

Master Thesis Proposal

Revenue Management – Recent Advances and Selected Models

Revenue management (RM) has become a vital strategy for firms across various industries, aiming to predict consumer behavior and optimize product availability and prices to maximize revenue or profit. With the advent of data-driven decision-making and the emergence of new industries such as internet advertising, cloud computing, and e-commerce, there has been a growing demand for innovative RM models, frameworks, algorithms, and policies. In response to this demand, researchers have been focusing on advancing RM methodologies, particularly in accommodating RM to emerging industries and leveraging data-driven approaches. This includes the development of advanced personalized pricing and assortment models, exploration of RM strategies in industries with reusable resources, and the proposal of network RM and end-to-end decision-making techniques, etc.

The objectives of the master thesis are to

- review and classify existing approaches in RM and specify the recent advances, published in leading academic journals, such as INFORMS journals, European Journal of Operational Research, Production and Operations Management, Journal of Operations Management, Journal of Revenue and Pricing Management.
- delve into one specific approach within RM with the focus on its model, advantages, limitations, and applications,
- elaborate one extension of the specific approach in detail, in terms of the motivation, model, advantages, and challenges,
- assess any gaps between the specific approach in the academic literature and the practical needs for this approach in industries.

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

Chen, N., & Hu, M. (2023). Frontiers in Service Science: Data-Driven Revenue Management: The Interplay of Data, Model, and Decisions. *Service Science*, 15(2), 79-91.

Klein, R., Koch, S., Steinhardt, C., & Strauss, A. K. (2020). A review of revenue management: Recent generalizations and advances in industry applications. *European journal of operational research*, 284(2), 397-412.

Lobel, I. (2021). Revenue management and the rise of the algorithmic economy. *Management Science*, 67(9), 5389-5398.

Strauss, A. K., Klein, R., & Steinhardt, C. (2018). A review of choice-based revenue management: Theory and methods. *European journal of operational research*, 271(2), 375-387.

Tyagi, M., & Bolia, N. B. (2021). Approaches for restaurant revenue management. *Journal of Revenue and Pricing Management*, 1-19.