

A Review on the Current Status of Facility Management Practices in Building Industry and Prospective BIM Intervention to Manage the Facilities Effectively during its Service Life

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Abstract

Modern building projects are complex endeavors, with so many services and utilities interconnected towards achieving the common goal of efficient building operation during its service life. Many Building Management Systems - BMS systems and methods are in place to manage buildings such as malls, shopping complexes, office blocks, residential complexes etc., However the information needed for the efficient function of these BMS systems are either generated separately and are often incomplete and hard to determine. The advent of Building Information Modeling in construction projects though generate and store useful integrated information in its model, it is of less utilized by the BMS tools. The application of intelligent connected information in the BIM models are very well utilized during the design and construction stage of the projects. However, its usage in facility management stage is very much limited. There are guidelines and standards developed to facilitate the BIM model delivery during various stages of design and construction exists, however the availability of the facility management friendly building data and its need are not found, as the information collected were not planned to assist the facility management process. This advocates the need to develop standard framework for information specifications towards developing a BIM model as a source to facility management processes. Hence this research aims to identify the standard facility management practices exists in BMS process and facilitate the same through connected intelligent building information model by a BIM-FM level of detail framework as a prerequisite to the contractor in their as built models. However, this paper has a scope to address only the common facility management practices and its building data requirement towards efficient BMS implementation and a conceptual framework using as built BIM models. The research adopts deductive approach through semi-structured qualitative interviews with facility management stakeholders of the malls in Saudi Arabia to obtain the standard facility management information/ data requirement from the client on managing the FM process through a BMS system. The second part of the research is to develop the conceptual data drop framework for the as built BIM model development. The validation of the same will be through action research methodology however the same is not the scope of this paper.