An Exploratory Study to Appraise the Current Challenges and Limitations Faced in Applying and Integrating the Historic Building Information Modelling Concept for the Management of Historic Buildings

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Abstract : The sustainability of built heritage has become a relevant issue in recent years due to the social and economic values associated with these buildings. Heritage buildings provide a means for human perception of culture and represent a legacy of long-existing history; they define the local character of the social world and provide a vital connection to the past with their associated aesthetical and communal benefits. The identified values of heritage buildings have increased the importance of conservation and the lifecycle management of these buildings. The recent developments of digital design technology in engineering and the built environment have led to the adoption of Building Information Modelling (BIM) by the Architecture, Engineering, Construction, and Operations (AECO) industry. BIM provides a platform for the lifecycle management of a construction project through effective collaboration among stakeholders and the analysis of a digital information model. This growth in digital design technology has also made its way into the field of architectural heritage management in the form of Historic Building Information Modelling (HBIM). A reverse engineering process for digital documentation of heritage assets that draws upon similar information management processes as the BIM process. However, despite the several scientific and technical contributions made to the development of the HBIM process, it doesn't remain easy to integrate at the most practical level of heritage asset management. The main objective identified under the scope of the study is to review the limitations and challenges faced by heritage management professionals in adopting an HBIM-based asset management procedure for historic building projects. This paper uses an exploratory study in the form of semi-structured interviews to investigate the research problem. A purposive sample of heritage industry experts and professionals were selected to take part in a semi-structured interview to appraise some of the limitations and challenges they have faced with the integration of HBIM into their project workflows. The findings from this study will present the challenges and limitations faced in applying and integrating the HBIM concept for the management of historic buildings.

Keywords : building information modelling, built heritage, heritage asset management, historic building information modelling, lifecycle management
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