Exploring BIM Preparedness Among National Health Service Facilities Management

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ABSTRACT

In 2011, a UK government mandate stated that all public-sector construction projects must conform to BIM level 2. As the owner of one of the largest estate portfolios in Europe the NHS will be heavily impacted by the introduction of the BIM mandate. The aim of this article is to explore how prepared NHS facilities managers (FM) are for the introduction of the BIM 2016 mandate. To do this an online questionnaire survey and face to face interviews were conducted to identify NHS FM professionals’ awareness, understanding, experience, and opinions of BIM and organisational readiness. Analysis of the primary data shows that NHS FM professionals are underprepared to engage fully with BIM in a competent manner with many failing to demonstrate knowledge of the fundamental principles of BIM. By developing an understanding of NHS FM professionals current skills, knowledge, experience and opinions with regards to BIM this article aims to help future studies understand what key elements should be considered by public sector organisations when establishing a BIM for FM implementation framework.

KEYWORDS

BIM Implementation, BIM Preparedness, Facilities Management, NHS

INTRODUCTION

In 2011, the United Kingdom (UK) government unveiled their construction strategy outlining a number of ambitious proposals aimed at achieving best value on public sector construction projects. This document titled, ‘Government Construction Strategy 2011’ aims to address inefficiencies within public-sector construction projects. Previously public-sector construction projects were considered to be failing with regards to exploiting the public sectors procurement potential on construction and infrastructure projects (Cabinet Office, 2011). This strategy also aims to transform the traditional construction practices and methodologies utilised by the Architecture, Engineering and Construction (AEC) industry, often labelled as silo working. It is hoped that by introducing a collaborative working methodology, construction and building operation will become more efficient and cost effective (Williams, 2013).

The construction strategy (Cabinet Office, 2011), outlined a target to reduce the cost of public sector construction projects by 20%. A key element of this strategic plan was the governments mandate for all public-sector construction projects to align with Building Information Modelling (BIM) level 2 capabilities by 2016. This mandate has essentially challenged the Architecture, Engineering,
Construction, Owners and Operators (AECOO) industry to re-evaluate how it delivers and manages projects for public sector clients.

With the announcement from the UK government that all those tendering for public sector construction contracts from 2016 must be capable of meeting BIM level 2 requirements, it was expected that the AECOO industry would have become fully engaged in BIM implementation requirements. It’s important to note that in the context of this research study, the term engage is defined as the action of becoming intensely involved with a process and the action of bringing a process into operation.

With the 2016 BIM Level 2 mandate deadline imminent, surveys such as the ‘BIM4FM’ survey carried out by BIFM (2013) indicates that AECOO Industry professionals appear to be slow to adopt the collaborative working methodologies demanded by BIM Level 2. Patel et al. (2012), suggest the term to collaborate or to work collaboratively lacks clear understanding despite being a well-used term.

A study by Pinsent Masons (2014), appeared to indicate that instead of the AEC industry embracing the government BIM level 2 mandate, the strategy appears to have been met with a great deal of hostility and pessimism amongst industry professionals, with 64% of construction professionals surveyed dismissing the mandate outright as unachievable. Although it is possible that this reported resistance is a result of the limited use of BIM and lack of knowledge amongst AECOO professionals (Gu & London, 2010).

It further appears that whilst professionals working in the AECOO industry have expressed an appreciation for the potential benefits of BIM level 2 (BIFM, 2013), many are unsure how the benefits can be realised and what role they should play in terms of their input into the BIM process. Whilst the concept of BIM technology is not new to the AECOO industry, initial take up has proved to be laboured at best within the UK (BIFM, 2013).

The introduction of the UK governments 2016 BIM mandate, has now forced the hand of those who previously decided not to adopt BIM on public sector construction projects (Isikdag & Underwood, 2009). The requirement to deliver projects to BIM level 2 capability will challenge the traditional silo working paradigm favoured by the AECOO industry. Paramount to the successful delivery of BIM level 2 construction projects, is the need for the AECOO industry to work collaboratively with one another from conception all the way through the design and construction stages (Porwal & Hewage, 2013).

**FM AS A PROFESSION AND ITS MATURITY**

Facilities management (FM) first came to prominence in the 1970’s as building management became more complex and owners became more aware of the need to manage their assets (Jensen, 2008). The emergence of FM has been attributed to the increase of out-sourcing of non-core organisational functions (BIFM, 2013).

In comparison to other established AEC professions, FM can be considered to be very much in its infancy years in terms of the maturity model of the profession. Atkin and Brooks (2005), note that FM has traditionally been considered as the poor relation within the AEC industry. Critically, Atkins and Brooks (2005), fail to define or quantify what they mean by the term ‘poor relation’. There does appear to be evidence within the literature to suggest that FM professionals failed to gain the respect of AEC professionals in its formative years and it could be assumed that this is what Atkin and Brooks (2005), referred to with the term poor relation. The view of FM as a poor relation within the literature potentially stems from the initial assertion by industry professionals and academics that FM was not a profession in its own right. On reviewing the literature regarding the emergence and development of FM there is little doubt that FM was considered to be little more than basic building management in the early years of its inception (Atkin and Brooks, 2005; Leaman, 1992; Booty, 2006).
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