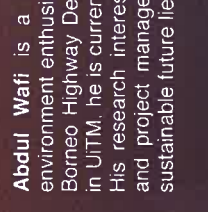




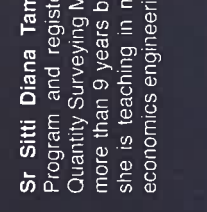
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# TOP 10 BUILDING INFORMATION MODELING (BIM)

## ARE YOU READY

FACTORS HANDBOOK

AFZAN AHMAD ZAINI  
ABDUL WAFI RAZALI  
NADIA ZAINI  
GUI HUN CHUEN  
SITTI DIANA TAMJEHI

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UNIMAS  
PUBLISHER

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**ARE YOU READY**

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# DEDICATION

*"This book is dedicated to all  
the FABulous members of the  
Faculty of Built Environment, UNIMAS."*

*from:  
Quantity Surveying Department  
Faculty of Built Environment, Universiti Malaysia Sarawak*

**TOP 10**  
**BUILDING**  
**INFORMATION**  
**MODELING (BIM)**  
**ARE YOU READY**

FACTORS HANDBOOK

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# Abbreviation

ARCHICAD	-	Architectural Building Information Modeling Software
BIM	-	Building Information Modeling
BIM 360	-	Cloud-Based Building Information Modeling Software
BQ	-	Bill of Quantities
CIDB	-	Construction Industry Development Board
IOT	-	Internet of Things
MEP	-	Mechanical, Electrical and Plumbing
MYBIM	-	Malaysia Building Information Modeling Training Centre
PWD	-	Public Works Department
TAS	-	Takeoff for Architecture and Structure
TRB	-	Takeoff for Reinforcement Bar
TBQ	-	Cost Estimating Software
TME	-	Takeoff for Mechanical, Electrical and Plumbing
UNIMAS	-	Universiti Malaysia Sarawak
2D	-	Two dimensional
3D	-	Three dimensional

# Preface

This handbook is design based on a series of researches on Building Information Modeling (BIM) conducted by researchers from UNIMAS. Out of 300 questionnaire surveys distributed among construction stakeholders, a total of 133 questionnaire surveys were returned and analysed using mean analysis utilising the IBM SPSS Version 25 software. The results were tabulated and ranked in descending order and only the top 10 factors were selected. This handbook can facilitate in guiding and helping employers, professionals, public and private organisations, policy makers, academicians, and any related personnel to evaluate the readiness of BIM implementation. **TOP 10 BUILDING INFORMATION MODELING (BIM) FACTORS HANDBOOK, ARE YOU READY** includes four (4) main components: Top 10 Awareness of BIM, Top 10 Benefits of BIM, Top 10 Challenges in Implementing BIM and Top 10 Strategies for Implementing BIM.



# What is Building Information Modeling

Building Information Modeling (BIM) is an intelligent and advanced 3D Model Based Integrated process that gives construction industry professionals (architects, engineers, surveyor, etc.) the insights and tools to efficiently plan, design, construct and manage complex buildings and infrastructures throughout the entire project life cycle (planning, designing, constructing, operation and maintenance).

BIM brings together all of the information about every component of a building, in one place. BIM makes it possible for anyone to access that information for any purpose, such as to integrate different aspects of the design more effectively. In this way, the risk of mistakes or discrepancies is reduced, and abortive costs minimized.

# “BIM involved Integrated Process between Human Competency and Technology”

-Dato' Ir. Ahmad 'Asri Abdul Hamid  
Chief Executive, CIDB Malaysia

## Awareness of Building Information Modeling (BIM)

Awareness can be defined as an understanding of other activities, which provide the context for your own activity and it refers to knowledge about the efficiency and skills of others as well as its method of operation (Reinhardt et.al, 2013).

Below are the top 10 levels of awareness and BIM related tools in the Sarawak construction industry which have been investigated among stakeholders.

**Table 1:** Top 10 levels of awareness and BIM related tools in the Sarawak construction industry which have been investigated among stakeholders.

Awareness of BIM	Mean	Rank
Knowledge of BIM from Internet	6.0000	1
Knowledge of BIM from friend/colleagues	5.7895	2
Knowledge of BIM from Seminar	5.6165	3
Awareness of BIM-ArchCAD	5.4586	4
Awareness of BIM-Autodesk revit	5.4135	5
Awareness of BIM-Bentley	5.3008	6
Awareness of BIM-Clodon Cubicost	5.2556	7
Awareness BIM-Autodesk Naviswork	5.1353	8
Awareness of BIM-Autodesk BIM 360 Glue	5.1278	9
Awareness of BIM-Tekla Structure	5.1278	10