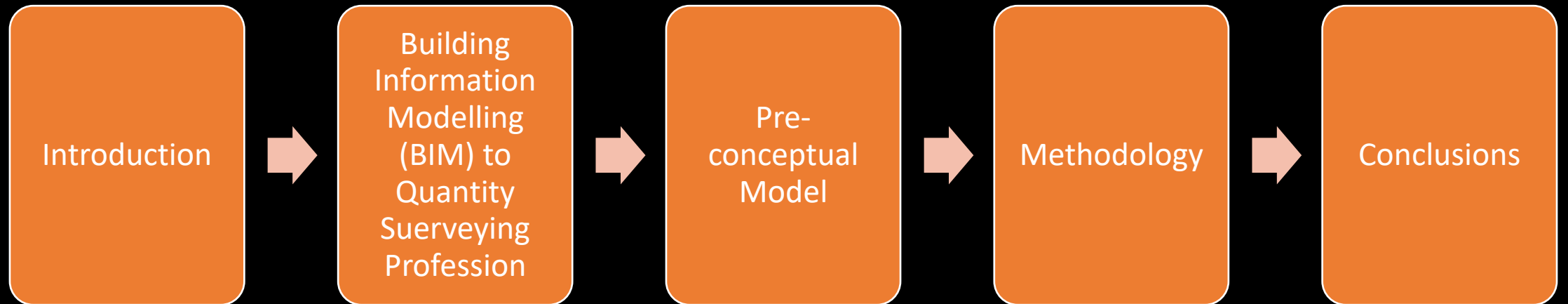




Recipes in Manoeuvring Building Information Modelling (BIM) to Quantity Surveying Profession

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Highlights





BIM

Building Information Modeling



Introduction

- According to Husien et al. (2021), the construction sector is both an important tributary of the world economy and a key resource for the local economy's entire product.
- Ahlam et al. (2021) emphasised that the shift toward big technological progress includes dangers, problems, and possibilities for the building business.
- The dangers and challenges may not cause the building sector to collapse, but they will most likely cause society to react more slowly (Rajnai et al., 2017).
- The majority of prior academics' findings highlighted a lack of information on BIM implementation in the Quantity Surveying (QS) profession as a primary hindrance to not embracing BIM. QS has the lowest BIM adoption rate among professions, at only 3%, owing to a lack of understanding of both software and hardware BIM solutions (Ali et al., 2013).
- Even though most governments in various nations have required BIM adoption for all government projects, it is still not making the playoffs, particularly in industries controlled by the private sector rather than the public sector (Quek, 2012).



Building Information Modelling (BIM) To Quantity Surveying Profession

- The speed of development in the construction sector is increasing, while the quality of construction is improving as a result of rapid development and science and technology inventions (Zhang et al, 2021).
- There are several innovative technologies available today that may be used in building projects. Building Information Modelling is one of the useful technologies (BIM).
- According to Haron et al. (2017), BIM is one of the methods used by construction organisations to efficiently monitor and manage projects.

No	BIM understanding	Authors
1.	Building Information Modelling (BIM) is a process that transforms construction process from fragmental traditional practices to an integrated digital manner process.	Othman et al. (2021)
2.	BIM is defined as “a model of building information that provides full and necessary information to support all life-cycle processes and that can be directly interpreted by computer applications	Manzoor et al. (2021)
3.	Building Information Modelling (BIM) is a method of information sharing between different parties using information technology or a technique with the elements of technology, organization and management	Tee et al. (2021)
4.	Compared to the traditional 2D drafting tools, BIM is an integrated process that enables architects, engineers, contractors and owners to perceive, from the predesign phase, what their building will look like and more importantly, how it will perform.	Lahiani et al. (2020)
5.	Building Information Modelling (BIM) is one of the most creative processes that help continuous improvement in the construction industry to achieve better cooperation between different sections and ensuring successful project delivery	Samimpay et al. (2020)
6.	BIM is a latest approach towards transforming stakeholder’s thinking about how technology can enhance the level of construction and safety control	Zaini et al. (2020)
7.	BIM is a tool of data communication and spatial analysis for integrating data acquisition, exchange, and visualization during the construction project life cycle	Zoghi et al. (2020)
8.	Building In formation Modelling is not just a designing tool but a system to manage the project during its life cycle.	Chan et al. (2019)
9.	BIM is a technology transforming how buildings are designed and constructed. At the same time, it can facilitate multi-disciplinary coordination whilst integrating 3D design, analysis, cost estimating and construction scheduling	Teng et al. (2018)
10.	BIM is a software model that can be used in project planning, design, monitoring and control among construction project group stakeholders in order to ensure project success.	Haron et al. (2017)

The Benefits of Building Information Modelling

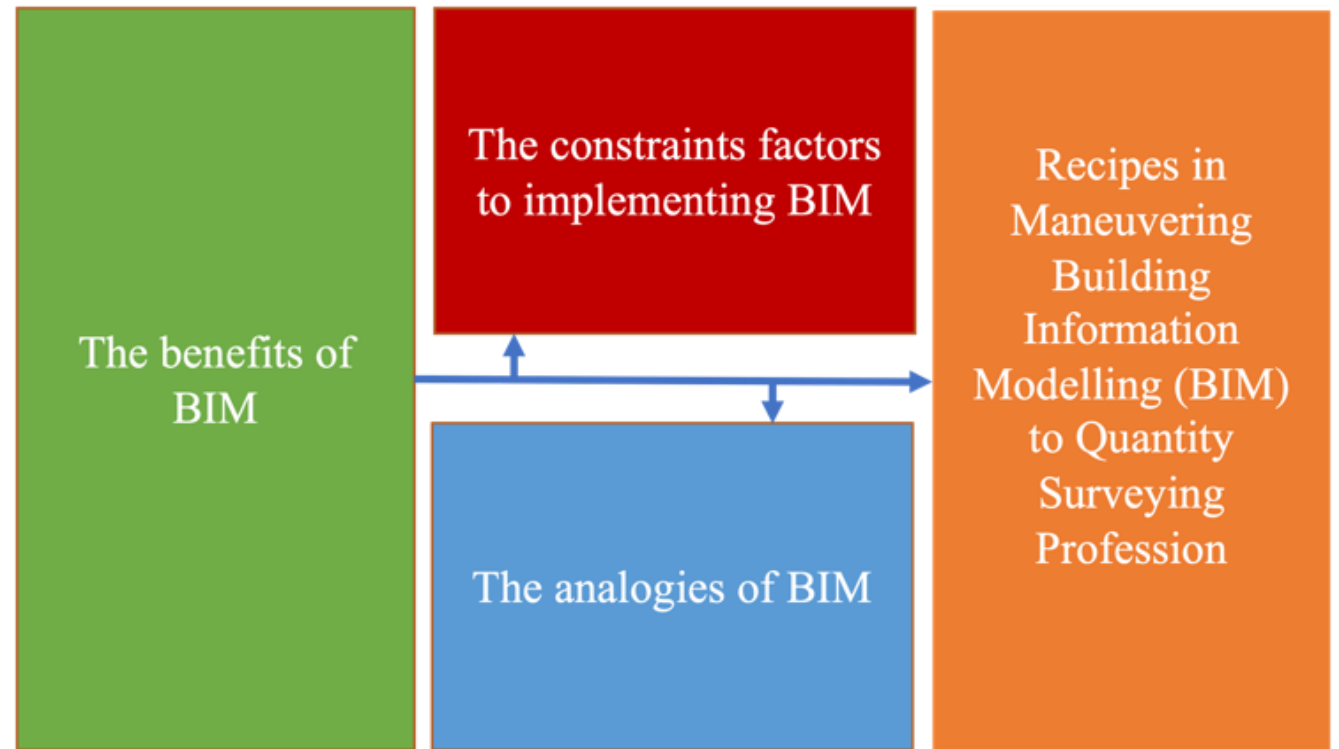
BIM Benefits								
Authors	Time	Cost	Quality	Design	Communication and Collaboration	Safety	Minimising dispute	Sustainability
1. Othman et al (2021)	√	√	√	√	√			
2. Belay et al (2021)	√	√	√	√	√		√	√
3. Hire et al (2021)	√	√	√	√	√	√	√	√
4. Shibani et al (2021)	√	√	√	√	√	√	√	√
5. Al-Ashmori et al (2020)	√		√	√	√	√		
6. Saber et al (2020)	√	√	√	√	√			

1. Saka et al (2020)	√	√	√	√	√	√		√
2. Hadi (2020)	√		√	√	√	√	√	√
3. Doan et al (2020)	√	√	√	√	√	√		√
4. Samimpay et al (2020)	√	√	√	√	√	√	√	
5. Koptopoulou (2020)	√	√	√	√	√		√	√
6. Penahi et al (2020)	√	√	√	√	√			
7. Ern et al (2020)	√	√		√	√			√
8. Chan et al (2019)	√	√	√	√	√	√		√
9. Gamil et al (2019)	√		√		√		√	
10. Ismail et al (2019)	√		√					
11. Abd Hamid (2018)	√	√	√	√	√			
12. Haron et al (2017)	√	√	√	√	√	√	√	√
13. Memon et al (2014)	√	√	√	√	√			
14. Alufohai (2012)	√	√	√	√	√			
Total Times Referred	20	17	20	18	19	9	8	10

The Constraints Factors to Implementing Building Information Modelling (BIM)

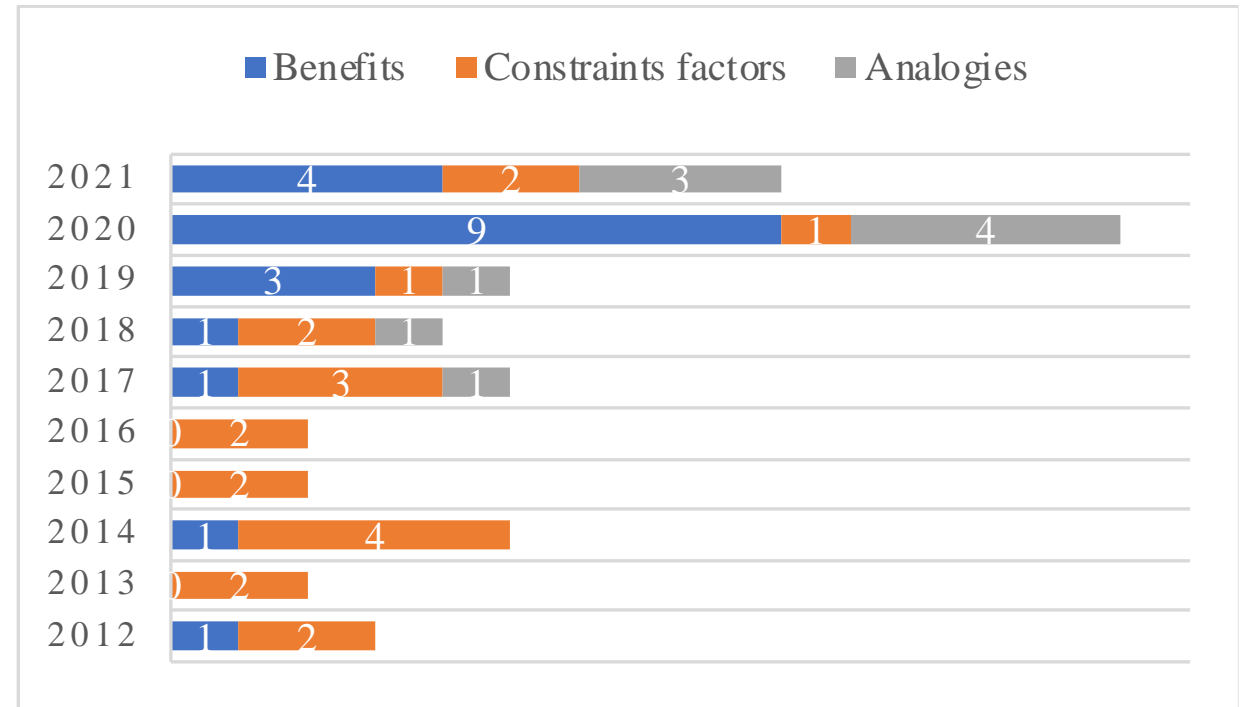
BIM Constraints factors	Financial	Technology	People	Management	Legal	Government
1. Ahlam et al (2021)	√	√	√	√	√	
2. Othman et al (2021)			√	√	√	
3. Saka et al (2020)	√	√	√	√	√	
4. Gamil et al (2019)	√	√	√	√		√
5. Abd Hamid et al (2018)	√	√	√	√	√	
6. Meganathan et al (2018)	√		√	√	√	
7. Vass et al (2017)		√	√	√	√	
8. Alhumayn et al (2017)			√	√	√	√
9. Haron et al (2017)	√	√	√	√	√	√
10. Diaz (2016)			√			
11. CIDB (2016)	√		√			√
12. Liu et al (2015)	√					
13. Franco et al (2015)	√					
14. Navendren et al (2014)			√	√		
15. Masood et al (2014)			√			
16. Gardezi et al (2014)	√					
17. Smith (2014b)	√	√		√	√	
18. Lindblad (2013)	√					
19. Davies et al (2013)		√				
20. Newton et al (2012)	√		√	√		
21. Hosseini et al (2011)			√			
Total Times Referred	13	8	15	12	9	4

Pre- Conceptual Model



Methodology

No	Item	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
1.	Benefits	1	0	1	0	0	1	1	3	9	4
2.	Constraints factors	2	2	4	2	2	3	2	1	1	2
3.	Analogies	0	0	0	0	0	1	1	1	4	3



Conclusion – *What are the Recipes?*

- Because BIM will provide several advantages to the construction sector, the hurdles to BIM implementation must be removed as soon as feasible by using effective techniques to improve BIM implementation. All construction practitioners must collaborate to enhance BIM implementation so that the construction industry may reap the full benefits of BIM technology.
- *critical to understand the benefits of BIM, the constraints factors, and the parallels underlying BIM deployment in order to lead a successful implementation of the BIM itself.*



THANK YOU