

Effective Supply Chains and the Marketing-Operations Interface

Organizing Individuals:

1. Moutaz Khouja, Professor of Operations Management
2. Antonis Stylianou, Professor of Management Information Systems
3. Jing Zhou, Professor of Operations Management

Participating disciplines/academic departments:

Faculty names	Departments	Colleges
Moutaz Khouja	Business Info. Systems & Operations Management	COB
Antonis Stylianou	Business Info. Systems & Operations Management	COB
Jing Zhou	Business Info. Systems & Operations Management	COB
Ertunga Ozelkan	Systems Engineering & Engineering Management	COE
Ramesh Chikkala	Business Info. Systems & Operations Management	COB
Chandra Subramaniam	Business Info. Systems & Operations Management	COB
Monica Johar	Business Info. Systems & Operations Management	COB
Angela Xia Llu	Marketing	COB
Ram Kumar	Business Info. Systems & Operations Management	COB
Linquan Bai	Systems Engineering & Engineering Management	COE
Gary Teng	Systems Engineering & Engineering Management	COE

Target category for the submission: Existing and Emerging Excellence

Keywords: Omni Supply Chain Management, Operations-Marketing interface, Data Science

Executive Summary

The changes that began with the introduction of the Internet and accelerated by the COVID-19 pandemic are changing the landscape of retailing and consumer product goods industries world-wide. Many pure brick-and-mortar (B&M) retailers are seeing their market share dwindle while many pure online retailers are experiencing considerable success. B&M retailers who have moved quickly to add an effective online direct channel have also been largely successful. Those retailers across the globe, like Walmart, Target, Kroger, Walgreens, CVS, Costco, Home Depot, Lowe's, Tesco, Carrefour, Reliance, etc. are trying to become Omni Retailers to take advantage of both online and offline channels. The next 3 years will be the inflection point with the evolving consumer and digital landscape, since consumer products industries and retail practice is more than one third of the US and Global GDP. A combination of current faculty research expertise and industry knowledge and connections can give us an added advantage in pursuit of research in the supply chain/operations/marketing space and in solving for the right problems.

The above changes have given rise to many important research areas from a business and societal perspective. How to design effective and efficient end-to-end supply chains in terms of inventory, logistics, pricing, channel management, customer relations/experience, convenience/access, productivity, cost reduction, and sustainability are important and relevant issues, and pose many research questions. Many of these research areas happen to be at the operations-marketing interface. Effectively answering these research questions also requires the expertise of many areas, e.g., data analytics, mathematics, and systems design.

Over the last 25 years, UNC Charlotte has established **an international reputation for excellence in the area of Operations-Marketing Interface**. Faculty in this area have published and are currently working on papers addressing topics such as pricing, supply chain contracts, quick response capability, supply chains of medical drugs inventory, pricing of over-the-counter pharmaceutical products, sustainable purchasing, supply chain resiliency, and use of information technology in supply chains. The faculty team has published their work in the best journals in the field including *Journal of Management Information Systems*, *Journal of Retailing*, *Information Systems Research*, *Production and Operations Management*, and many others. Team members have received numerous grants such as NC Consortium for Manufacturing Data Science. (\$50,000), Consortium for Large-scale Precision Manufacturing Innovation (\$486,300), Oak Ridge National Laboratory and DARPA (\$268,000), Caterpillar Inc. (\$122,500), and Duke Energy Corporation (\$57,000), and many others .

The research of the team aligns with many **regional and national priorities**. As evidenced by the **February 24, 2021 Executive Order by President Biden¹**, there is a critical need for research in this area. As Charlotte emerges as a primary logistics hub in the nation, expertise in the design and operations of supply chains and their logistics become essential for success. **Sustainability** can be analyzed through the lenses of delivery modes and the logistics used by supply chains. **Supply chain resiliency** is significantly impacted by inventory management, sourcing, and contacts. **Racial equity and fairness** can be improved by analyzing business decisions resulting in inequities and removing their motives. **Harnessing the data revolution** can demonstrate that decisions which include societal and environmental interests are good for profits as well.