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# Guest editorial: Social value of infrastructure projects: design, construction and global practices

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## Introduction

The rapid urbanisation of settlements is touching the lives of almost every one of earth's 8 billion global population. Despite, the evolution of theory and practice and specific interventions to spur economic growth, resilient infrastructure and development have not achieved the expected sustainable transitions. As reported by the World Bank, US\$4.2tn can be saved globally, by investing in more resilient infrastructure projects that respond to the needs and requirements of communities in location specific contexts.

One in four projects fail due to just two key causes: shortfalls in selecting the right projects and public opposition to selected projects. There are many examples where the economic viability of the projects alone does not provide the success from a societal perspective. Sadly, the community voice is still a passive and minor consideration—if not afterthought—in major infrastructure decisions. However, with the increasing pace of rapid urbanisation, the integration of power, culture, heritage and social value in general, have been largely ignored in infrastructure decisions. These knowledge gaps point to the urgent need for practical strategies and intervention in the social rationalisation of projects.

This timely Special Issue is intended to drive home the significance of the Social Value concept as a valuable focus in the development of infrastructure. In considering Social Value as a concept and referring to the research-based evidence, new insights for rationalising infrastructure projects and countering unsustainable growth in cities can be developed. The knowledge gaps in mainstream literature and pressing issues such as climate change and the COVID-19 pandemic, have heightened the urgency for multifaceted social value-oriented considerations when developing infrastructure systems to ensure sustainable development. These complex challenges open opportunities for innovative approaches to building smart infrastructure and supporting smart and sustainable communities. Consequently, Social Value transitions are currently becoming visible in the intellectual efforts amongst academia, industry professionals and policy makers.

Focussing on a wide range of interconnected topics, this Special Issue for the first time, brings together new knowledge, theories and practice related to Social Value projects.

This Special Issue is intended to exemplify the context specific development of infrastructure systems and thus contribute towards sustainable transitions that supposedly mitigate bridge economic and social divides. The myriad issues associated with conceptualisation of social value of infrastructure projects in relation to design, construction and global practices provide the themes of this Special Issue of *Built Environment Project and Asset Management (BEPAM)*. As Guest Editors our overall aim is to advance the emerging body of knowledge in the social rationalisation of projects.

The Guest Editors express their sincere thanks to *Built Environment Project and Asset Management* Journal for offering to host and support this special issue. The Guest Editors are confident that the articles published in this Special Issue provide a sound platform for the dissemination of cutting-edge research findings and best practices; leading to socially inclusive infrastructure and ensuring value for money in societal contexts. The research



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contributions and empirical insights in this Special Issue should strengthen institutional capacities across the globe by testing relevant theories and practical implementation. The articles published in this Special Issue deserve high visibility and, in turn, provide a platform for the dissemination of leading-edge research findings guiding socially responsive projects and equipping these for complete social inclusivity.

### Overview of special issue

This Special Issue comprises seven research papers. After reviewing these papers and aligning the themes of the research intended in this special issue, the guest editors aimed to provide a progressive flow of information towards rationalising social values in projects. The sequencing of the papers follows a rationale in relation to the scope, objective, location, context including the expertise of the authors.

The following carefully developed and rigorously reviewed papers, spanning across design and construction, provide an important discourse focused on emerging global practices and social value concepts. A brief summary of these papers is provided below:

The first paper “Analysing value creation in social housing construction in remote communities: Application to Nunavik (Canada)” by José Luis Suárez, Louis Gosselin Lehoux and Nadia Lehoux report on the construction of social housing buildings in Nunavik Quebec with a particular emphasis of creating social value in technical and social contexts. The research work employed experts’ interviews, a SWOT analysis, a structural analysis, and a Causal Loop Diagram. The research asserted energy resource, local labour, construction time, waste disposal, and transportation, packaging and storage as the key constraints limiting possible construction solutions and achieving social value outcomes. Importantly, their research also identified job creation and opportunities for engagement in local building industries being the core factors for creating values along the supply chain of social buildings projects in Nunavik. Emphasising the context of the community, the term “social” in the research referred to the publicly subsidised construction and operation of buildings targeting low-income households in the community.

The second paper “Beyond design and delivery: developing a model to measure end-user satisfaction (delight) in projects” by Muath Abu Arqoub, Amir Naser Ghanbaripour, Craig Langston and Greg Skulmoski, presents a model for measuring end-users’ satisfaction (EUS) with statistical reliability, validity and practical applicability. Based on a literature review, focus group and brainstorming meetings, the research revealed a comprehensive list of attributes to measure the end-user satisfactions. These attributes were then validated through seven case studies of different project characteristics such as type, size and location. A good degree of consistency performed on the case studies asserted the underlying measurement attributes in the model. These attributes were found to be robust and practical for measuring end-user satisfaction in projects. The results of this study expand the current body of knowledge in measuring customer and end-user satisfaction as an independent way of asserting values associated with a underlying project’s characteristics.

The third paper “Exploring social value and their enablers as business models for sustainable water supply projects” by Omoleye Ojuri, Grant Mills and Alex Opoku examined social value creation from the perspective of value co-creation and service ecosystems within infrastructure project business models. Utilising inductive reasoning and qualitative analysis techniques, their research showed how social value is created and delivered through community-based water supply projects. While social value co-creation was conceptualised through a range of integrated factors, the research also revealed the value destruction phenomena in the examination process of the social value co-creation. The research unearthed seven features of social value co-creation and three features of social value co-destruction in the water service systems. The social value co-creation features include

resource integration, consumer ownership perception, end-user empowerment, a sense of social unity, defined value-in-context, behavioural transformation, and knowledge transfer. In contrast, the features of value destruction include misunderstanding of service's roles/absence, loss of resources, value contradiction, unmet end-user expectations and lack of community cooperation. It was revealed that the emergence of these features in service systems is significant because their combinations provide evidence to understanding the processes, activities, and outcomes in water resource projects when considered as active and goal-oriented service ecosystems.

The fourth paper "Exploring the application of BIM in Tanzanian public sector projects using Social Network Analysis" by Abdullatif Abdallah, Hemanta Doloi and Dominik Holzer investigated the extent by which Building Information Modelling (BIM) can be beneficial for addressing some of the systemic underlying issues associated with construction projects. This study demonstrates how Social Network Analysis (SNA) can be adopted as a powerful mapping tool to link the BIM functions with issues in public sector projects, which have received scant attention in the literature. Asserting that BIM can address up to 72% of significant issues faced by the Tanzanian public sector construction projects, the research highlights the need to conduct a detailed analysis of how BIM functions can address the contextual issues in a given country prior to adoption. The findings will assist practitioners to understand the efficacies of the BIM and the underlying key BIM functions for addressing pressing contextual issues faced by public sector projects in the context of developing countries.

The fifth paper "Ex-post impact evaluation of PPP projects from multiple stakeholder perspectives: A toll road case" by Oliveros-Romero, Jose; Aibinu, Ajibade investigates an ex-post impact evaluation method for Public-Private Partnership projects (PPP). The paper describes how to evaluate the impact of an existing megaproject from the perspective of multiple stakeholders and isolate the impact of the procurement method. Notably, this study developed a conceptual evaluation framework called "Project Success Evaluation Pyramid Model" (PSEPM) that was designed using a Design Science approach. Following this, an impact evaluation method was designed based on the PSEPM. This evaluation method was tested and refined using three Public-Private Partnership projects. This approach could give greater clarity and legitimacy to the discussion over the use of PPPs by evaluating existing projects beyond the use of traditional time and cost measurements. Its originality is the systematic recognition and identification of stakeholder motives, purposes, and judgements over a project.

The sixth paper "Sustainable Construction Practice in Nigeria: Barriers and Strategies for improvement" by Oluwaseun Akindele, Saheed Ajayi, Luqman Toriola-Coker, Adekunle Sabitu Oyegoke, Hafiz Alaka and Sambo Zulu assesses the perspectives of 100 construction actors on the barriers and strategies of Sustainable Construction Practice (SCP) in Nigeria. Based on Factor Analysis and Partial Least Squares Structural Equation Modelling (PLS-SEM), key barriers and strategies along with the significant relationships and magnitudes of the key factors were identified. The findings revealed three clusters of barriers and four groups of strategies to SCP. The clusters were identified as a techno politic barrier, perception and awareness barrier, and sociocultural barrier. Of the significant strategies, education and training, stakeholder regulation, incentive support and government and legislative support strategies were identified. These strategies were seen as the most dominant and effective ways to mitigate the barriers of SCP in Nigeria.

The seventh paper "The hidden barriers to social value delivery in megaprojects: investigating the decision-making environment" by Jessica Siva and Thayaparan Gajendran. This paper investigates how the decision-making mechanisms in megaprojects are deeply embedded in networks of formal and informal practices involving the exercise of power. It is established how these practices can facilitate or hinder social value delivery. Notably in the

paper a critical realism philosophy was merged with a narrative inquiry approach to analyse the everyday, taken-for-granted practices resulting in decision-making outcomes. Data was collected through twenty-two in-depth semi-structured interviews, uncovering stories highlighting the nature of power relations, in the decision-making environment of one Asia Pacific megaproject. Employing Governmentality theory, the paper highlights how emergent, informal governing practices were blended with formal governance mechanisms; in turn creating a complex mix of overt and covert power dynamics. The findings suggest that the exercise of covert power by project team members through deviant tactics hinders social value delivery. The research asserted that understanding the power dynamics that influence the decision-making of project team members is key to maximising social value delivery.

The above seven papers, though their methodologies, methods and world best knowledge are exceptional. These papers presented in this Special Issue provide a unique theoretical discourse exploring the prevailing and emerging theories relevant to the area of social value creation in design and construction. The Special Issue paints a roadmap showing how to minimise the ever-increasing gaps between economic considerations, environmental concerns and social imperatives in infrastructure projects. It contributes to and establishes priorities and benchmarks required for new social infrastructure policies with a clear understanding of the theoretical underpinnings for supporting the urgent sustainable development of social infrastructure as an enabler for empowering communities at large.

The Guest Editors would like to thank all the Authors who contributed to this Special Issue and particularly those who have been successful through the rigorous peer-review process of their research before being accepted for publication. The Guest Editors are highly appreciative of all the anonymous reviewers who tirelessly provided their objective feedback on the papers and supported the improvement of the quality of research maintaining the high standard of the BEPAM journal. A special thanks goes to the Editor-in-Chief Professor Mohan Kumaraswamy for his tireless and valuable advice and handholding support provided throughout the process leading to the successful completion of this Special Issue in this esteemed journal. Last but not least, the Guest Editors would also like to acknowledge the unreserved support and technical assistance given by the Emerald Publishing team.

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