Critical Factors Affecting BIM Implementation in India: Multivariate Analysis

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ABSTRACT

There is an increasing trend in Building Information Modelling (BIM) implementation worldwide. However, its implementation in the Architecture, Engineering, and Construction (AEC) industry in India is low. This paper aims to identify the critical factors to BIM implementation and their underlying relationships. First, 19 potential factors to BIM implementation were identified using literature review and verified by interviews with AEC professionals. Then, a questionnaire survey was sent to AEC practitioners in India to rate the importance of these factors. The mean score, standard deviation, and the normalized value method were employed to identify the critical factors. ANOVA test was performed to reveal any significant difference in the factors' criticality. Factor analysis was then used to reveal the underlying relationships between the factors. The results indicate that 13 factors are critical to BIM implementation in India. Also, there are consistent views among the respondents towards the critical factors to BIM implementation. In addition, 17 out of 19 factors to BIM implementation can be grouped into two major components: (a) environment, legal, and resources; and (b) organizational. Therefore, stakeholders should address these two components and commit resources to increase the BIM implementation rate in India.

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