Abstract of the Master Thesis

Master’s Degree
International Project Management
(International Infrastructure Technology and Management)

An empirical analysis of how resource allocation theories and models are used in construction projects; a case study of the construction industry in the Maldives.

Submitted by: Adam Rakheem
Matriculation no: 810662

Submission Date: 14/1/2019

Lecturer: Prof. Markus Schmidt
Hochschule für Technik Stuttgart

Ina Karbon
Hochschule für Technik Stuttgart
Abstract

Even with the theoretical and modelling advancements in the past decades, resource allocation is still a major issue in construction projects. The practicability of these theories and models varies in different parts of the world. In the Maldives, due to its geographical and topographical features, resources used in the construction industry are very limited. Materials are imported, and the workforce is comprised of 95% foreign workers with a limited number of available skilled workers. Almost all the companies are managing multiple projects at any given time and use resources from the same resource pool. This has led to constant disharmony among the project engineers in charge of the different projects and had an overall negative impact on the operations of the organizations.

The research performed an empirical analysis of how resources are allocated in such a resource constraint market and if existing theories and models are applicable for the construction industry in the Maldives with the aim to investigate and improve resource allocation practices in multi-project managing organizations in the construction industry of the Maldives. The objectives was to investigate how the resources are allocated, to examine why these models were use, to analyze if the existing practices can be improved and to recommend a model/technique to improve the resource allocation practices. Findings for the study was generated from in-depth interviews.

Primary data revealed that resource allocation was indeed a problem and companies were suffering from project delays and incurred additional costs due to the limited resources and how the project was managed and the resources were allocated. To achieve the objectives of the
research, results of the findings was examined and analyzed to recommend a better technique to improve the resource allocation practices. Using Building Information Modelling (BIM) to manage and plan the projects with additional action plans to estimate resource efficiency was recommended as the new model/technique to improve allocation practices and reduce project delays.