

Modern Construction Methods and Technologies and Their Impacts on Construction Projects

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Abstract : Modern Methods of Construction (MMC) is a significant topic in the construction industry; while reviewing (MMC) over different fields that are significant in the modern construction world, the following areas were assessed where (MMC) is developing, supply chain management, automation, digital technology, and new construction technologies. Different methods were considered as an approach to research and exploring areas highlighted within the construction industry that are making advancements using Modern Methods of Construction Methods and Technologies (MCMTs). The research was conducted using the following methodologies, literature review of academic sources, primary and secondary data sources, questionnaires, and interviews. The paper is composed of two parts, firstly a literature review and secondly a questionnaire used as the basis for interviews were utilised to achieve the following key objectives: to identify (MCMTs) being implemented in the construction industry, research and compile information with regards to these methods, determine their purpose and their application in the industry, establishing what (MCMTs) are being used in the industry while also determining the success of the methods. The research considers the evolution and development of these methods in projects and within the industry itself. Major findings were as follows; automation technologies such as robotics, offsite fabrication utilising automated production lines are increasingly part of project execution, digital technologies such as AR and VR are increasingly utilised in project co-ordination, (MMCTs) are proving to be a solution to the construction industry problems such as a lack of skilled workforce, hazardous work tasks, and situations, new construction technologies are available and finding their place in mainstream construction, (SCM) and (GSCM) are evolving to new levels using new systems and technologies such as block chain technology as well as Company Size and Project size influence the use of (MMCTs) and the adoption of (MMCTS). In summary the paper endeavours to identify and detail how areas of (MMCTs) are developing and are gaining traction within mainstream construction.

Keywords : automation, digital technology, new construction technologies, supply chain management

Conference Title : ICCPM 2023 : International Conference on Construction and Project Management

Conference Location : Paris, France

Conference Dates : November 27-28, 2023