

Securing clients' objectives throughout construction project lifecycles

The main motivation to pursue with this special issue entitled "Securing clients' objectives throughout construction project lifecycles" was triggered by widespread issues faced by the project teams to meet client's project aspirations at delivery. Organizational decisions to commission a project are typically manifestations of client's organizational needs and strategic visions, drivers and priorities. Despite formal and informal procedures to continuously articulate and define client's organizational values and original vision to the project team, there are numerous forces that adversely influence the development of the project over its lifecycle (Chan *et al.*, 2003; Tang and Shen, 2013). Thus, the ultimate outcome is that clients will have to utilize the finished product as an asset to receive the economic return (Short *et al.*, 2011). There are, however, cases where the finished products of the construction projects deviates from the client's vision and hence failed to bring optimum benefit to the clients. Some of the well-known examples falling into the category of "White Elephants" are: the Mattala Rajapaksa International Airport (Sri Lanka), the South China Mall (China), Tel Aviv Central Bus Station (Israel), the Saint Helena Airport (the British Overseas Territory) and the City of Culture of Galicia (Spain). Thus, one of the four explicit objectives set for this special issue is to share research that reviews and develops tools/techniques aiming at capturing and fully understanding client's needs and requirements, project vision and organizational strategies.

Another objective of this special issue is to showcase examples on how the project supply chain could work more collaboratively with a client organization, particularly empowering the client to reconcile visions and be proactively involved in the planning, design and construction stages. There are occasions that some clients are reluctant even to provide a comprehensive (or adequate) project brief to the project team (Yu *et al.*, 2010). This makes it more challenging for the supply chain to understand the multidimensional nature of client's organizational objectives. In projects where multiple stakeholders with diverse organizational objectives are clustered around the client from the demand side (e.g. end users and investors in a major infrastructure project), the supply chain faces enormous challenges to meet multiple (sometimes conflicting) needs and secure multi-layered relationships, while also considering external stakeholders, such as governments, general public or environmentalists who have a power to slow-down or terminate the project in the worst case scenario (Lia *et al.*, 2013). Eskom's Kusile and Ingagula Power Stations in South Africa are two of the examples that have been subjected to similar challenges in their project lifecycles.

The third objective is to gather evidence of how construction projects could be procured in ways that assist better understanding of the impact of decision making during the design and construction toward the project vision and fulfillment of client's organizational strategies during the asset management stages. The supply chain may not have the full understanding of the client's enterprise level, scope and priorities, whilst repercussions from project decisions on client's organizational strategies can only be appreciated after understanding the complex micro and macro environmental systems in which they operate expertise (Tillmann *et al.*, 2010). Exacerbating this challenge, industry characteristics will typically divert the attention of the supply chain toward other priorities in a project delivery. For example, market competitiveness forces the supply chain to implement unprecedented design and construction solutions and the presence of other constraints (such as fixed deadlines and budgetary constraints) does not provide the project team an adequate opportunity to model the risk of unverified technology and processes along with an



established methodology. An example of such incidents is the Wembley Stadium Project delivery in the UK (Moore, 2009, 2011).

As the fourth objective, the special issue brings research that focuses on appropriate frameworks, techniques and/or tools for facilitating smooth information transfer between project and asset management teams. The transitional interactions between project development and asset management should occur over the lifecycle of the project and not be limited to the period of handover. In addition to defining organizational information requirements (i.e. data and information required to secure client's organizational objectives), holistic and integrated management of the project is needed to systematically evaluate supply chain's information exchange plans (Harty and Whyte, 2010). Standardized procedures are defined in some countries, such as the UK, to assist the construction industry for managing (i.e. verification, sharing, publishing and archiving) such information in a more structured manner (e.g. PAS 1192: Parts 2, 3 and 4) (British Standard Institute, 2013; British Standard Institute, 2014). Nevertheless, ad hoc exchange mechanisms are widely practiced (Le and Jeong, 2016) and there is a knowledge gap to be filled regarding the mechanics and efficiency of recent developments.

The first paper of the special issue is from New Zealand and aligned with the special issue's first objective. Aliakbarlou, Wilkinson and Costello review cutting-edge scholarly contributions in literature during the last 20 years to answer their main research question: "are client values and qualities distinct concepts in construction studies?" Considering the definitions and constituent attributes in the ambit of construction, both commonalities and differences between "value" and "quality" are brought into the discussion. The authors acknowledge the value theory concept of a strong interrelationship between quality and value, but further argue that there is no fine adherence to the value theory or other related theories by built environment scholars. Having acknowledged the presence of various subjective and objective preferences on and around the less straightforward concept, "value," the requisite of future research is emphasized to construct definitions and build theories around client's project aspirations.

The second paper supports some of the key recommendations brought by the first paper and is from one of the BRIC economies – India. Also, this study is aligned with multiple objectives (if not all) of this special issue. Kumaraswamy, Mahesh, Mahalingam, Loganathan and Kalidindi present an industry-led self-improvement initiative on how two action teams have been systematically developing a proactive "Construction Clients" Charter and key performance indicators (KPIs) to empower the Indian construction sector as a whole by addressing common supply chain and end-user concerns and also specific to securing clients project aspirations. The methodological approach by both teams is a combination of the reviews of literature and brainstorming focus group discussions followed by initial validation, consolidation and refinements. The interim Charter is developed in six subheads (procurement; design; innovation and technology; project execution; human resource development and worker welfare; and quality, safety and sustainability) and the interim suite of "Suggested KPIs" for building clients in India are clustered into three different types (design phase, construction phase or business outcomes) and levels (project/organization, benchmarking club and industry), emphasizing on best practices to formulate own industry development agendas and approaches based on the lessons learnt.

The next paper in our special issue is by Kamara from the UK and focuses on how clients' project aspirations could be maintained over the course of a construction project by using effective tools. This study is more related to the first and second objective of this special issue. The strengths and weaknesses of the design quality indicator (DQI) tool – which is a rational-adaptive approach to the assessment of DQIs – are investigated by using direct participant involvement and case studies. The author acknowledges that DQI is

capable of maintaining focus on client's project objectives, but there will be a room for significant improvements if DQI's shortcomings are addressed through the proposed requirements-oriented project process (ROPP) framework. The suggested ROPP mainly focuses on communicating the dynamic and evolving characteristics of client's aspirations to the project team in a well-structured format and opens future research possibilities to integrate its concepts with construction automation features.

The fourth paper takes us to Sri Lankan perspectives and Weerasinghe and Sandanayake develop a model entitled, "collaborative facilities management (CFM)", to enhance facilities management functions when multiple organizations share utility/infrastructure facilities, facility services and information. Although this study is limited to the asset management stage only, these concepts addressed by the authors determine employee's organizational information requirements during project development and handover (British Standard Institute, 2013, 2014). Thus, the study is aligned with the special issue's fourth objective. The authors have used a systematic approach and multiple methods to develop CFM including: critical review of literature, semi-structured interviews, observations, document reviews and in-depth interviews with subject matter experts. Core business, geographical location and ownership are the key dimensions of CFM and the model is based on the merits of collaboration to create a win-win situation for the organizations involved by resolving operational issues and optimizing operational performance.

Similarly, the next paper authored by Schultz focuses on facilities management, but from a different geographical and cultural setting: the USA. The study develops a visual-based facilities management workplace to ensure that asset management functions could be strategically aligned with entrepreneurial values and organizational mission and vision. Using a design science research framework with an action research approach, the author emphasize on how the visual workplace management system could enhance efficiency, transparency and value by integrating lean principles and concepts and visual management technologies. The paper argues that restructuring asset management divisions without paying attention to the less attended issues (such as employees' attitude toward the change, new technologies, computer system upgrades, developing new work standards, performance metrics and transformation programs) could be futile.

The sixth paper is again from Sri Lanka and closely related to the first, second and third objectives of our special issue. To minimize the wide gaps between the project management and facility management phases, de Silva, Weerasinghe, Madhusanka and Kumaraswamy establish a relationally integrated value networks (RIVANS) for total facility management (TFM). Having identified key stakeholders significant in TFM by analyzing questionnaire responses, then, semi-structured interviews are used to evaluate relationships among them. The findings are used to develop the required and existing RIVANS-TFM, using the UCINET social network analysis software package. To enhance the performance of existing RIVANS-TFM, the recommended RIVANS-TFM must have a higher "overall network density" than the current value. A potential solution to enhance the network density is to mobilize stakeholders' brokerage potentials to broker. An alternative suggestion by the authors is to straddle the structural holes and uplift the current integration level so that information, material and service flows will be minimally interrupted.

Finally, Pärn and Edwards, from the UK, provide a holistic view of literature on the current and future application of laser scanning and 3D modeling in the architecture, engineering, construction and owner-operated sector. This study is aligned with the fourth objective of the special issue. There is an ever increasing demand by owners to use laser scanning for as-built building information modeling development, but expensive and labor-intensive natures trigger the current development into hybrid automated and intelligent technologies. The authors emphasize on the existing knowledge gap on and around evaluating the actual performance of implementing hybrid digital solutions and establishing more cost-effective solutions.

The seven papers presented in this special issue incorporate scholarly contributions on the special issue's theme and the four explicit objectives from diverse geographical backgrounds and across various project phases. It is hoped that this contribution serves as a platform for future researchers to construct meanings, methodologies, techniques and tools on and around ensuring client's project aspirations in a way that asset return objectives are met in the best way possible. The guest editors would like to thank all the authors who submitted manuscripts and the reviewers who contributed enormously to improve the work of this special issue by providing insightful comments on the submissions. Also, the guest editors express their heartiest gratitude to the Editor-in-Chief and the Assistant Editor, Professor Mohan Kumaraswamy and Dr Jacky Chung, respectively, for their valued advice, as well as providing an excellent opportunity to run this special issue in such a prestigious journal. Finally, the guest editors also would like to acknowledge the Emerald Publishing team for their effective logistical assistance.

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