

# An Evidence Based Green Design Using Building Information Modeling

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The present study focuses on the existent relationship between stress among office workers and their built environment. The primary questions of this study are: What are the indoor environmental factors leading to stress in an office? How can designers predict and prevent these environmental stressors at an early design stage using Building Information Modeling (BIM)? This research aims to further explore office workers' difficulties causing stress in their physical environments hence impacting office workers' well-being, productivity, and overall health. This research highlights problems office workers experience related to the indoor environmental components such as lighting, indoor climate controls, and the interior configuration. Using an evidence-based green design approach, this study utilizes findings from other studies and for both identifying the environmental stressors and recommendations to improve the built environment. The design recommendations are implemented in an existing setting. The case study then was utilized to demonstrate the use of BIM-based sustainability analysis models when solving design-psychology related problem. First, a conceptual framework is developed to demonstrate how BIM is implemented in all phases of the design process. Next, the framework is validated through the case study. Finally, a virtual reality environment is generated from the BIM model and used to consolidate the validation of the framework.

**Keywords:** Evidence Based Green Design, Indoor Environmental Quality, Building Information Modeling