

## Executive Summary

Title: BUILDING INFORMATION MODELLING (BIM)  
Sub-Title: An investigation into the potential use of BIM for healthcare construction projects in the Kingdom of Saudi Arabia (KSA)  
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**Purpose:** This dissertation stemmed from the researcher's experience in carrying out research in the area of ICT in construction. The government of Saudi Arabia is going to build 92 hospitals during next 10 years due to the high demand and the increase of population. The purpose of this research is to investigate whether the use of BIM can improve the productivity of healthcare projects in the Kingdom of Saudi Arabia. The increase in cost of construction due to design errors not picked up earlier and complexity of multi-disciplines in healthcare projects provide an opportunity to harness the strengths of BIM.

**Methodology:** A comprehensive review of existing literature concerning healthcare construction projects in the KSA and BIM methodology in general was undertaken by the researcher. Primary research was conducted in the form of eight interviews with project team members from two different Saudi healthcare projects, which are currently on-going. The interviews related to the individuals' personal experience in relation to productivity, procurement, communication between stakeholders and application of BIM on Saudi projects. This was done in order to analyse the impact of each on the projects performance.

**Findings:** The research found that the KSA comprises the largest construction market in the whole of the Middle East with multi-billion dollar projects under way. However, the construction industry is one which suffers from lack of productivity due to poor management, insufficient information, lack of professional labour and numerous modifications during the construction phase.

Primary research showed that current procurement practice should be reviewed because it supports the lower bidder rather than quality. Case studies have identified that BIM offers major advantages to the construction industry, however BIM adoption in the Saudi industry is currently slow and contractor and client are far behind in adoption of BIM methodology.

Nevertheless, the need of BIM methodology is definitely felt in Saudi professional circles as is apparent from the primary research. One indication is a recent large-scale project (namely King Faisal Medical City), where PMWeb program has been employed. PMWeb however lacks 3D representation which is a step forward in the BIM. At least 10 new healthcare projects have committed themselves to using PMWeb. This trend shows that BIM methodology with its superior advantages will essentially become a standard practice in the KSA healthcare industry.