

A Brief Note on Management of Building Information Modeling

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Abstract

Building Information Modeling (BIM) is a process that involves the creation and maintenance of digital representations of physical and functional features of places and is supported by a variety of tools, technologies, and contracts. Building Information Models (BIMs) are computer files that may be retrieved, transferred, or networked to assist decision-making about a constructed asset (often but not always in proprietary formats and including proprietary data). Individuals, corporations, and government organizations use BIM software to plan, design, construct, manage, and maintain buildings and a wide range of physical infrastructures, including water, waste, electricity, gas, communication utilities, roads, railroads, bridges, ports, and tunnels.

Keywords: Design; Construct; Architectural design; Geographical linkages

About the Study

Traditional architectural design relied heavily on two-dimensional technical drawings (plans, elevations, sections). Building information modelling incorporates information on time, cost, asset management, and sustainability in addition to the three basic spatial dimensions (width, height, and depth). As a result, BIM encompasses more than simply geometry. It also encompasses geographical linkages, geospatial data, building component quantities and characteristics, and enables a wide range of collaborative activities pertaining to the constructed asset from conception to completion, as well as during its operating life. Building information models cover the entire time period from idea through occupation.

BIM authoring tools show a design as a collection of "objects"-nebulous and undefined, generic or product-specific, solid or void-space oriented-each with its own geometry, relations, and characteristics. Different perspectives from a building model may be extracted using BIM software for drawing creation and other purposes. Because each object instance is defined by a single definition, these many views are inherently consistent. Objects are also parametrically specified in BIM software; that is, they are defined as parameters and relationships to other objects, such that if a connected item is altered, dependent objects are affected objects will change as well.

A BIM manager may be recruited to guarantee effective administration of information processes during this time period. From the pre-design phase onwards, a design build team retains a BIM manager on behalf of the client to develop and track the object-oriented BIM against predicted and measured analysis, scheduling, take-off, and logistics are all driven by multidisciplinary building information models. Companies are also contemplating producing

BIMs in various degrees of detail, because the use of BIM necessitates more or less detail, and generating building information models at various levels of complexity requires varied modeling effort. Each model element can have attributes that allow it to be automatically picked and arranged, allowing for cost predictions and material monitoring and ordering.

BIM in Construction Management

Participants in the construction process are continuously pushed to complete effective projects despite limited funds, personnel, hurried timeframes, and limited or contradicting information. Because two things cannot happen at the same time or in the same place, critical disciplines including architectural, structural, and MEP designs must be well-coordinated. BIM may also help with collision detection by pinpointing the specific position of inconsistencies. The BIM idea envisions the virtual building of a facility prior to its physical construction to decrease uncertainty, enhance safety, solve problems, and simulate and evaluate potential consequences. Before starting construction, subcontractors from all trades can input crucial information into the model, with the option to prefabricate or preassemble some systems off-site. On-site waste may be reduced, and items can be delivered just-in-time rather than being stockpiled.

It is simple to derive material quantities and common characteristics. Work scopes can be separated and specified. With the complete facility or collection of facilities, systems, assemblies, and sequences can be displayed in a relative scale. BIM also eliminates mistakes by providing 'clash detection,' in which the computer model graphically displays to the team where elements of the building may incorrectly cross.