

EDITED BY

BOB GIDDINGS • SILVIO MELHADO • JENNI BARRETT

# ARCHITECTURAL DESIGN AND MANAGEMENT IN THE DIGITAL AGE

INTERNATIONAL PERSPECTIVES



WILEY Blackwell



## **Architectural Design and Management in the Digital Age**



# Architectural Design and Management in the Digital Age

International Perspectives

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## Preface

Technology is a juggernaut that does not have a reverse gear. Nevertheless, it is incumbent on academics and practitioners that it should not be accepted without critical appraisal. The intention of this book is to present the advantages of digital technology in appropriate circumstances but also to appreciate that alternative methods may continue to provide considerable benefits in other situations. The book reflects on the rapid and prolific development of technologies used in architectural design and management. It begins with an overview of digital and cloud-based tools, with Building Information Modelling as a key development. Applications such as big data, artificial intelligence and robotics are also evolving significantly. There is a wide range of current and future possibilities for their application within architectural projects during the design process, but also as ways to facilitate architectural management. However, the application of digital technology should be determined by the human context, different types of buildings and spaces, their materials and construction, and the various concepts of place across the globe. Thus, there is a danger of digital stereotyping. It is perhaps the lack of flexibility and over-complexity in operational methods and regulatory compliance that has contributed to observations about the technologies not being adopted as much as their advocates would have hoped. Output from first-world countries can be applied to other countries by those who do not share their traditions, cultures and work environments, especially in the case of disadvantaged and disenfranchised people. Yet, it is not to say that those in emerging economies cannot take part in the digital revolution.

Inclusion, equity and diversity enrich environments, especially when they involve small contributions by many people over long periods of time. The waxing and waning of standardisation and the controversial impact on design context are explored. For some, there is a growing interest in information management. Nevertheless, concerns continue to revolve around the possibility of diminishing architectural quality. It may be that digital tools are more relevant to building production. Digitalisation of design and construction has the potential to transform not only the way projects are managed but also the role of the architect within the design process. Without due consideration of the human and professional contexts, it can push the communication of design ideas towards complex data management rather than engagement with space, form and structure. This re-conceptualisation may necessitate a new understanding of the role of designers and their responsibilities in conjunction with emerging disciplines, such as the BIM manager, in the new technologically driven project environment. Yet, there needs to be an evaluation of these roles to determine if creativity is being replaced by data manipulation or whether they are being introduced to cooperate and coexist with established ones to form inclusive and socially responsible design teams. Finally, new digital technologies are creating a diverging vocabulary, which involves new concepts and definitions that require interpretation, especially with regard to experiences of the design process in different countries.

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## **Part I**

### **Context**

