Advanced management in civil engineering projects

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Editorial

Advanced Management in Civil Engineering Projects

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This special issue aims to present the research studies regarding management in civil engineering projects, which provide theoretical and/or practical implications. Over eighty manuscripts were submitted, and 29 were accepted for publication after a thorough and rigorous peer review process. These papers cover a variety of topics in management of civil engineering projects, including risk and safety management, public-private partnership (PPP), human factors, information technology applications, construction organizational issues, planning and scheduling, and sustainability and resilience of civil infrastructures. We believe that the original papers in this special issue cover the hot topics in construction management research and will bring readers the latest advances in the field.

The paper by T. Ganbat et al. presents a bibliometric review of risk management and building information modeling (BIM) for international construction. The paper by T. Chang et al. models the paths of political risks in the international construction market and develops relevant strategies to mitigate these risks.

The paper by S. Xu et al. explores the impact examining whether attitudinal ambivalence is a mediating factor in the relationship between safety attitude and safety behavior. The paper by Y. Li et al. identifies the critical success factors (CSFs) for safety management of high-rise building construction projects and explores the interactions among such CSFs. The paper by T. Zhao et al. analyzes the status quo of safety management and identifies the “last mile” problem, i.e., the failure of implementation of the extensive legal and regulatory systems on the construction site.

The paper by Y. Liu et al. adopts case studies to identify the risk factors affecting PPP waste-to-energy incineration projects in China. The paper by Y. Liang et al. constructs key success indicators for PPP projects in Hong Kong. The paper by J. Li et al. uses the risk management approach to analyze the traffic allocation mode of PPP highway projects.

The paper by G. Ye et al. develops an improved Human Factors Analysis and Classification System (I-HFACS) in the construction industry and designs an analytical I-HFACS mechanism to interpret how activities and decisions made by upper management lead to operator errors and subsequent accidents. The paper by P.-C. Liao et al. proposes a model for identifying, analyzing, and quantifying the mechanisms for the influence of an improper workplace environment on human errors in elevator installation.

The paper by Z. Xu et al. extends the interoperability of a construction quality database in the evaluation process by employing the industry foundation classes (IFCs) data model. The paper by T.-K. Wang et al. quantitatively assesses the efficiency of augmented reality (AR) from the cognitive perspective in the context of construction education and compares learners’ visual behaviors in text-graph- (TG-) based, AR-based, and physical model- (PM-) based learning environments.

The paper by Y.-H. Lin et al. explores the moderating effect of guanxi on the dynamic capacity and competitive advantage of international contractors. The paper by G. Wu et al. takes into consideration the effects of the contractor’s conflict behaviors on the project benefit and develops a decision model between the owner and contractor’s conflict.
behaviors in construction projects using the principal-agent theory and game theory. The paper by P. Yan et al. investigates the potential individual, group, and organizational factors that influence group bidding decision-making for construction projects.

The paper by J. Dong et al. develops a network planning method for the capacitated metro-based underground logistics system (ULS) and validates this method using two lines of Nanjing Metro. The paper by M. Kannimuthu et al. determines the most challenging issues being faced in handling the multiproject environment, enumerates the practices adopted in the industry, and identifies the practitioners’ perceptions on the multiproject scheduling aspects.

The paper by Y. Liu et al. performs a thorough literature review to follow the development trends, interviews with professionals from the academia and industry, and a critical analysis of technical requirements for integrating BIM tools and infrastructure sustainability rating systems in the design process and develops a conceptual framework for integrating sustainability rating systems by introducing BIM with a sustainability metric plug-in. The paper by L. Wang et al. assesses the sustainability and resilience of the urban infrastructure by adopting the grade point average (GPA) as a unified assessment approach.

**Conflicts of Interest**

The editors declare that they have no conflicts of interest.

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