

Chapter 4

BIM FM:

An International Call for Action

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ABSTRACT

Despite significant progress for the adoption of BIM in AEC, currently its adoption for FM has been sparse, scarce, and extraneous. There are few cases in the world where robust adoption has taken place that are able to demonstrate success and are willing to disseminate the positive impact of BIM FM on sustainability, operational efficiency, and cost reduction. To date, there is no approach, motivation, or support in place to enable the extensive adoption of BIM for FM worldwide. In the UK, for instance, the UK BIM initiative, mandate, and the Digital Built Britain cannot count on the participation of FM stakeholders; the government has only started promoting initiatives that could trigger an extensive BIM approach, generating benefits for organizations and more importantly, society as a whole. In this chapter, data from authors' various research projects has been put together to generate an agenda for BIM FM implementation. The findings reveal that unless an intervention, such as a mandate for FM services suppliers, is put in place, very little will happen with regards to BIM FM.

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A SLIGHTLY DIFFERENT VIEWPOINT

The year is 2018 and much of what is proclaimed in the academic press, popular media and all other means of communications is that humanity has disturbed the balance of life in our planet to an extent that might be irreversible. Global warming and climate change constantly make headlines as the explanation for floods, landslides, draughts, storms, the melting of the polar caps and rising sea levels, as well as irregular weather patterns. Amongst the causes of these is the continuous accumulation of pollutant gases, such as CO₂ and methane, in our atmosphere. Many of these gases come from the collective impact of the way we live our lives individually, and that has to change.

Building use is at the core of the problem. The study by Kleips et al. (2001) revealed that, on average, American and Canadian adults spend approximately 87% of their time in enclosed buildings. Give or take, a person dying at the age of 83 (UK life expectancy) would have spent 72 years of their life inside a building. While individually that might not be significant, collectively it is a critical problem that requires attention as buildings consume approximately 40% of all energy production and generate circa 36% of global CO₂ and other greenhouse gases (European Commission, 2017).

Building occupancy is the subject explored within this article, with a focus on the use of Building Information Modelling (BIM) to support facilities management (FM). BIM for FM had its first significant application at the Sydney Opera House (Ballesty et al., 2006; Schevers et al., 2007) and has seen a number of applications worldwide since. This paper will not significantly address the matter of applications as discussed by Becerik-Gerber et al., (2012), Arayici et al., (2012) or the compilation of case applications presented by Teicholz (2013) and Volk et al., (2014). Instead, it will refer to the authors own earlier publications about various cases (e.g. Codinhoto et al., 2013a; Kiviniemi and Codinhoto, 2014; Comlay 2015 and Comlay and Codinhoto, 2017), to form the argument as to why the extensive adoption of BIM for facilities management has not happened, and as such is failing to deliver critical environmental and economic benefits.

The authors have drawn evidence from various independent pieces of research related to BIM FM carried out by them since 2011. Whilst evidence from systematic data collection forms the basis of the arguments presented in this article, anecdotal evidence from the participation of the authors in various activities related to the advancement of BIM FM and experience from conducting research in this field is also used. The aim of this article is not to contribute to the scientific advancement of BIM FM, rather it aims to present state-of-the-art of BIM FM and contribute to expanding its practical adoption.

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