

Special Session on
Optimization problems and uncertainty programming approaches in Supply Chain Network
at
12th International Conference on Soft Computing and Pattern Recognition (SoCPaR 2020)
On
World Wide Web
December 15-18, 2020
<http://www.mirlabs.net/socpar20/welcome.php>

Objectives and Scope

The optimization problems in supply chain management (SCM) has a strong link to challenges and developments connected to e.g. sustainable development and digitalization. One key benefit from SCM in optimization problems as well as in manufacturing firms is to support sustainability e.g. by improved aftermarket and maintenance services and exploitation of potential in digitalization of offerings, or through new business models supporting a sharing economy. To release the full potential of SCM in terms of impact on sustainability and opportunities in digitalization there is a need to revisit the supply chain in terms of changed actors, processes, and technologies. As of today, an explicit SCM perspective that could strengthen the research in this area is often missing in current research in the field.

In exemplifying the need for an SCM perspective in research on a transition toward more service focus, the transition alters the roles of established actors and contributes to new actors entering the supply chain. This regards a product as well as service supply chains. First, logistics providers become the first and often key point of contact to consumers and end-users, and those who receive first-hand feedback from the customer on the services offered. In addition, as the service offering is more explicit and services are developed to support the customer in the use phases, new actors are needed with competence to deliver such services. Second, in service sectors, the infusion of digitally enabled services requires an end-to-end perspective between service providers and users, as the users can initiate and configure services through the Internet of Things/connected technologies. As an example, energy suppliers offer energy efficiency services to their end-users, and with the demand on on-line monitoring of energy consumption need either to develop (or acquire) such monitoring skills or collaborate with a knowledgeable actor in supplying such services. An alternative scenario is that an external actor with access to the technology needed to offer the energy efficiency services will act as a supply chain disintermediator, i.e. becoming a competitor to the energy supplier.

We take a broad approach to service, inclusive management and operations. Starting with SCM and supply chains as key point of reference.

We call for anyone interested in the following topics related to the special session.

Application Fields:

- Design and management of service supply chains
- Sustainability in supply chain
- Service innovations in supply chains

- Service innovation for closed-loop supply chains
- Transformation from product-based to service-based supply chains
- Digitalisation of products and services and the implications of this for suppliers and customers.
- Supply chain design for advanced services
- Digitalization and technology-enabled services and –offerings
- Supply chain relationships and -design for effective servitization and service management
- Service co-creation in supply chains
- (Re)configuration of forward and reverse supply chains
- Digitally connected services
- Digitalised aftermarket supply chains
- Supply chain design for self-customized services

Uncertainty approaches:

- Fuzzy logic
- Robust programming method
- Stochastic techniques

Solution methodology:

- Meta-heuristic algorithms
- Logic-based Benders' decomposition approaches
- Branch and bound, Branch and price, Branch and cut algorithms

Paper Publications:

- Proceedings are expected to be published by: **Advances in Intelligent Systems and Computing**, which is now indexed by ISI Proceedings, DBLP, Ulrich's, EI-Compendex, SCOPUS, Zentralblatt Math, MetaPress, Springerlink
- Papers maximum length is 10 pages.
- Papers must be formatted according to Springer format (Latex/word) available at:
<http://www.springer.com/series/11156>

Important Dates:

Paper submission due: October 15, 2020

Notification of paper acceptance: November 15, 2020

Registration and Final manuscript due: November 25, 2020

Conference: December 15-18, 2020

Special Session Chairs:

Fariba Goodarzian, Machine Intelligence Research Labs (MIR Labs), USA

PeimanGhasemi, Islamic Azad University, Iran

Amir-Mohammad Golmohammadi, Yazd University, Iran

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