

**Call for Papers**  
**Special Issue of the *Journal of Operations Management***

***Operations Management in the Age of Digital Transformation***

**Background and Objectives**

Digitalization has recently received increasing attention in operation management (OM), spanning topics from digital manufacturing (e.g., Roscoe et al., 2019; Holmström et al., 2019), to platform outcomes (e.g., Friesike et al., 2019), and economies of collaboration (e.g., Hedenstierna et al., 2019). In contributing to these OM literature discussions, this special issue brings to the fore the topic of Digital Transformation (DT).

DT incorporates the use of digital technologies for operational innovation, by creating new or transforming existing processes, cultures, and customer experiences to meet changing business and market requirements (Vial, 2019). It transcends sales, operations, and customer service beyond mere process improvement, and changes the way business is done by creating new classes of businesses (Hammer, 2004). With DT, organizations revisit their internal systems to customer interactions both online and in person, effectively reengineering their processes from evolution to revolution. DT, thus, challenges our understanding of OM and highlights the importance of organizational dynamics as intertwined with higher levels (Davis, 2016). Research on DT can contribute to current discussions in OM (e.g., Holmström et al., 2019), such as the opportunities for organizations to leverage presence in one market into other areas; the emergence of ecosystems that include all players in the value network; the appeal of multi-sided platform business models that bring disparate players together; and the importance of Big Data and Artificial Intelligence (AI) as competitive advantage. Such trends put new demands on organizations in terms of their choice of market positions, vertical and horizontal scope, and the management of their boundaries.

Concurrently, DT affects competition by blurring organizational boundaries and giving rise to new industries and ecosystems (e.g., Atluri et al., 2017). These developments challenge existing understandings in OM, which largely rest on measures from the Industrial Age (Jacquemin and Berry, 1979; Palepu, 1985). Such developments also raise novel research questions with respect to the demographic profiles and boundaries of industries (e.g., Agarwal et al., 2002; Jacobides and Winter, 2005; Porac et al., 1995), and prompt us to rethink the traditional units of analysis related to the nature of competition. For example, the impact of DT on transaction and information costs may inform fundamental debates about markets versus hierarchies, vertical versus horizontal firm boundaries (e.g., Afuah, 2003; Josefy et al., 2015), and the redeployment of resources to other markets (e.g., Sakhartov and Folta, 2015). The changing nature of organizational boundaries also sparks important research questions to the adjacent study of mergers and acquisitions, divestitures, as well as alliances (e.g., Shi et al., 2012). DT impacts information processing, knowledge transfer, and resource sharing, suggesting a need to revisit findings and theories. Empirical research may inform the discussions in OM about corporate roles and internal resource allocation (e.g., Arrfelt et al., 2015; Sengul and Gimeno, 2013), corporate control (e.g., Kownatzki et al., 2013), corporate strategy formation and corporate initiatives, as well as corporate leadership (e.g., Whittington et al., 2017). For example, Big Data and AI can give rise to novel ways of strategizing, which may influence the tension between top-down versus bottom-up planning and centralized versus decentralized decision-making, and in fact almost every aspect of OM.

The aim of this special issue, thus, is to provide a platform to advance our understanding of how DT initiatives, including the adoption of technological innovations, business model innovations, and innovations in collaboration mechanisms and methods of operations improvement, can affect various aspects of OM. This special issue focuses on the new practices of logistics and supply chain management deployed during DT initiatives, to uncover the critical success factors and lessons from these innovative practices, and from existing literature on supply chain and logistics management, demand forecasting and order planning, supply network assessment, and logistical operations.

## Scope of Topics

The special issue is open to any methodological approach within the scope of *JOM* including but not limited to case studies, large-scale surveys, industry studies, field and laboratory experiments, and interventionist approaches (Chandrasekaran et al., 2020; Oliva, 2019) including design science and action research. In particular, we are also interested in studies exploiting secondary (industry/company) data using advanced methods from econometrics or data science. A core requirement is the contribution to the development and extension of OM theory; studies that only discuss the application or implementation of DT without offering clear theoretical insights, or modelling papers without any empirical validation, will not be considered. Papers exploring best practices through case studies with primary or secondary data are welcome. We specifically refer to the current editorial policy of *JOM* for further details (Browning & de Treville, 2018). We encourage authors to submit papers that examine the effect of digital technologies, robotic process automation (RPA), big data, and AI on firms' performance. Moreover, extreme conditions can provide insights that advance the field. Research topics may include, but are not limited to:

- How DT enables players in the supply chain to enhance organizational performance
- How DT influences the flexibility and responsiveness of logistics service providers
- How DT influences responsiveness to consumer demands
- How AI, big data and RPA are used in OM and supply chain decisions such as in demand forecasting, supply and demand matching, allocation and rationing, transportation scheduling, and last mile delivery
- Decision tools that encourage systems thinking during DT initiatives by making it easier for decision makers to anticipate the consequences of their actions
- The impact of DT on the performance and roles of human decision-makers.

The DT of healthcare has been a prominent topic in the field of health information systems (HIS), and in the broader information systems (IS) research agenda (Agarwal et al., 2010), while AI, as part of the digital transformation toolkit, can enable a more efficient and effective healthcare provision (Noorbakhsh-Sabet et al., 2019). Therefore, we specifically also highlight that contributions in the healthcare sector are welcome, without precluding any other sectors such as manufacturing, logistics, and other service sectors.

## Relevance to researchers and practitioners

The aim of this special issue is to advance the theory in the OM field, and to provide managerial insights and guidelines for practitioners to design and improve DT initiatives. Our goal is to distill learning from current challenges and advance the field by exploring and suggesting new paths of DT enabled through adoption of digital technologies, RPA, big-data, and AI. Concurrently, we also hope that the papers accepted in this special issue can be used to develop potential training materials and decision tools that will provide managerial guidelines for business executives to implement innovative applications of new technologies and business models in new settings, and avoid faults and pitfalls in efforts to manage DT initiatives.

## Deadlines

Manuscript submissions: 1 August 2021

Initial (first-round) decisions: 1 November 2021

Revised paper resubmissions: 1 February 2022

Authors are encouraged to contact the editorial team in case of doubt regarding the fit of the paper to the editorial scope of this special issue. Manuscripts that are submitted prior to the submission deadline will receive immediate consideration. Manuscripts should conform to the instructions given in the [Guide for Authors for \*JOM\*](#).

## Guest Editors

**Jan Fransoo** is Professor of Operations Management and Logistics at Kuehne Logistics University in Hamburg, Germany. He studies operations and supply chain management in the retail, manufacturing and transport industries. In one of his current research lines, he studies the impact of digitization on the nanostore retail channel in emerging markets. He has published in all five of the FT50 journals of his field and currently serves as Associate Editor of Production and Operations Management and Operations Research. He served as Associate Editor of JOM from 2004 until 2008 and edited a special issue in 2006. He has published across a wide range of methodologies, including analytical modelling, optimization, econometric analysis, case studies, and system dynamics. In November 2020, he will join Tilburg University's School of Economics and Management.

**Spyros Angelopoulos** is an Assistant Professor of Information Management at the Tilburg School of Economics and Management, at Tilburg University in the Netherlands. His research focuses on the behavior of users on online platforms, the adaptation of organizations during digital transformation endeavors, and on security and privacy issues of users on online platforms. He was selected as 2019-2020 'Cloud Faculty Expert' by Google for his commitment to leading transformation in cloud computing education and research.

**Elliot Bendoly** is the Fisher College of Business Distinguished Professor in the Management Sciences, at the Ohio State University, and Operations Management Distinguished Scholar at the Academy of Management. He has been the Associate Dean for Fisher's Undergraduate program and the Caldwell Research Fellow at Emory University. He serves as Senior Editor at the *Production and Operations Management* journal (Behavioral Operations and Management of Technology departments) and Associate Editor for *JOM*. His own publications in *POM*, *JOM*, *Management Science*, *Information Systems Research*, *MIS Quarterly*, and *Journal of Applied Psychology*, represent no less than 27 published academic articles, with 32 additional articles appearing in other peer reviewed outlets. He has authored *Excel Basics to Black Belt*, *Strategic ERP Extension and Use*, *Handbook of Research in Enterprise Systems*, *Handbook of Behavioral Operations Management*, and *Visual Analytics for Management*.

**Carol Ou** is a Professor of Information Management and the Head of Management Department at Tilburg University in the Netherlands. Her research interests include digital transformation, applied business intelligence, computer-mediated communication, social commerce, smart recommendation agents and knowledge management. Her publications have appeared in journals such as *Decision Support Systems*, *Information & Management*, *Journal of the Association for Information Systems*, *Journal of the American Society for Information Science and Technology*, *International Journal of Human-Computer Studies*, *Information Systems Journal*, *International Journal of Information Management*, and *MIS Quarterly*. Carol is serving as a senior editor for *Information Systems Journals*, *Information & Management*, as well as *IT & People*. She is also a Certified IS Auditor and an Academic Advocate of IS Audit and Control Association.

**Kai Hoberg** is Head of Logistics Department and Professor of Supply Chain and Operations Strategy at Kühne Logistics University. His current research topics include supply chain analytics, role of technology in supply chains, inventory modelling, and the link between operations and finance. In particular, he explores the fundamental drivers of supply chain performance and strategies applying real-world data. His research findings have been published in academic journals like *Journal of Operations Management*, *Production and Operations Management*, and *European Journal of Operational Research*.

**Antti Tenhiälä** is a Professor of Operations Management at IE Business School. His research is focused on the planning, coordination, and communication practices that firms use to overcome unexpected events in their processes. The overarching theme in his findings is that universally superior practices do not exist, and practices that are effective in some environments often cause havoc in others. His studies, which have received awards from the Academy of Management, Decision Sciences Institute, and the European Foundation for Management Development, have disclosed factors that critically influence the effectiveness of different planning, coordination, and communication practices. He has published in multiple journals, including *JOM* and *Decision Sciences*, and serves as an Associate Editor of *JOM*.

## References

- Afuah, A. (2003). Redefining Firm Boundaries in the Face of the Internet: Are Firms Really Shrinking?. *Academy of Management Review*, 28, 34-53.
- Agarwal, R., Gao, G., DesRoches, C., and Jha, A. K. (2010). The Digital Transformation of Healthcare: Current Status and the Road Ahead. *Information Systems Research*, 21(4), 796-809.
- Agarwal, R., Sarkar, M. and Echamebadi, R. (2002). The Conditioning Effect of Time on Firm Survival: An Industry Life Cycle Approach. *Academy of Management Journal*, 45, 971- 94.
- Arrfelt, M., Wiseman, R. M., McNamara, G. and Hult, G. T. M. (2015). Examining a Key Corporate Role: The Influence of Capital Allocation Competency on Business Unit Performance. *Strategic Management Journal*, 36, 1017-34.
- Atluri, V., Dietz, M. and Henke, N. (2017). Competing in a World of Sectors without Borders. *McKinsey Quarterly*, 54, 1-14.
- Browning, T.R. and de Treville, S. (2018). Editorial: New Developments at the *Journal of Operations Management*, *Journal of Operations Management*, 64(1), 1-6.
- Chandrasekaran, A., de Treville, S. and Browning, T.R. (2020). Editorial: Intervention-Based Research (IBR) – What, Where and How to Use it in Operations Management, *Journal of Operations Management*, 66(4), 370-378.
- Davis, G. F. (2016). *The Vanishing American Corporation: Navigating the Hazards of a New Economy*. Oakland, CA: Berrett-Koehler Publishers, Inc.
- Friesike, S., Flath, C. M., Wirth, M., and Thiesse, F. (2019). Creativity and Productivity in Product Design for Additive Manufacturing: Mechanisms and Platform Outcomes of Remixing. *Journal of Operations Management*, 65(8), 735-752.
- Hammer, M. (2004). Deep Change: How Operational Innovation Can Transform your Company, *Harvard Business Review*, 82(4), 84-95.
- Hedenstierna, C. P. T., Disney, S. M., Eyers, D. R., Holmström, J., Syntetos, A. A., and Wang, X. (2019). Economies of Collaboration in Build-to-Model Operations. *Journal of Operations Management*, 65(8), 753-773.
- Holmström, J., Holweg, M., Lawson, B., Pil, F. K., and Wagner, S. M. (2019). The Digitalization of Operations and Supply Chain Management: Theoretical and Methodological Implications. *Journal of Operations Management*, 65(8), 728-734.
- Jacobides, M. G. and Winter, S. G. (2005). The Co-Evolution of Capabilities and Transaction Costs: Explaining the Institutional Structure of Production. *Strategic Management Journal*, 26, 395-413.
- Jacquemin, A. P. and Berry, C. H. (1979). Entropy Measure of Diversification and Corporate Growth. *Journal of Industrial Economics*, 27, 359-69.
- Josefy, M., Kuban, S., Ireland, R. D. and Hitt, M. A. (2015). All Things Great and Small: Organizational Size, Boundaries of the Firm, and a Changing Environment. *Academy of Management Annals*, 9, 715-802.
- Kownatzki, M., Walter, J., Floyd, S. W. and Lechner, C. (2013). Corporate Control and the Speed of Strategic Business Unit Decision Making. *Academy of Management Journal*, 56, 1295-324.
- Noorbakhsh-Sabet, N., Zand, R., Zhang, Y., and Abedi, V. (2019). Artificial Intelligence Transforms the Future of Health Care. *The American Journal of Medicine*, 132(7), 795-801.
- Oliva, R. (2019). Intervention as a Research Strategy, *Journal of Operations Management*, 65(7), 710-724.
- Palepu, K. (1985). Diversification Strategy, Profit Performance, and the Entropy Measure of Diversification. *Strategic Management Journal*, 6, 239-55.
- Porac, J. F., Thomas, H., Wilson, F., Paton, D. and Kanfer, A. (1995). Rivalry and the Industry Model of Scottish Knitwear Producers. *Administrative Science Quarterly*, 40, 203-27.
- Roscoe, S., Cousins, P. D., and Handfield, R. (2019). The Microfoundations of an Operational Capability in Digital Manufacturing. *Journal of Operations Management*, 65(8), 774-793.
- Sakhartov, A. V. and Folta, T. B. (2015). Getting Beyond Relatedness as a Driver of Corporate Value. *Strategic Management Journal*, 36, 1939-59.
- Sengul, M. and Gimeno, J. (2013). Constrained Delegation: Limiting Subsidiaries' Decision Rights and Resources in Firms That Compete across Multiple Industries. *Administrative Science Quarterly*, 58, 420-71.
- Shi, W. L., Sun, J. and Prescott, J. E. (2012). A Temporal Perspective of Merger and Acquisition and Strategic Alliance Initiatives: Review and Future Direction. *Journal of Management*, 38, 164-209.
- Vial, G. (2019). Understanding Digital Transformation: A Review and a Research Agenda, *The Journal of Strategic Information Systems*, 28(2), 118
- Whittington, R., Yakis-Douglas, B., Ahn, K. and Caillaud, L. (2017). Strategic Planners in More Turbulent Times: The Changing Job Characteristics of Strategy Professionals, 1960-2003. *Long Range Planning*, 50, 108-19.