Institute of Graduate Studies and Research
Department of Environmental Studies

Achieving sustainability for Heritage Buildings using Heritage Building Information Modelling (HBIM)

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Presented by

Ayten Zameel Zaky El Akhtaby

M.Sc. Degree in Environment and Energy, Institute of graduate studies and research Alexandria University, 2021.

Diploma of Energy Conservation, Institute of graduate studies and research Alexandria University, 2015.

B.SC. Faculty of Fine Arts - Architecture Department, Alexandria University, Egypt, 1995.

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Abstract

Heritage Building Information Modeling (HBIM) is a multidisciplinary technique that is becoming more and more popular around the world for managing and recording historic structures.

This study explores how important Heritage Building Information Modeling (HBIM) is to heritage building protection. Using a thorough analysis of several studies conducted in various nations and a systematic assessment of the literature, the study highlights HBIM's ability to record, evaluate, and maintain cultural structures. It outlines the process from data collection using photogrammetry and laser scanning to historic fabric modeling, emphasizing the use of digital technologies in conservation efforts.

By using the Qardahi building's restoration as a case study using HBIM technologies, the key obstacles to HBIM adoption are identified in the paper, such as technical constraints, the requirement for specialist knowledge, and the difficulty of accurately representing historical facts. It suggests directions for further study aimed at refining data collection methods, boosting HBIM's compatibility with other digital technologies, and creating guidelines for the efficient recording of historical sites. The results support a cooperative strategy for the sustainable protection of cultural heritage, utilizing HBIM to promote interdisciplinary collaborations between architects, historians, and conservationists.

Keywords :

Heritage Building Information Modelling (HBIM), Documentation of Heritage Buildings, 3D Model, Sustainable Building Conservation, Damaged Historical Buildings