the data into themes and then saved to Microsoft Word.

The findings of the study show that concrete and bricks are the most common material waste generated on site. Material handling, design change, poor supervision, poor management, and inadequate planning are the main causes of physical waste. Adequate material handling, effective management, adequate planning and proper supervision, reuse and recycle of waste are the main methods used to reduce waste. The most common types of lean waste are overproduction and defects. Lean tools most often used are just-in-time and value stream mapping. The challenges faced when implementing lean thinking are cultural diversity and lack of lean awareness. The findings show that few construction companies are implementing a lean approach to waste reduction or elimination on sites. It is therefore recommended that construction managers should be educated about implementing lean principles for waste reduction.

Key words: Construction, Lean Construction, Elimination, Minimisation, Material, Physical and Non-Physical Waste, Lean Tools, Waste Management Plan, Cost and Time