

An approach to mechanization and automation of manual construction activity

Abstract

Construction industry is very important to the developing country like Malaysia. Many challenges and difficulties must be faced by the developers of this particular field. Warszawski et. al [1] has reported that there are four serious problems in the construction industry today; low labour efficiency, high accident rate at construction sites, poor finishing or workmanship and insufficient supply of skilled workers. In Malaysia, construction companies usually employ migrant workers due to their lower salaries. International Labour Organization, 2001 in their report has stated that 80% of the entire construction workforce in Malaysia is foreign labour. This scenario causes imbalance of the services account and affects the country's economic system [2]. One of the ways that possible to overcome this issue is to mechanise or automate some of the manual construction activities. This paper discussed about an approach to mechanize and automated one of the manual activities in construction site which is manual tile laying process. This activity will be demonstrated as a case study where the process will firstly mechanized and then will be automated if possible.

Keywords; IDEF; Tile Laying Process; Automation; Mechanization; Design Process.