



Research School for Operations
Management and Logistics

Context Matters: optimizing shared decision making in real-world forecasting and inventory management

Kees Maton – Eindhoven University of Technology

In many organizations and across industries, artificial intelligence (AI) is transforming the way we work. AI-systems are implemented to assist employees with decision making, to decrease workload, or to increase efficiency. Although promising, transforming traditional operations into ones that rely on autonomous systems brings many challenges. For example, when using AI planning systems, users frequently experience difficulties in using and trusting these systems and, as a consequence, deviate from their advice. Prior research highlights the impact of system characteristics (e.g. reliability) on human-AI collaboration. However, these studies disregard the important influence of contextual factors on human-AI collaboration. Therefore, one important challenge concerns the consideration of contextual factors when designing and implementing AI-systems at work. To successfully integrate these systems in organizational processes, it is critical to understand when and why users are (un)willing to adopt these systems in their work routines and how we can stimulate effective usage. The goal of this PhD-project is to address these issues by answering the following research questions:

- (1) Which contextual factors, specifically organizational (e.g. organizational climate, leadership) and societal factors (e.g. COVID-19 pandemic), impact planners' willingness to use AI planning systems?
- (2) How can human-centered AI and work design help to improve human-AI collaboration?