

A holistic vision to achieve sustainability standards using building information modeling technology

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Abstract:

The research confirms the use of building information modeling in contributing in the achievement of sustainability standards, because with the rise in energy costs and increasing environmental concerns, the principles of sustainability are increasingly being used in the field of interior design and architecture, and it is directed towards providing a minimum environmental impact, and effective decisions are taken to make sure of the presence of standards of sustainability in building elements in the initial design and also in pre-implementation stages. Thus, Building Information Modeling (BIM) can assist complex building performance analysis to ensure a sustainable building design. The use of Building Information Modeling (BIM) provides multiple means to increase and improve the quality of interior design and architecture projects at the level of design, implementation, facility management, maintenance and operation, and contributes to the accurate preparation and control of schedules, bills of quantities and specifications, and to reduce the total costs of the project. Hence the basic research problem is that there has not been much interest regarding the impact of BIM on achieving sustainability in large projects. Hence, the importance of this research that it aims at supporting sustainable design and construction by evaluating the use of BIM technology in the fields of interior design, architecture and building engineering.

This paper is also interested in exploring the suitability of BIM for sustainability analysis by developing a conceptual framework that shows how an interior designer and architect can use BIM to achieve sustainability and LEED, to create environmental design for all parts of the building. To achieve the objectives of the study, the research uses three research methodologies: Analytical, forward-looking, and critical.

The research is divided into three parts:

- The first part is a theoretical introduction on building information modeling and its importance in the field of interior design and architecture.
- The second part includes the research problem and an analytical study of the elements of sustainability using (BIM) technology.
- The third part includes the research hypothesis that the use of building information modeling technology to achieve sustainability standards and can represent a model for conceptual development.
- The research is concluded by presenting the findings of the research.

Keywords:

A holistic vision . building information. modeling technology