Operations Management Research and Cellular Manufacturing Systems: Innovative Methods and Approaches

Vladimír Modrák (Technical University of Kosice, Slovakia) and R. Sudhakara Pandian (Kalasalingam University, India)

Traditional manufacturing systems are no longer able to satisfy new requirements introduced by increasingly global markets, resulting in the need for automated industries with high performance manufacturing systems. The integration between design and manufacturing and utilization of new production systems will lead to more efficient, productive operation that benefits from a short set-up time, low work-in-process inventory (WIP), and high machine utilization.

Operations Management Research and Cellular Manufacturing Systems: Innovative Methods and Approaches presents advancements in the field of operations management, focusing specifically on topics related to layout design for manufacturing environments. Chapters in this book discuss the arrangement of resources used in batch production and provide perspectives on technological, organizational, and social perspectives of cellular manufacturing systems. This book will support teachers, doctoral scholars, decision makers in industry, and students educated in operations management.

Topics Covered:
- Cluster Analysis for Cell Formation
- Connected and Disconnected Cellular Systems
- Flexible Manufacturing Cells
- Flow Stop Scheduling Problems
- Genetic and Hybrid Algorithms in Cell Formation
- Graph Theory and Design of Manufacturing Cells
- Lean Thinking Based Investment Planning
- Non-Traditional Optimization Algorithms
- Operator Assignment Decisions
- Petri Net Models

Print: US $185.00 | Perpetual: US $280.00 | Print + Perpetual: US $370.00

Market: This premier publication is essential for all academic and research library reference collections. It is a crucial tool for academicians, researchers, and practitioners and is ideal for classroom use.

Vladimír Modrák is Professor of Manufacturing Technology and head of Department of Manufacturing Management at the Technical University of Kosice. He obtained a PhD degree in Mechanical Engineering at the same University in 1989. His research interests include manufacturing logistics, cellular manufacturing, and other related disciplines. Prof. Modrák is Vice-Editor in Chief of Slovak Journal on Manufacturing Engineering and editorial board member of several international journals. He also served as session chair and chairman at international conferences. He lectured as Visiting Professor at University of Perugia (Italy), University of Applied Sciences Wildau (Germany), University of Czestochowa (Poland), and held seminars at the Keyworth Institute at the University of Leeds (UK), University of Salerno (Italy), and University of Perugia. Presently, he is also chairman of the Commission for Doctoral Study in the field of Industrial Engineering. Prof. Modrák is co-author and editor of several books on manufacturing logistics, manufacturing technology, and other topics.
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Zhu Chi (Maebashi Institute of Technology, Japan)
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