
Guest editorial: Applications of operational excellence practices in Indian contexts

Guest editorial

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1. Introduction

Operational Excellence (OE) is defined as the conscious outcome of applying enterprise-wide practices based on principles across culture, continuous process improvement, enterprise alignment and results (Shingo Institute, 2013). It has become the core of value creation across industries, in both manufacturing and services sectors. Lean, Six Sigma and Lean Six Sigma (LSS) are some of the highly used OE methodologies that practitioners and researchers have recognized (Sunder *et al.*, 2018). Today, almost every firm across industries has embraced OE in some form or other, and hence, presents an important agenda for research.

Given the rise of offshoring of service sector jobs to India, and the expected increase in manufacturing sector penetration and its contribution to the country's economy, this special issue focuses on the application of OE in Indian contexts. Specifically, with the rise in investments in manufacturing, the private sector capex in India has grown by over 145% in 2022 (Swarajya Staff, 2022). Interestingly, India has been ranked among the top three, globally for research in this field (Sreedharan and Raju, 2016).

With a set of seven articles, this special issue aims to present two important themes for practitioners and researchers. First, through three review papers, it presents the research that has been done, thus, far in this area, what could be interesting and worthwhile for future research (research gaps) and methodological and contextual directions for researchers. Second, through four original research papers, this special issue brings insights for practitioners as managerial implications, potential challenges and strategies to overcome them.

Specifically, this special issue presents the application of OE in unique, important, but less researched (so far) contexts like the triple bottom line, regulatory compliance, sustainability improvement and commercial, financial and corporate affairs (CAs). From a sectoral contribution, the special issue articles cut across manufacturing, mining, health care and pharma industries with a special focus on social interests (like sustainability) beyond the conventional commercial interests around OE. While the research methods are limited to systematic reviews, fuzzy methods, questionnaires, interviews, case studies, interpretive structural modeling (ISM), structural equation modeling and Impact Matrix Cross-Reference Multiplication Applied to a Classification (MICMAC) analysis, I believe the results show utility to meet the above-said key aims of the special issue. I hope this special issue provides insights to both researchers and practitioners of OE, within Indian contexts and beyond.

Erratum: It has come to the attention of the publisher that the article, Sunder M., V. (2023), "Guest editorial: Applications of operational excellence practices in Indian contexts", *International Journal of Lean Six Sigma*, Vol. 14 No. 4, pp. 705-709. <https://doi.org/10.1108/IJLSS-07-2023-232> the affiliation for Vijaya Sunder M. was incorrectly listed as "Indian School of Business, Mohali, India". This has now been corrected as "Indian School of Business, Hyderabad, India", in the online version. This error was introduced in the production process, the publisher sincerely apologises for this error and for any inconvenience caused.



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2. Key contributions

2.1 Review articles

The first review paper by [Henriquez et al. \(2023\)](#) is “Operational Excellence through triple bottom line in emerging countries: a systematic review and conceptual model proposal in production research.” This article focuses on advancing the understanding of OE in emerging countries through a systematic literature review. The findings reveal nine attributes of OE based on the triple-bottom-line concept (economic, environmental and social sustainability). Four attributes emerged as the most frequently cited, forming the basis for the proposed framework. The analysis also highlights that the majority of studies on OE in emerging countries have been conducted in Asia. While some previous research has touched on OE in these contexts, this study fills a gap by presenting a detailed model of OE and its applicability specific to emerging countries. Furthermore, the study emphasizes employee participation and culture generation, and advancing research methods.

The second review paper ([Jalundhwala and Londhe, 2023](#)), entitled “A systematic review on implementing Operational Excellence as a Strategy to ensure regulatory compliance: a roadmap for the Indian pharmaceutical industry”, delves into the process of OE in the pharmaceutical sector, with a specific focus on ensuring regulatory compliance. The study aims to enhance understanding in this domain and provide valuable insights for quality assurance managers, regulatory agencies and top management. Conducting a literature search following systematic review guidelines, the researchers identified 46 articles that were deemed relevant for a comprehensive analysis. The findings highlight the impact of implementing OE in day-to-day operations and the driving forces behind its achievement. The study describes seven commonly used enablers that can be combined to develop an assessment model, allowing for validation and effective implementation. Case studies are also presented to illustrate OE programs tailored to the pharmaceutical industry. While the study focuses on Indian pharmaceutical manufacturers, particularly small-scale ones, it has implications that can be extended to manufacturers in other regions. The practical implications guide quality assurance managers, regulatory agencies and top management in implementing OE to ensure higher regulatory compliance. It serves as a roadmap for achieving OE within the pharmaceutical industry and can be applied to any manufacturing sector subject to pharmaceutical regulatory standards.

The third review article ([Yadav et al., 2023](#)), “Green Lean Six Sigma (GLSS) for sustainability improvement: a systematic review and future research agenda,” aims to provide insights into various aspects of GLSS and offers a conceptual framework for its implementation. The systematic literature review methodology was used to analyze 140 articles sourced from reputable databases. The exploration of articles across different continents, years, approaches and journals enabled the assessment of the current execution status of GLSS. The study identifies enablers, barriers, tools and potential benefits associated with GLSS in industrial organizations. Furthermore, the study provides avenues for potential research, serving as a valuable resource for researchers and practitioners interested in this area. Overall, this research expands our understanding of GLSS by synthesizing existing knowledge and shedding light on its application status. The insights derived from this study can guide future research efforts and inform practitioners seeking to embrace the GLSS approach for sustainable improvement in their organizations.

2.2 Research articles

As the Indian economy has experienced significant growth and LSS has emerged as a globally recognized business improvement strategy, this fourth article ([Patel and Patel, 2023](#)) titled “Status of Lean Six Sigma implementation in Indian industries: a cross-sectional

national survey,” aims to assess the status of LSS adoption in Indian organizations through a survey research technique. A survey questionnaire was developed based on existing literature to gauge respondents’ awareness of LSS methodology and gather insights on various aspects related to LSS adoption in Indian industries. The questionnaire was validated and administered to randomly sampled respondents from the Confederation of Indian Industries membership database. The study highlights the significant role of consultants in creating awareness and building skills for LSS implementation. Top management commitment and involvement are identified as key success factors, while resistance to change poses a major challenge. Additionally, the study finds high levels of satisfaction among respondents after adopting LSS. While the research limitations should be considered due to the sample size of 183 respondents, this paper offers some utility to the current status of LSS implementation in India. The results can serve as a motivating factor for managers in Indian industries to embrace LSS methodology more widely. Furthermore, the findings provide a direction for future research on LSS in the Indian context. The authors conclude that, by addressing the identified challenges and capitalizing on success factors, Indian industries can enhance their operational efficiency and drive sustainable growth.

Amid the COVID-19 pandemic during the fourth industrial revolution, the manufacturing sector faces unprecedented challenges. To mitigate these difficulties, lean philosophy emerges as a powerful ally. The fifth article ([Mohapatra et al., 2023](#)), is a study entitled “A sustainable solution for lean barriers through a fuzzy DEMATEL methodology with a case study from the Indian manufacturing industry”, which aims to identify and analyze the obstacles hindering the implementation of lean strategies in the manufacturing industry, providing valuable insights for policymakers, practitioners and decision-makers. Using the fuzzy DEMATEL approach, the study categorizes the barriers to lean implementation into seven primary components and evaluates the critical factors and their cause-and-effect relationships. Expert opinions are solicited to gather relevant data for the evaluation process. The findings underscore the importance of addressing issues such as cultural conflicts within firms, resource-response capability, suppliers’ attitudes and effective planning and logistics equations to overcome barriers to lean implementation. By focusing on these causal factors, the study reveals improvements in key areas including top management vision, management–employee relationships and human resource development, thus alleviating resistance to lean implementation. This research has practical implications for the manufacturing and industrial sectors by identifying and analyzing lean implementation issues. The insights and results generated serve as a guide to dismantle barriers and foster successful lean implementation, enabling industries to thrive and excel in the post-COVID era. The unique classification and prioritization of barriers in the Indian industrial context contribute to the originality and value of this research, empowering industry professionals and managers with actionable insights to embark on their lean implementation journeys.

In this sixth article ([Keramida et al., 2023](#)), “Impact of commercial, financial, and corporate affairs on OE of the Indian mining industry,” researchers seek to uncover the intricate Web of relationships between commercial issues (CIs), financial issues (FIs), CAs and OE within the mining industry. By focusing on Indian mining executives with extensive experience, the study collected a purposive sample of 321 individuals, aiming to shed light on these crucial dynamics. Using confirmatory factor analysis, the researchers successfully identified and confirmed the factors involved in the study. To comprehend the unique and complex interplay between FI, CI, CA and OE, they used structural equation modeling. The study’s findings reverberate with significant implications for the Indian mining industry. It was revealed that all three issues, CI, FI and CA, exert a notable influence on OE. Among the

variables examined, marketing products and the size and quality of products emerged as primary drivers within the commercial realm. From a financial perspective, the scale of economies proved influential, while risk management played a pivotal role in CAs. Additionally, transportation and machine operation emerged as key factors within the domain of OE. While acknowledging the limitations of their study, including sample size, collection timing and mode, the researchers emphasize the importance for mining industry managers to consider indirect variables such as marketing products, size and quality of products, the scale of economies and risk management. Recognizing these additional influential factors, apart from the more obvious variables like transportation, machine operations and production scheduling, will empower managers to strive for OE. With these findings, the study acts as a catalyst for change in the mining industry. Armed with a deeper understanding of the complex relationship between various issues and OE, industry leaders can forge new strategies, enhance decision-making and ultimately propel their organizations toward unprecedented success.

The final paper is a research article titled (Rathi *et al.*, 2023), “Success Factors for Green Lean Six Sigma Implementation in Healthcare Facilities: An ISM-MICMAC Study”, which sheds light on the crucial factors that drive the successful adoption of GLSS practices in Indian health-care facilities. GLSS, a sustainable development approach, aims to enhance patient care by improving safety, quality and service delivery within the healthcare sector. The study uses ISM and MICMAC analysis to uncover the hierarchical structure and interdependencies among the GLSS success factors. This framework enables a comprehensive understanding of how certain factors support the development of others, ultimately facilitating successful implementation. The findings of the study emphasize two critical success factors: “commitment of management” and “financial availability.” These factors serve as the foundations for the implementation of GLSS, influencing the development of other success factors. Notably, “embedding sustainable measures at each stage of the service”, “capability and effectiveness of real-time data collection” and “feedback and corrective actions” were identified as key drivers directly supporting GLSS implementation in healthcare facilities. These factors also serve as indicators of progress throughout the implementation process. While acknowledging limitations, the study offers valuable insights for practitioners and healthcare managers, providing a systematic understanding of the classification and structural relationships among various enablers. It facilitates the identification of different GLSS wastes within hospitals and addresses challenges associated with sustainability pursuits in health care, thus assisting organizations in their pursuit of sustainable development. By embracing GLSS practices, health-care organizations can revolutionize patient care, optimize operational efficiency and contribute to a more sustainable future for the healthcare sector.

Vijaya Sunder M.

Indian School of Business, Hyderabad, India

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About the author



Dr Vijaya Sunder M. is an award-winning author and a global thought leader in Continuous Improvement and Digital Transformation, whose writing has appeared in California Management Review, Stanford Social Innovation Review, Asian Management Insights and Harvard Business Publishing, among other publications that include more than 50 research papers in reputed peer-reviewed international journals, including the *International Journal of Operations and Production Management*, *Technovation*, *International Journal of Production Research*, *IEEE Transactions on Engineering Management*, *Journal of Business Research*, *Technological Forecasting and Social Change*, *Group and Organization Management*, *Production Planning and Control*, *Journal of Business and Industrial Marketing*, *Total Quality Management and Business Excellence*, among many others and two books. He is among the top 50 global thought leaders of operational excellence by the PEX network, IQPC, and was recognized among the world's top 2% of the management scientists 2021 list published by Stanford University based on a composite research score. He is a recipient of ASQ's Crosby Award, and IAQ's Walter Masing Award, among other recognitions. He has about 18 years of industry experience and holds a PhD in Operational Excellence. He is currently an Assistant Professor at the Indian School of Business. Previously, he was the Head of Business Process Excellence with the World Bank Group.