6th Annual meeting of
Meeting of EURO Working Group Retail Operations

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In September 2023 the *EURO Working Group Retail Operations* convened for their 6th annual meeting, this time at *Stockholm Business School, Stockholm University* in Stockholm, Sweden. 70 people from North America, Asia and Europe participated in the two-day event. This year the annual meeting was preceded by the *Summer School on Retail Operations*, creating a full cohesive week of lectures, workshops and discussions focusing on Retail Operations.

The purpose of the *EURO Working Group on Retail Operations* is to advance the development and application of quantitative methods in the field of Retail Operations. Over the last decades the retail industry has gone through a complete transformation. Just twenty years ago the retail industry was completely dominated by brick-and-mortar stores. Now retailers in developed and developing countries alike are becoming increasingly sophisticated, with advanced operating concepts combining online and offline operations. Traditional retailers have been forced to rethink their operations, and new retailers have emerged. This has created a large need for, and interest in, research to better understand how different operating models and concepts can be implemented to increase efficiency and minimize environmental and social impact of the operations. The large interest was reflected in the summer school and the annual meeting, which saw a large number of high quality applications and contributions.

The week started with the summer school. 25 students from Europe and North America participated (and more were on the waiting list). The idea of the summer school was two-fold. First, to provide Ph.D. students with state-of-the-art tools to analyze and solve operations problems in the retail industry using data; there are many recent developments in both computer science and econometrics that are relevant for operations researchers. Second, to help students build their professional network and learn from each other.

The first day of the summer school focused on machine learning applied to operations management problems in the retail industry. Ali Aouad from London Business School and Antoine Desir from INSEAD lead a full-day workshop where students were exposed to theory and worked with solving several examples using Python. On the second day Fredrik Eng-Larsson and Olov Isaksson from Stockholm Business School lead a full day on causal inference. Students were introduced to important ideas, concepts and tools when analyzing causal mechanisms in operations settings where there might be *endogeneity* issues, which is often the case in the retail industry. The third and final day was lead by Victor Martinéz-de-Albéniz from IESE Business School. Together with the students he went through a last-mile delivery case. After the case discussion, the students were introduced to two large data sets and were tasked to form groups and write a "mini research paper" using the data and the tools they had learned over the week.

While the days were filled with academically intense workshops, evenings focused on equally intense, albeit not academically so, pétanque tournaments at Boulebar, and karaoke and Eurovision-flavored entertainment at the ABBA museum.

The annual meeting kicked off on the Thursday, right after the summer school, with presentations ranging from add bidding in online retail (Naren Agrawal, "Dynamic two-part pricing and bidding for display ad campaigns") to the impact of digital tools in nano stores (Simone Balvers, "Understanding the impact of the adoption of digital ordering solutions on the ordering behavior of nanostores") to estimators for food waste in grocery retail (Karel van Donselaar, "A simple estimator for food waste in retail"). This shows not just the breadth of current retail operations problems but also the applicability of operations tools to analyze and improve retail operations. Since several practitioners attended the meeting (e.g. H&M, Migros, and Kaufland), the first day ended with a panel discussion about the future of retail operations, and how academy and industry can best collaborate to solve pressing problems and move retail operations forward.

The second day saw a key note presentation by Antonio Moreno from Harvard Business School on "Assortment Curation in Online Marketplaces", drawing attention to the importance of understanding the online market places that are controlling an ever larger share of online retail. Other presentations focused on e.g. sustainability in apparel retail (Jean-Sebastien Matte, "Lowering the environmental impacts of fashion retail assortments: Balancing profit maximization and impact minimization") and labor costs of online grocery retail (Santiago Gallino, "Navigating the Future of Online Grocery: Labor, Pricing, and the E-commerce Paradox"). The second day also saw the prize for the best poster go to Moritz Hundhammer et al. for their poster on "Store delivery planning for peak seasons in grocery retailing".

Apart from presentations and poster discussions, the conference included a walking tour of Stockholm's historic Gamla Stan quarters and group dinners in historic restaurant Pelikan as well as in the City Hall, home to the Nobel banquet.