

GUEST EDITORIAL PREFACE

Special Issue on Building Information Modelling (BIM) in the Developing Countries

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Construction sector output in 2013 around the globe is estimated to be around US \$ 7.2 trillion. As per a report produced by Global Construction Perspectives and Oxford Economics this output is poised to grow to US \$ 12 trillion by 2020. Most of this growth is expected in the emerging economies such as China, India, Brazil, Russia and Poland. As per this report emerging countries currently represent about 35% of global construction output with an estimate that this is expected to increase to 55% by 2020. While the construction industry in the developed world is rushing to embrace Building Information Modelling (BIM) as a catalytic agent for gaining operational efficiencies. Over the past decade the construction sector in the developed world has adopted BIM in a big way. Annual surveys are being conducted to document the state of affairs. National level initiatives are in place to produce BIM standards and guidelines. Research activity focussing on the topic of BIM has also increased in that part of the world. Most of the information available in the research literature and industry publications is therefore primarily focused upon these select few parts of the world. Developing countries have not arrived on the scene. This may seem contradictory. Volume of construction is poised

to increase and gains that can be achieved via the use of BIM in developing countries could simply be enormous. The state of research, education and practice pertaining to BIM in the rest of the world, especially the emerging markets, remains largely un-documented. With a significant shift in construction output expected towards the emerging markets, it is prudent to explore the topic of BIM from the perspective of these markets. What is the current state of research, education and practice of BIM in developing countries is the focus of this special issue.

This special issue is truly global. It has papers that present different aspects of BIM implementation in India, Turkey, Qatar, Middle-East and China. All these different array of countries highlight a range of implementation related issues with BIM.

The first paper entitled “Perceptions and Reality: Revealing The Bim Gap Between The Uk and Turkey” by Ezcan et al aims is to determine the BIM gap in terms of awareness and use, in order to form a basis for the development of future adoption strategies between Turkey and the UK. The findings identify significant differences in BIM awareness the influence of

which could provide insight for both mature and emerging markets.

The second paper entitled “The Application of BIM-Enabled Facility Management System in Complex Building” by Wang et al presents the implementation of BIM in facilities management. This paper develops a BIM-enabled FM system which integrates FM, BIM and building management system to improve information sharing and monitoring, FM system control, and equipment management. Through a case study this paper demonstrates that BIM-enabled FM system facilitates the FM more accurate, timely, safe and efficient.

The third paper entitled “Enhancing Construction Processes Using Building Information Modelling On Mobile Devices” by Soussou et. al, reviews existing construction processes of a Leading International Engineering Contracting firm in the Middle East and investigates the potential of improving existing processes using mobile Building Information Technology and processes. The paper highlights the potential of enhancing efficiency and effectiveness of existing processes using readily available technologies in the middle-east.

The fourth paper entitled “Drivers and Barriers to the Use of Building Information Modeling in India” by Sawhney and Singhal reports

on the adoption of BIM in India. Finding the adoption rate in India low, this research aimed at finding out the drivers and barriers to the use of BIM. The paper concludes that the use of BIM is still in its nascent stage in India, although its adoption has seen an upward trend in the past three to four years. BIM adoption has still not reached a stage where the users can comment on the savings in cost due to BIM implementation as the majority of the respondents have not seen full cycle of successful implementation.

The fifth paper entitled “Adopting BIM Standards for Managing Vision 2030 Infrastructure Development in Qatar” by Mohammadi et al, assesses the significance of using Building Information Modeling (BIM) standards to enhance efficiency in the Qatari construction industry. The outcome of the research shows that using BIM as a standard could not reduce the inefficiencies faced by the industry. While the industry could be using BIM in general, it still does not form part of the strategy to promote collaborative working.

There are wide spectrums of issues highlighted in papers compiled in this issue. The lessons learnt from these countries can easily be used by other countries who are just embarking upon their BIM journey.