A survey on the adoption of "Building Information Modeling (BIM)" in the Syrian construction industry and the challenges facing it

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Abstract

The concept of "Building Information Modeling" (BIM) has become one of the most modern beacon which is followed in the global construction industry in order to enhance efficiency in various project life cycle including design, construction, and even operation[8, 29]. In spite of this, the Syrian construction industry is witnessing almost complete absence of the BIM adoption. This study aims to discover the level of BIM adoption in the Syrian construction industry and the significant challenges facing it. In order to achieve this aim, 30 challenge factors were identified from the literature. Then, a questionnaire survey was employed to collect data from construction stakeholders in Syria, mainly in Damascus city, in order to obtain their opinion about the impact severity of each factor on the BIM adoption. Data were analyzed using SPSS software. The results revealed that there are 5 very high-impact factors facing the BIM adoption in the Syrian construction industry, 4 from these factors are related to the availability of the necessary skills to work on the BIM, as well as the lack of adequate training and education in the field. Also, the factor 'lack of adequate awareness among decision-makers, stakeholders and universities' toward the importance of the BIM is one of the essential challenges that hinder the BIM adoption. It also found that there are 11 factors with a high impact on the BIM adoption which can be categorized into four themes: factors related to investment and cost-effective, factors related to the culture resistance to change, factors related to procurement methods and legislation, and factors related to awareness about the importance of BIM among stakeholders in this field. This study highly recommends coordination and cooperation between decision-makers involved in the construction industry to provide adequate training and education about the concept of BIM and its benefits, and building a viable strategy to be adopted in the construction industry in Syria.

Keywords: Building information modelling, the construction industry, challenges, Syria