UNIVERSITY OF MANNHEIM
Business School

CHAIR OF SERVICE OPERATIONS MANAGEMENT
Prof. Dr. Cornelia Schön

Master Thesis Proposal

Assortment Optimization based on Choice Overload Effect

With the rise of online retailing platforms, consumers are presented with an ever-increasing number of options for nearly every purchase decision. The standard choice theory and prior literature suggest that offering as many products as possible boosts purchase likelihood and expected revenue. However, some experimental studies in psychology and marketing find that consumers' purchase probability decreases as the choice set gets larger, referred to as "choice overload effect". To account for this, some studies in operations management address assortment optimization problems by incorporating additional factors, such as search cost.

The objectives of the master thesis are to

- review the literature on the rationale behind the choice overload effect and assortment optimization approaches developed to address this effect, published in leading academic journals, such as European Journal of Operational Research, Production and Operations Management, Management Science, Marketing Science,
- delve into a specific paper that examines an assortment optimization problem considering choice overload effect, focusing on its model, advantages, limitations, and applications,
- propose one extension of the specific paper in detail, in terms of the motivation, model, advantages, and challenges,
- identify and discuss open research gaps and future trends in addressing the choice overload effect in assortment planning.

Requirements

- OPM 781
- Good knowledge in Operations and Revenue Management
- Analytical skills and an ability to transform real-world business problems into Operations Research models

Administrative information for writing a master thesis at the Chair of Service Operations Management can be found here.

Selected Literature Recommendations

Aparicio, D., Prelec, D., & Zhu, W. (2025). Choice Overload and the Long Tail: Consideration Sets and Purchases in Online Platforms. Manufacturing & Service Operations Management, 27(2), 496–515.

Long, X., Sun, J., Dai, H., Zhang, D., Zhang, J., Chen, Y., ... & Zhao, B. (2025). The Choice Overload Effect in Online Recommender Systems. Manufacturing & Service Operations Management, 27(1), 249-268.

Natan, O. R. (2025). Choice frictions in large assortments. Marketing Science, 44(3), 593–625.

Jacob, B. M., Thomas, S., & Joseph, J. (2024). Over two decades of research on choice overload: An overview and research agenda. International Journal of Consumer Studies, 48(2), e13029.

Wang, R., & Sahin, O. (2018). The impact of consumer search cost on assortment planning and pricing. Management Science, 64(8), 3649-3666.