World Academy of Science, Engineering and Technology
International Journal of Civil and Architectural Engineering
Vol:12, No:05, 2018

Building Information Modelling Implementation in the Lifecycle of Sustainable Buildings

Authors : Scarlet Alejandra Romano, Joni Kareco

Abstract : The three pillars of sustainability (social, economic and environmental) are relevant concepts to the Architecture, Engineering, and Construction (AEC) industry because of the increase of international agreements and guidelines related to this topic during the last years. Considering these three pillars, the AEC industry faces important challenges, for instance, to decrease the carbon emissions (environmental challenge), design sustainable spaces for people (social challenge), and improve the technology of this field to reduce costs and environmental problems (economic and environmental challenge). One alternative to overcome these challenges is Building Information Modelling program (BIM) because according to several authors, this technology improves the performance of the sustainable buildings in all their lifecycle phases. The main objective of this paper is to explore and analyse the current advantages and disadvantages of the BIM implementation in the life-cycle of sustainable buildings considering the three pillars of sustainability as analysis parameters. The methodology established to achieve this objective is exploratory-descriptive with the literature review technique. The partial results illustrate that despite the BIM disadvantages and the lack of information about its social sustainability advantages, this software represents a significant opportunity to improve the three sustainable pillars of the sustainable buildings.

Keywords : building information modelling, building lifecycle analysis, sustainability, sustainable buildings
Conference Title : ICCEA 2018 : International Conference on Civil Engineering and Architecture
Conference Location : Berlin, Germany
Conference Dates : May 21-22, 2018