

Management Science and Practice: MSP-2008

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The past decade witnessed renewed emphasis on research and publications from Indian academia. While the landscape available for academic research from both theoretical and applied perspective is vast, providing practice oriented theoretical contributions is particularly essential for managing complex and emerging economies in India. In order to facilitate applied management research in India, the art of adopting scientific tools and techniques available in the management literature, e.g., Operations Research (OR), is particularly required to be streamlined within the framework of the Indian business environment. In this regard, the Ahmedabad Chapter of the Operations Research Society of India (ORSI) had organized the third conference on Management Science and Practice (MSP) in collaboration with the Indian Institute of Management Ahmedabad during March 22-24, 2008. The Ahmedabad Chapter also offers this volume of conference proceedings that emphasizes the society's one of the objectives of promoting practice oriented academic research in the areas of OR and management.

The theme of MSP-2008 is Future of OR. Aligned with the theme, this proceedings volume is compiled based on several invited talks and a set of peer reviewed papers emphasizing outcome-driven applications of tools and techniques of OR. The volume also provides to both practitioners and academia an excellent outlook on prospects for OR in India by establishing linkages between its past and present.

The proceedings volume consists of three sections. In Section 1, N. Ravichandran lays down the foundation for promoting OR in India and outlines related challenges and opportunities available in India. Section 2 presents research articles from some of the eminent personalities invited from industry and academia. Section 3 compiles some of the papers contributed in the main conference. This review of the proceedings volume provides a brief discussion of each section and highlights its contributions.

Section 1 essentially portrays the evolution of OR in India through its origin and accomplishments till date. More importantly, it analyzes the need for integrating OR in nation building and outlines various strategic initiatives to promote, strengthen and enrich the relevance of OR in the Indian context. For example, in view of the India Vision 2020, the author proposes a framework based on business models with special attention given to domestic market, industrial sectors, and social objectives. The framework also provides operating guidelines for diverse issues, such as technology development, policy design, and resource harnessing, etc. To facilitate better implementation of this framework, the author offers a state wise timeline and stage wise OR models that are applicable in achieving the overall vision. The list of the elements of the strategy to revitalize OR as a discipline in the Indian context clearly reflects the extensive experience the author has gained over the years at the interface of practice and academics.

The invited contributions compiled in Section 2 evidently highlight the significance of applied research in the field of management using tools and techniques of OR. The six articles included in this section are exemplary applications of OR methodology in solving complex business issues in areas, such as information technology, finance, health care, oil industry, and disaster management, etc. For example, B. N. Dutta demonstrates how the cost of tax collection has decreased and how the service to taxpayers has increased by adopting information technology based on data mining techniques in the process and systems of Income Tax Department. Similarly, S. S. Soni highlights excellence achieved in supply chain management at the Indian Oil Corporation (IOC) through ERP and an integrated multi-nodal optimization model. Based on his experiences at IOC, the author also provides a framework for ERP adoption in the industry. In another article of his, N. Ravichandran assesses opportunities for researchers in OR, medical professionals, policy makers and health care providers to enhance quality of health care in India in terms of cost, access and delivery. In particular, the author proposes two separate approaches in this analysis: (i) application oriented approach focusing on value chain and activities involved, and (ii) tools and techniques oriented approach. In another case from the service industry, P. Balasubramanian offers an optimization perspective to customer acquisition and sales facilitation processes for project services firms. Finally, on the backdrop of natural disasters such as floods of 2006 in Surat City, Gujarat, D. Mavalankar and A. K. Srivastava propose a framework for application of OR techniques to improve dam management to prevent such floods. In view of the need for better management of social and infrastructural growth in sync with overall growth of the Indian economy, the contribution of this section in terms of providing opportunities for researchers and practitioners of OR enhances significantly.

Section 3 compiles 16 papers selected out of total 83 papers presented during the main conference. Clearly, the paper selection has been thorough and meticulous as these papers provide diversity in business contexts, research issues, research methodologies and methods, and contribution to the literature. For example, the selected papers cover industries, such as finance, small and medium scale manufacturing, automobile, service, defense, carbon trading, and printing and packaging, etc. The research issues addressed are also varied, e.g., IT implementation, facility layout, revenue management, risk mitigation, forecasting, and product lifecycle management, etc. These papers particularly do not focus on a single field of research, such as operations, finance, marketing, policy design, and strategic management, etc.; rather most of the papers are positioned at the interface of two or more of these fields. Moreover, research methodologies adopted are also diverse. For example, qualitative, quantitative, analytical, case based, and survey based research, etc. The research methods assumed by the contributing researchers are varied too. To mention a few, optimization, linear and nonlinear programming, case study, time series analysis, and simulation, etc. While these selected papers demonstrate wide scope and variety in the application of OR tools and techniques, the utility of this proceedings volume enhances due to the implementation perspective provided by each paper in the respective business scenario under consideration.

Despite resource limitations, this proceedings volume does an excellent job in providing an overall perspective on OR in practice in India. In my opinion, the contribution of this volume to academic literature would have enhanced significantly, had a brief summary of each of the invited presentations and tutorials been included in the proceedings by which the research community could have been exposed to the theoretical understanding of management research. During the main conference,

there were 13 invited presentations by renowned researchers and practitioners from the field of OR. These presentations focused on topics such as queueing theory, data mining, analytics in supply chain management, and IT implementation, etc. Nevertheless, the efforts required in publishing this proceedings volume and its contribution in the form of identification of the scope for OR in management research in India are commendable.

Author's Profile

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