Article:
Worzala, E. and Oladiran, O. (2026) Guest editorial: Digital technology and innovation in real estate – part 2. Journal of European Real Estate Research, 19 (1). pp. 1-3. ISSN: 1753-9269

https://doi.org/10.1108/JERER-05-2026-100

Guest Editorial: Digital Technology and Innovation in Real Estate - Part 2

"*We stand on the brink of a technological revolution that will fundamentally alter the way we live, work, and relate to one another. ……. We do not yet know just how it will unfold, but one thing is clear: the response to it must be integrated and comprehensive, involving all stakeholders of the global polity, from the public and private sectors to academia and civil society.*" (Schwab, 2016).

Over the past decade, there have been significant advances in digital transformation within the real estate sector. These developments are reflected in a range of scholarly insights, often referred to by terms such as Real Estate 4.0 and PropTech (University of Oxford; Starr 2020). As a result, discussions about the imminent digitisation of real estate operations, services, and practice areas have gained prominence in the last five years. Early scholarly work contributed to understanding adoption issues, barriers, and consequences. Despite recognising the transformative impact of digital transformation, including improvements in environmental, social, economic, and physical efficiency (Oladiran and Dickins, 2024), research continues to highlight deep-rooted problems and challenges. The real estate industry still lags behind many other sectors, largely due to stakeholders' reluctance to share data and broader resistance to change (Saull et al., 2020). Saiz (2020) further emphasises the challenge of data sharing, noting that oligopolies seem to be emerging in the market for data provision. Additionally, he warns that lessons from the housing market should make us sceptical about the prospect that new technologies will significantly facilitate disintermediation.

Part 1 of this special issue on digital technology and innovation in real estate highlighted a range of scholarly insights drawn from exploratory and investigative studies to advance understanding of the integration of digital technology across the real estate value chain. This second special issue (Part 2) sheds light on a fundamental element of the broader industry's digital transformation, including stakeholders and other enablers. Stakeholders, including technology users, customers, innovators, professionals, and regulators, continue to play a vital role in shaping the pace and scope of digitalisation. They contribute to its ongoing development and success, making them essential enablers of further progress in innovation and digitalisation. Ecosystems of collaboration, data, and knowledge sharing can unlock new possibilities and sustainable growth; therefore, insights from these studies are crucial for the future. Some of the other studies also carry out bibliometric analyses that strengthen the body of literature in this area and guide future research and investigation. This special issue concludes with a practice paper focusing on the use of VR tools to enhance learning for end users.

Schäfer and Hennig: These authors examine investor perspectives on adopting eco-friendly smart home technologies (eco-SHTs), and identify key drivers and barriers in regulatory, financial, market, user, and technological areas. Based on 42 in-depth interviews and incorporating the innovation-decision process (IDP), the study suggests strategies such as education, incentives, market positioning, user-centred design, and technological support to address adoption challenges. Moving beyond traditional cost–benefit analyses, the paper presents a multidimensional framework to understand investor behaviour and support sustainable investment in eco-SHTs within the real estate sector.

Amidu, Levy, Kasim, and Liman: These authors explore the adoption of digital technologies among valuers in New Zealand, emphasising the factors influencing adoption, perceived benefits, and regulatory implications. Using survey data analysed through descriptive and inferential statistics, their study finds that most valuers have yet to adopt digital tools. Perceived efficiency and quality improvements strongly motivate adoption, while concerns about data accuracy and security serve as significant barriers. Education and career stage also notably impact the likelihood of adoption. The authors advocate for targeted training and supportive regulatory frameworks to promote digital integration and resilience within the valuation practice.

Harth, Maqbool and Glendson: These authors examine the development of digital transformation in real estate over the past decade and present a comprehensive framework that categorises emerging technologies into four thematic areas: digital value creation, systems and infrastructure, business models, and dynamic capabilities. Drawing on 54 key sources, the study highlights a significant gap between academic research and industry innovation. By proposing a phased model and a conceptual framework customised for real estate, the authors offer both theoretical and practical guidance for aligning research and industry to advance Real Estate 4.0.

Mancuso: This author examines the evolution of innovation in real estate through a bibliometric analysis of publications from Scopus and Web of Science. The author identifies key themes, leading countries, institutions, and journals, tracing the sector's transformation from early digital tools to blockchain and cryptocurrencies within the PropTech paradigm. The study highlights the limitations of the PropTech framework in fully capturing the complexity of real estate innovation, offering empirical insights into how technological advancements are reshaping the industry, and providing a comprehensive overview for scholars and practitioners alike.

Alsayyed, Allan, Sweis and Sweis: These authors examine the key enablers influencing blockchain technology adoption in Jordan's construction sector, using bibliometric analysis in conjunction with a PESTLE (Political, Economic, Social, Technological, Legal and Environmental)-based framework. Twelve essential enablers were identified and ranked through the Relative Importance Index, leading to the development of a revised EEPLTS framework (Environmental, Political, Legal, Technological, Sociocultural). The authors found minimal differences in perceptions across gender or job profile, except for the legal enablers. The study provides practical guidance for effective blockchain technology implementation and offers a structured, evidence-based framework to support industry adoption, contributing both theoretically and practically to the understanding of blockchain integration in construction.

Koch, Despotovic, Thaler and Zhang: These authors explore how image-based building condition classifications, whether manual or computer vision–generated, affect the accuracy of real estate pricing models. Using convolutional neural networks (CNNs) trained on data from brokerage platforms, the study finds that expert classifications most effectively improve model performance, while CNNs attain moderate accuracy (~60%) in automating valuations. Although constrained by image quality and subjectivity, the research highlights the potential of computer

vision to enhance valuation accuracy, streamline appraisal processes, and lower costs, marking a move towards more data-driven, standardised real estate pricing methods.

Stumpf and Kämpf-Dern: These authors outline the development of a Virtual Reality (VR) tool aimed at enhancing end-user learning and engagement in early workplace real estate projects. Using a Design Science Research approach, the study addresses communication challenges inherent in traditional 2D and 3D representations by developing an immersive VR prototype for Activity-Based Working projects. The findings highlight VR's potential to improve understanding, support change management, and enable scalable, practical applications beyond design review and marketing. The research demonstrates how customised VR tools can fill the gap between project planning and user understanding, offering a foundation for further investigation into end-user–focused real estate technologies.

This collection of papers highlights the vital role of stakeholders and enablers in advancing digital transformation in the real estate sector. By linking theoretical frameworks, empirical insights, and practical applications, from eco-smart technologies and valuation methods to AI-powered pricing, blockchain adoption, and immersive VR tools, these studies identify both opportunities and challenges in real estate digital innovation. Collectively, they demonstrate how strategic, collaborative, and data-driven approaches can advance innovation, enhance efficiency, and support sustainable practices, offering scholars and practitioners a strong foundation for reimaging the future of real estate in an increasingly digital and connected world.

We hope you enjoy reading this collection of articles and that the topics will inspire your thinking on how collective, stakeholder-led strategic action can further strengthen digital transformation in real estate use, operations, service delivery, and professional practice.

Elaine Worzala
eworzal@clemson.edu, Clemson University, USA

Olayiwola Oladiran
o.o.oladiran@sheffield.ac.uk, University of Sheffield, United Kingdom

References

Oladiran, O. and Dickins, L. (2024), *PropTech and Real Estate Innovations: A Guide to Digital Technologies and Solutions in the Built Environment*, 1st ed., Taylor & Francis, doi:10.1201/9781003262725-1.

Saiz A (2020), "Bricks, mortar, and proptech: The economics of IT in brokerage, space utilization and commercial real estate finance". *Journal of Property Investment & Finance*, Vol. 38 No. 4 pp. 327–347, doi: https://doi.org/10.1108/JPIF-10-2019-0139.

Saull A, Baum A, Braesemann F (2020), "Can digital technologies speed up real estate transactions?". Journal of Property Investment & Finance, Vol. 38 No. 4 pp. 349–361, doi: https://doi.org/10.1108/JPIF-09-2019-0131.

Schwab, K. (2016), The Fourth Industrial Revolution: what it means, how to respond. World Economic Forum, available at: https://www.weforum.org/stories/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/ (accessed 28 October 2025).

Starr CW, Saginor J, Worzala E (2021), "The rise of PropTech: emerging industrial technologies and their impact on real estate". *Journal of Property Investment & Finance*, Vol. 39 No. 2 pp. 157–169, doi: https://doi.org/10.1108/JPIF-08-2020-0090.

University of Oxford (2017). PropTech 3.0: The future of real estate.