Editorial: a cluster analysis on sustainable real estate and construction research from 2000 to 2022

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Biographical notes: Rita Yi Man Li is listed as Stanford University World's Top 2% Scientist (2020 & 2021 single year). She is now an Associate Professor in Economics and Finance at Hong Kong Shue Yan University. She is the founder and director of the Sustainable Real Estate Research Center. Her primary research interests lie in construction safety, sustainable building, housing economics, real estate economics and construction informatics. She has written over 300 articles and is a journal editorial board member for many journals. Over the years, she has won many local and international awards. She acts as a PI and co-I for many academic research grants, including highly competitive grants from Research Grant Council, ARC Linkage Grants, Public Policy Research Grants and other grants obtained from quasi-public institutions and government departments. She is an editor-in-chief for the *International Journal of Sustainable Real Estate and Construction Economics*.

1 Introduction

As per the 2020 Intergovernmental Panel on Climate Change report, an increase in population lead to geological hazards (Zeng et al., 2021), and many countries face challenges to attaining a sustainable economy and carbon neutrality targets with minimum CO2 emission (Shao et al., 2021). Sustainable development and co-development in economic, social and environmental (Li and Pak, 2010) could be considered a means to achieve this goal. According to United Nations Member States' "The 2030 Agenda for Sustainable Development", there are 17 Sustainable Development Goals (SDGs). (1) no poverty, (2) zero hunger, (3) good health and well-being, (4) quality education, (5) gender equality, (6) clean water and sanitation, (7) affordable and clean energy, (8) decent work and economic growth, (9) industry, innovation and infrastructure, (10) reduced inequality, (11) sustainable cities and communities, (12) responsible consumption and production, (13) climate action, (14) life below water, (15) life on land, (16) peace, justice, and strong institutions, (17) partnerships for the goals (United Nations, 2022).

One main concern in sustainable real estate and construction is its possible contribution to the low-carbon environment. Green construction materials could enhance sustainability in the construction industry (Sudarsan and Sridharan, 2021). BIM plays an essential role in sustainable design and construction, enhances energy efficiency contributes to better design of orientation, natural ventilation, and daylighting (Xu et al.,

2018). In the occupation stage, proximity to green space, central business district, and hospital affect residential land values (Vaishampayan et al., 2021). This editorial reviews 1982 articles indexed in Google Scholar in this field and summarises the research papers published in this regular issue.

2 Sustainable real estate and construction research from 2000 to 2022

Sustainable real estate is linked with building, office, housing, commercial real estate, and property. It is also linked with valuation and real estate investment (Figure 1). This study reviewed 990 papers indexed in Google Scholar with the keyword sustainable real estate from 2000 to 2022. It found that the most frequently used research method is a case study. On the other hand, 992 sustainable construction-related research works are published and indexed in Google Scholar. Many of these are related to concrete, energy and assessment (Figure 2).

Figure 1 990 paper titles published with the keyword sustainable real estate from 2000 to 2022 in Google Scholar

Figure 2 992 paper titles published with sustainable construction as keyword from 2000 to 2022 in Google Scholar

3 A bird's eye view on this issue

In this issue, we studied various research aspects linked with sustainable construction education (SDG 4), informal land delivery, construction costs, corporate social responsibility and basketball courts, and heritage management in Thailand (SDG 9).

Olalekan reviewed the current Quantity Surveying curriculum at Ahmadu Bello University and the Federal University of Technology to study the skills required in modern Quantity Surveying. Existing literature showed that technological advancement and complex client needs are the major factors causing these changes. Empirical data was collected via a questionnaire survey from quantity surveyors and analysed using statistical tools. The results showed that the current Quantity Surveying program fails to provide sufficient training to undergraduate Quantity Surveying students. Improvement is needed to upgrade the curriculum. It highlighted the new areas that should be included in the undergraduate program.

As a result, updated Joint Contract Tribunal, workshops & seminars, Computer-aided design, Knowledge management and Building Information Modelling should be given to the federal university of Technology Akure. Besides sustainability in Built Environment, knowledge of the various forms of Build, Operate, and Transfer Construction, workshops and seminars should be included in Ahmadu Bello University, Zaria. In addition, the university should update the curriculum to produce graduates with relevant skills in the era of Technology, economic uncertainty, and globalisation.

In another paper, Kesto and Leulseged studied Ethiopia's construction industry. According to the National Bank of Ethiopia report, despite the construction industry accounting for half of the nation's industry, problems like delays, cost overruns and poor quality of work are common. The study researched the local and foreign contractors' problems and compared foreign and local contractors' building project management practices. The Commercial Bank of Ethiopia's building projects owned by local contractors were compared with the foreign contractors based on cost, time, and quality. The questionnaire and interview results showed that the cost and schedule performance of local and foreign contractors were negatively related. Finally, they gave recommendations to advance the local contractors: they should change the cost management approach to incorporate the schedule and human and material resources with the help of various software. Schedule performance could be improved by creating a high-productivity culture. Practitioners should prioritise safety and employee development to enhance companies' quality performance.

Adegbemile reviewed the impact of environmental factors on the informal land delivery process in Nigeria. To support urban growth in developing countries, the informal land delivery system provides the land for housing and commercial unit developments. The land delivery system is a norm. This study highlighted economic, demographic, and political issues in the literature review. Surveys of property owners, tenants, and estate surveyors and valuers revealed social aspects. Informal land transactions were also included to know more about informal land issues.

Li and Deeprasert studied corporate social responsibility on the basketball court. Corporate social responsibility is essential for all professional sports organisations to improve their image and raise revenue. Nevertheless, the corporate social responsibility of professional sports organisations in China is only at an infant stage, and most organisations do not have a clear idea.

They applied Carroll's corporate social responsibility as the conceptual framework. They sent semi-structured questionnaires and conducted in-depth interviews to gain insight into corporate social responsibility awareness among professional sports organisation stakeholders. Their results showed that corporate social responsibility awareness in Chinese professional basketball work was restricted to their daily operations. It would be essential for them to communicate corporate social responsibility requirements to the public to realise their values and interests. Doing so could strengthen communication with stakeholders and narrow the distance between the public.

This regular issue also included a paper on tourism and cultural sites. COVID-19 challenges Thailand's tourism market, leading it to a major crisis. The loss of tourists caused by COVID-19 put Thailand's tourism market under colossal pressure. Wang realised that a significant proportion of Thailand's tourism market was Chinese tourists. He found little research on how Thailand could optimise its tourism resources and utilise unique resources like cultural heritage sites.

Tourism-related stakeholders could create more desirable tourism products, attract tourists in the post-epidemic era, and increase the source of tourists. The research adopted content analysis to study three main aspects that affected tourism attraction as per literature. Based on the three dimensions of tourism image, products, and services, this paper offered some suggestions for the Thai tourism market to attract Chinese tourists and drive economic recovery after COVID-19. It also provided advice for the government, tourism industry, consumers, and higher education institutions related to tourism in Thailand and provided some operational suggestions.

4 Conclusion

To conclude, this issue covers various sustainable development goals. For example, it reviewed the impact of environmental factors on the informal land delivery process in Nigeria, contractors' cost and schedule performance in Ethiopia, and basketball courts and heritage in Thailand (SDG 9). It also reviewed curriculum development in two universities (SDG 4), corporate social responsibility and Thai tourism. This paper also reviewed 1982 papers' titles indexed in Google Scholar. Prospectus authors may take the results as a reference when they plan for related sustainable real estate and construction economics research in the future.

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