Abstract of Master Thesis

Master's Degree International Project Management
(Building, Real Estate and Infrastructure)

THE DIGITALIZED PROCESSES OF REINFORCED CONCRETE IN BUILDING INFORMATION MODEL AT THE CONSTRUCTION SITES

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All construction projects are unique, thus all the construction projects need a well-recognized integration and cooperation among the complete team. By the implementation of BIM in the AEC sector, a great increase in the interest and productivity is being established. Clear 3D visualization aspects in BIM with the clear defined workflow and tasks among the team overcomes the complexities in the construction projects.

However, most researchers found that the construction sites is still suffering from the lack of proper information and still dealing with 2D documents during construction BIM detailed design for construction projects. This is because most of the studies and researchers done was focusing on the implementation of BIM in the planning and design phase of any project. Thus the author tends to investigate the implementation of BIM in the construction sites by focusing on the RC works. Since managing RC works is considered an essential activity because it covers 23% of the total construction cost and 57% of the entire construction duration. Based on the above mentioned problem, the author defines five objectives in this research, which will help in defining the digitalized process for RC works in the construction sites. Hence the literature review defines BIM, and what are the different standards and guidelines used in defining the processes of BIM workflow among different projects. In addition, literature review clarifies the
importance of the BIM collaboration between the design and the execution team and what are the challenges of adopting BIM in the RC works at the construction sites.

The author intends to look at the use of BIM in the project life cycle for the RC work, thus the author will be dealing with different approaches and opinions related to the topic, which make it more reasonable for the author to follow an Interpretivist philosophy. This research is carried out based on an inductive approach. The interpretivist philosophy and the inductive research approach that have been chosen to carry out this research, lead the author to collect qualitative data. As a part of this research, the author choose a case study and semi-structured interviews in order to collect qualitative data needed.

This research philosophy chosen in collecting the needed data helps the author in achieving the defined objectives and develops a framework which shows the RC workflow among the different phases of the construction projects.