Call for Papers: Special Issue on
Innovations, Technologies, and the Economics of Last-Mile Operations

Background

The last few decades have witnessed an explosion in the adoption of information technology and automation worldwide. This phenomenon has served as a catalyst to profound changes in the planning, design, and execution of operations necessary to fulfill demand in a wide variety of settings. One of these settings involves the last-mile delivery of goods and services directly to consumers (in retailing and on-demand platforms), patients (in health care), beneficiaries (during disaster relief), and others (c.f., Boutilier and Chan 2022; Boyer and Hult 2005; Dreischerf, A. J., Buijs 2022; He and Go 2022; Lyu and Teo 2022). The operational challenges in last-mile delivery operations are considerable. For one, because of short time frames and high delivery volumes, there is little room for human error. Yet, since many firms tend to tap into low-skilled, temporary, or crowdsourced labor to provide these services, there is high variability in performance and worker availability. Last-mile delivery operations are also expensive, due in part to rising labor costs, high failure rates, and cities imposing vehicle restrictions and parking levies. While some organizations have managed to achieve promising rates of growth (e.g., Pillpack, Capsule), others have had to close (e.g., Fridge No More, Munchery), downsize (e.g., Buyk), or withdraw from markets after short-lived entries (e.g., DoorDash in New York City).

At the same time, we are witnessing rapid growth in innovations seeking to improve these operations. For example, Starship Technologies introduced autonomous delivery robots aimed at reducing labor costs and extending delivery hours. Walmart complemented its home delivery service with automated locker pickup services. Zipline introduced drones to deliver lifesaving products precisely when and where they are needed, reliably and safely. Other innovations leveraging advanced technologies and artificial intelligence have found applications in vehicle routing programs and warehouse and fulfillment automation (currently in use by Ocado in partnership with grocers around the world), track-and-trace systems that provide real-time communications and visibility into delivery processes (see the case of Instacart and Uber Eats), anticipatory shipping algorithms to move inventories to specific areas ahead of realized demand (currently being used by Amazon), and integration tools with third-party services (successfully deployed by ClickPost and ShipEngine).

Although academic research in last-mile delivery operations predates the 21st century, new studies are urgently needed to shed light on more recent innovations and technology developments, and inform operational practices as organizations try to address the myriad of challenges brought about by the advent of the information technology and automation to last-mile delivery operations. To address this need, we are seeking to publish empirical studies that examine theoretical and practical implications of innovations and technology developments to either modify or extend our

current knowledge and provide prescriptive guidance for firms to improve their last-mile delivery operations. Consistent with the scope of the *Journal of Operations Management* (*JOM*), we are open to all empirical methodologies so long as they are implemented rigorously. Submissions that descriptively document new innovations or practices without offering clear theoretical and managerial insights will not be considered. We encourage authors to write papers that adhere to the *JOM*'s strong tradition of publishing work based on measurable properties and formal concept definitions in order to promote a coherent literature development (Wacker, 2004). We also encourage authors to use multiple methodologies in their papers to triangulate solutions/insights to the problems being studied.

Special Issue (SI) Focus

Papers may address research topics in the areas of retail and on-demand platform operations, health care operations, humanitarian operations, smart city operations, and supply chain management. Research topics in other areas may also be relevant and will receive full consideration by the guest editors. Potential topics of interest include (but are not limited to):

- The use of incentives to reduce last-mile labor attrition and increase learning rates and performance
- The role of prices for last-mile product delivery services in shaping product sales and service operations
- The use of real-time data to design adaptive operational policies to dynamically redeploy last-mile resources in order to serve end recipients (consumers, patients, beneficiaries, etc.) in a more personalized and cost-effective manner
- The role of automation and process design to remove scalability constraints in last-mile delivery operations
- Design thinking applications to the development of operations in last-mile delivery services that are focused on addressing end recipients' needs
- Increasing resiliency to supply chain disruptions through improvements in forecasting, flexibility, and preemption in last-mile delivery operations

We remind researchers to ensure that they adhere to the high standards of *JOM* by following the [author guidelines](#).

Timeline

Submissions must be received by **May 31, 2023**, with first-round decisions targeted by three months after the submission deadline. We will begin to process submissions as they come in, so earlier submissions are welcome.

Authors interested in submitting a paper are encouraged to contact the guest editors with a brief description of their ideas by November 30, 2022 to receive initial feedback on potential fit with the scope of the SI. Naturally, this feedback will not guarantee acceptance.

Guest Editors

Questions may be sent to any, or all, of the SI guest editors, at any time:

Niels Agatz. Associate Professor, Rotterdam School of Management, Erasmus University; nagatz@rsm.nl.

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Elliot Rabinovich. AVNET Professor, W. P. Carey School of Business, Arizona State University; Department Editor, *JOM*; Elliot.Rabinovich@asu.edu.

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References

Boutilier, J. J., Chan, T. C. 2022. Drone Network Design for Cardiac Arrest Response. *Manufacturing & Service Operations Management* (Forthcoming).

Boyer, K. K., Hult, G. T. M. 2005. Extending the supply chain: integrating operations and marketing in the online grocery industry. *Journal of Operations Management*, 23, 642-661

Dreischerf, A. J., Buijs, P. 2022. How Urban Consolidation Centers affect distribution networks: An empirical investigation from the perspective of suppliers. *Case Studies on Transport Policy*, 10, 518-528.

He, E. J., Goh, J. 2021. Profit or Growth? Dynamic Order Allocation in a Hybrid Workforce. *Management Science* (Forthcoming).

Lyu, G. Teo, C.P., 2022. Last mile innovation: The case of the locker alliance network. *Manufacturing & Service Operations Management* (Forthcoming)

Wacker, J.G., 2004. A theory of formal conceptual definitions: developing theory-building measurement instruments. *Journal of Operations Management*, 22, 629-650.