# Engineering Management Journal

Volume 36, 2024 – Issue 2

**Editorial – Editor’s Introduction**

Brian Smith, Jennifer Cross, Simon Philbin

In this issue of the Engineering Management Journal (EMJ), we are delighted to present seven new articles that address key areas across the field of engineering management. EMJ seeks to provide readers with timely access to the tools, techniques and underpinning knowledge to operate in the increasingly technology-driven world and manage arising complexities associated with the adoption of emerging technologies as well as new organizational processes and systems. The journal incorporates different perspectives spanning theoretical and academic domains as well as practitioner and industrial domains. As such, EMJ is committed to extending the knowledge base of engineering management and related areas, such as industrial engineering, systems engineering, technology management, project management and engineering economy while remaining relevant and having practical utility to working engineering managers. The Co-Editors would like to thank all of the reviewers who contributed to the peer-review process for the articles in the issue as well as the Associate Editors, Larry Stauffer, Jennifer Cross, Ona Egbue, Kate Abel, Jan Terje Karlsen, Edson Pinheiro de Lima, and Steven Corns for their respective contributions to this issue.

The first article in the issue is by Luis E. Quezada, Héctor A. López-Ospina, Juan E. Valenzuela, Astrid M. Oddershede and Pedro I. Palominos, and is called “A Method for Formulating a Manufacturing Strategy Using Fuzzy DEMATEL and Fuzzy VIKOR.” This article develops a quantitative approach for producing a manufacturing strategy, which is achieved through utilizing multi-criteria decision-making (MCDM) and the fuzzy analytic hierarchy process (FAHP). The manufacturing strategy includes industrial requirements, such as improvement of inventory management system to reduce cost; implementation of a program to reduce material waste; and implementation of a control system for the manufacturing process. The article includes reflections on how the strategic approach can be adopted in manufacturing firms, such as highlighting the role of workshops to capture key information relevant to enable development of the manufacturing strategy.

The second article is a book review by Simon P. Philbin, which reviews the book called “How Big Things Get Done” that is written by Bent Flyvbjerg and Dan Gardner. The book review provides a commentary of the book that focuses on the issues associated with the design and delivery of mega-projects but also has coverage of smaller level projects. The book itself includes useful insights on the delivery of major projects, such as the California High-Speed Rail project, Massachusetts, Boston’s Big Dig project and the project to build the Sydney Opera House in Australia. The review highlights such projects and how they are described in detail in the book. The book review provides the reader with an overall appreciation of the strategy that the authors adopted to produce the project management book as well as the key themes that are covered, which would be of benefit to those considering reading the book.

The third article is by LiPing Xu, Ning Liu, Linyu Zhou and LanQi Lu, and is called “Fiscal Risk Management of Public–Private Partnership Projects: A Multidimensional Identification and Assessment Framework.” The article considers the case of public–private partnership (PPP) projects, where governments are required to provide guarantees to institutional investors due to the risk profile associated with PPP initiatives that are often high value and long term in nature. The article explores the mechanisms of PPP fiscal risk and undertakes multidimensional identification of PPP fiscal risk to derive a set of indicators of PPP fiscal risk under the standardization dimension. The resulting framework is evaluated through a case study investigation of a PPP project in Shandong Province in China. The article provides insights that will be useful for researchers and practitioners interested in gaining a deeper understanding of the financial risk management of PPP initiatives.

The fourth article from Fredrick Ahenkora Boamah, Jianhua Zhang, Sherani Sherani, and Ziao Cao titled “The Mediation Role of Engineers’ Performance Factors in the Influence of Social Capital on the Desire to Share Tacit Knowledge” presents a study on the importance of social interactions between engineering and the sharing of knowledge within an organization. The authors highlight some challenges to knowledge sharing among engineers and find that social interactions help mitigate those challenges. Group trainings such as workshops and planned social events are found to be helpful in breaking barriers to knowledge sharing.

Next, we have and article from Emel Sadikoglu, Jonathan Jäger, Sevilay Demirkesen, Carolin Baier, Svenja Oprach, and Shervin Haghsheno titled “Investigating Impact of Lean Leadership on Construction Project Success.” This article reinforces the notion that change and improvement programs are not likely to have long-term success without strong support from top management. The focus of this manuscript is the success of Lean in the United States construction industry. The concept of “lean leadership” is explored, and key attributes are identified. Structural equation modeling results in a model engineering mangers may study to help improve their approach to project management. The final model illustrates the importance of leadership at the process level with visual controls and problem-solving skills being most influential on project success.

The sixth article is “An Integrated Interval Type-2 Fuzzy Set Model for Evaluating Circular Low Carbon Suppliers in a Developing Country” by Selçuk Perçin. This article is of benefit to engineering managers looking for guidance in lowering the carbon footprint and environmental impact of the supply chains of their organizations. A model is presented to help evaluate suppliers in terms of environmental impact along with economic factors.

The final article of this issue, “Location-Based Tracking and Monitoring Infrastructural Construction Works by Using Business Intelligence Tools” by Omer Girana, Osman Hürol Türkakinb, and Murat Anbarci show that data warehousing and business intelligence are effective tools for aiding construction project success as in other industries. The authors incorporate their model into tableau software which provides a clear dashboard for managers to monitor project performance.

EMJ invites participation and articles from academic researchers as well as practitioners from industrial, governmental and other organizations. We welcome all types of research methodologies that are applicable to the engineering management discipline. For questions or inquiries on possible articles, please contact the journal’s Editors: Brian Smith ([smith@ise.msstate.edu](mailto:smith@ise.msstate.edu)), Jennifer Cross ([jennifer.cross@ttu.edu](mailto:jennifer.cross@ttu.edu)), and Simon Philbin ([philbins@lsbu.ac.uk](mailto:philbins@lsbu.ac.uk)).