

## Master Thesis Proposal

### Offering self-services via app – on the balance between customer orientation, IT investments and operational benefits

More and more service providers and manufactures use apps to offer self-services to their customers. A new address, a different bank account or additional paid services are typical examples for features provided in such apps. Formerly, these tasks were done in a branch or phone leading to additional effort for call center and back office employees. Depending on the degree of automation, shifting these services to an app can result in medium to strong benefits for a company's operations. At the same time, a customer will be more satisfied since he can avoid long waiting time at the call center and is able to make his desired changes at any time. On the other hand, company resources are required to implement the new self-services. Furthermore, an increased level of customer participation may change variability of critical performance measures such that the company needs to actively manage different types of variability in the best way. Accordingly, the company's goal is to find the right balance between the question of what to offer to the customer and how to offer it with the respective processes in front and back office operations – at the same time considering relevant IT (time) investment.

The objectives of this thesis are to...

- review the recent literature on product line design, service design, and business process modelling both in general and with a special focus on self-services, digital services, and service apps,
- collect models that might be able to handle the problem described above and discuss their applicability,
- evaluate to what extent the Simultaneous Service Product and Process Design (SPPD) model by Schön and Strohm (2020) can be adapted in this context,
- select the most promising model and adapt its formulation to the context of this master thesis by adding necessary constraints or changing existing ones,
- optional: implement your adapted model to AMPL.

#### Basic Literature:

**Amorim, M., Moscoso, P., and Lago, A. (2015).** Customer participation in services: a framework for process design. *International Journal of Qualitative Research in Services*, 2(1), 47-61.

**Frei, F. X. (2006).** Breaking the trade-off between efficiency and service. *Harvard business review*, 84(11), 92.

**Kwong, C. K., Luo, X. G., & Tang, J. F. (2011).** A methodology for optimal product positioning with engineering constraints consideration. *International Journal of Production Economics*, 132(1), 93-100.

**Raman, N., & Chhajed, D. (1995).** Simultaneous determination of product attributes and prices, and production processes in product-line design. *Journal of Operations Management* 12(3), 187-204.

**Roels, G. (2014).** Optimal design of coproductive services: Interaction and work allocation. *Manufacturing & Service Operations Management*, 16(4), 578-594.

**Schön C. and Strohm F. (2020).** Optimal Service Design at the Interface of Marketing and Operations: What Benefits to Provide to Customers and How to Create them? *Working paper*.