

BIM Maturity Index (BIMMI) evaluates Building Information Modeling capability

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This publication provide information on “How the performance of BIM technology can be judged with BIMMI”

The term “BIM Maturity” comes from the software industry’s Capability Maturity Model. This model was developed by Software Engineering Institute, Carnegie Mellon University.

Capability Maturity Models is a process improvement framework to evaluate process maturity and business performance for generating business benefits. It enhance productivity and Return On Investment. It also decrease cost and post delivery defects.

The BIM Maturity Index has the similarity with Capability Maturity Models (CMM) and it depicts the quality, repeatability and degrees of excellence of BIM technologies, processes and policies which may be uniformly applied to the full lifecycle of Design, Construction and Operations phase.

Industry professionals like architects, engineers, contractors and facility managers have to accomplish many steps and fulfil certain requirements to deliver a BIM products and services as well as BIM technologies and concepts. BIM Capability Stages perform a quick yet accurate assessment to increase the quality of these products and services and demonstrate the maximum BIM requirements. Some of these requirements/deliverables are common across markets, disciplines and organizational sizes while others are quite unique to a specific market, discipline or size.

BIM Maturity Index has been formed by investigating and then integrating various maturity models from different industries.

BIMMI contains five exclusive Maturity Levels:

Initial/ Ad-hoc,
Defined,
Managed,
Integrated
Optimized.

Generally the development from lower to higher levels of BIM Maturity identifies the following :-
keep good control by lessening variations between targets and actual results,
Achieve good predictability and forecasting by mini versatility in ability, performance and costs
superior potency in gaining targeted goals and setting new more ambitious ones.

Applicable Maturity Models and Tools

There are many maturity models which are relevant to our quest but I’ll only mention a few of them below:

COBIT, Control Objects for Information and related Technology – Information Systems Audit and Control Association (ISACA) and the IT Governance Institute (ITGI) - weblink.

CMMI, Capability Maturity Model Integration - Software Engineering Institute/ Carnegie Melon - weblink.

CSCMM, Construction Supply Chain Maturity Model - Vaidyanathan & Howell (2007)

I-CMM, Interactive Capability Maturity Model developed as part of the National BIM Standard (NBIMS) Version 1 Part 1 - a project of the National Institute for Building Sciences (NIBS), buildingSMARTalliance™ - weblink.

Indiana University BIM Proficiency Matrix - weblink (MS Excel File)

Knowledge Retention Maturity Levels - Arif, Egbu, Alom and Khalfan (2009)

LESAT, Lean Enterprise Self-Assessment Tool - Lean Aerospace Initiative (LAI) at the Massachusetts Institute of Technology (MIT)

P3M3, Portfolio, Programme and Project Management Maturity Model – Office of Government Commerce (UK)

P-CMM®, People Capability Maturity Model v2 – Software Engineering Institute / Carnegie Melon

(PM), Project Management Process Maturity Model - Kwak & Ibbs (2002)

SPICE, Standardised Process Improvement for Construction Enterprises - Research Centre for the Built and Human Environment, University of Salford – Hutchinson & Finnemore (1999)

Supply Chain Management Process Maturity Model and Business Process Orientation (BPO) maturity model - Lockamy III & McCormack (2004)

The above mentioned ‘maturity models’ are related to construction industry and among them only two are able to evaluate the BIM-specific maturity: NBIMS’ I-CMM and Indiana University’s BIM Proficiency Matrix.

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