

# Why Do We Need Building Information Modeling (BIM) in Conceptual Design Phase?

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**Abstract.** Many researchers point out that, in conceptual design, many significant decisions are taken to directly affect functional qualities, the performance of the building, aesthetics, and the relationship of the building with the natural environment and climate, even if there is no certain and valid information to create and obtain satisfactory design solution. The focus of the study is to observe and explore how BIM can be used in conceptual design phase and also to investigate how and how effectively BIM can help architects during the process. To develop an understanding to these aims, a case study implementation within sketching and BIM environments which consists of three stages was carried out in an educational setting by three participants who are undergraduate degree students of Faculty of Architecture. Qualitative research methods were used as research methodology and the findings of the implementation were discussed with prominent related literature in the same context.

**Keywords:** BIM · Building Information Modeling · Conceptual Design Phase · Conceptual Design Analysis · Energy Modeling.