

Understanding Project Complexity from the Perspective of a Project Manager

Sanjeev Sinha and Bimal Kumar
School of Built and Environment Engineering
Glasgow Caledonian University, Scotland
UK

Avril Thomson
Department of Design, Manufacture and Engineering Management
University of Strathclyde
James Weir Building, Glasgow G1 1XJ, Scotland
UK

Saurabh Kumar
Department of Electronics and Communications
University of Allahabad
Allahabad, India

Abstract

In today's complex development environments, the ability to integrate the different components of a project is quite dependent on the cognitive capabilities (skill) of the project managers. The word 'complexity' is used in day to day life by project managers and practitioners in the area of project management to express some characteristic of a project. However there seems to be no universally accepted definition of the term project complexity in the construction industry. The purpose of this paper is to develop an understanding of the term complexity in relation to construction projects and measure it in terms of the cognitive capabilities of the involved human resources. The findings based on interviews with project managers suggest that the project complexity is also dependent on the skill of the involved human resources beyond simply having a large number of interacting parts. The quantification of complexity highlights the role of the skill of involved human resources at its conceptual level which otherwise is in a fluid state. Secondly it allows identifying potential factors responsible for initiating complexity in a project known as complexity generating factors. Finally it may provide a basis for project managers for selecting workers that will help in checking overruns of time and cost.

Keywords

Complexity, Human Resources, Complexity Generating Factors, Skill