



Evaluating the Existing Barriers in Implementing Constructability

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Received 12 September 2018; Accepted 14 December 2018

Abstract

In fact, constructability is facilitating the construction of a project through integrating knowledge and experience to achieve the overall and common objectives of the project in all stages of it, but practically there is still a significant gap between design, construction, and achieving the desired project objectives. Studies show that separating the design and construction processes and lack of presence of the contractor in the design stage, prevent the effective use of experiences and specialty of the contractor to improve and develop design processes. This issue results in increasing project time and cost, poor relationships, and also increasing project waste and duplication. The barriers to implementing this concept can have major differences with each other in different locations all over the world, due to the unity of the executive conditions in various countries. This paper evaluates the existing practical barriers to implementation of constructability in the construction industry. A comprehensive literature review has been performed by the authors through using the Meta-Synthesis method and findings were used to form research assumptions. Three case studies of Mass Housing project (MHP) in Tehran were instigated. Outputs taken from nine interviews with different experts in this industry working in diverse areas, including owners, consultants and contractors are then ranked after theoretical saturation compared using the NVIVO Software and through pattern and descriptive analyses. The concept of constructability is focused on the early presence of contractors in the initial stages of the project. So that, through integrating knowledge and experience, problems due to lack of their presence in the early stages of the project can be reduced. Comparing the existing barriers to implementing constructability in Iran with those of the wider world, presents some effective solutions to facilitate the presence of the construction contractors in the early stages of projects.

Keywords: Constructability; Analytic Comparison; Constructability Barriers; Integration; Mass Projects; Construction Contractors.

1. Introduction

"Studies conducted during 1960 to 1970, indicate that the origin of many complex problems in the construction industry is due to lack of integration of knowledge and experience in the framework of design and construction." [1] Designers, through evaluating constructability studies, have always sought to reduce the existing gap between designers and builders. In practice, always a far distance is observed between the design and construction stages in order to achieve the desired project objectives [2]. Studies show that separating the design and construction processes and lack of presence of the contractor in the design stage, prevent effective use of experiences and expertise of the contractor to improve and develop the design. Consequently, extra time and wasted cost of the project, creating adverse relations, and

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 <http://dx.doi.org/10.28991/cej-03091204>

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