Discrete Dynamics in Nature and Society

Hindawi

Special Issue on

Discrete Optimization for Dynamic Systems of Operations Management in Data-Driven Society

CALL FOR PAPERS

Society is being reshaped by large volumes of data generated from the Internet of Things, smart devices, and dynamic human-to-machine communications. Big data is playing a transformative role in this new era, while also enabling a data-driven society. As such, data-driven decision methodology is becoming increasingly important for operation managers when handling dynamic issues. Various data-driven systems with well-designed models, as well as algorithms developed by high-tech software providers (and consulting companies), are now replacing traditional decision-making based predominantly on managers' experiences. Among these emerging decision systems, most rely upon discrete optimization models. For these "smart" data-driven systems, the core issue lies in the design of the discrete optimization models for handling dynamic features contained in operations management (OM) activities.

In recent decades, various discrete optimization techniques have been employed by managers and management scientists to improve the performance of dynamic OM systems. With the rapid growth in computational technologies, including data mining technologies, discrete event simulation techniques, and intelligence algorithms, OM relies more and more on optimal solutions (or their approximates) based on high-performance models and algorithms.

Now, we are delighted to welcome interested authors to submit to this special issue, which will gather the most recent achievements in this rapidly evolving field. Its goal is to publish high-quality research papers as well as review articles that address recent advances in models and algorithms concerning discrete optimizations on dynamic OM systems relevant to our data-driven society.

Potential topics include but are not limited to the following:

- Discrete optimization methodologies for stochastic OM problems
- System dynamics in behavior OM for M-Commerce
- Discrete optimization models for strategic-level OM decision-making
- Heuristics and metaheuristics for high-efficiency OM decision-making under uncertain conditions
- Data-driven risk analysis and modeling for OM decisions in dynamic contexts
- Dynamic programming based exact methods for stochastic OM problems
- Discrete optimization models and algorithms for green OM
- Advanced modeling and optimization techniques for data-driven dynamic OM problems
- New data-driven models for dynamic closed-loop supply chain management

Authors can submit their manuscripts through the Manuscript Tracking System at https://mts.hindawi.com/submit/journals/ddns/somdd/.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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