

Master Thesis

“Measurement, Design, and Simulation of Responsive Service Processes”

Service quality is an important factor of customer satisfaction. ServQual (Parasuraman et al, 1988), a popular approach to evaluate service quality, proposes five principal dimensions of service quality: reliability, responsiveness, assurance, tangibles, and empathy. Two of these are the prevailing impact factors of service quality and ultimately customer satisfaction. These are reliability and responsiveness. Responsiveness can be defined as the ability and willingness to help customers and provide prompt service.

For service providers aiming at achieving high customer satisfaction, insights in this area are very valuable as responsiveness can greatly impact the service quality. The first step is to measure responsiveness in order to evaluate and improve the performance in this field. A pragmatic and often used measure is waiting time. However, is waiting time the main factor determining responsiveness and thus the best measure for responsiveness? Second, the service process design must address the influencing factors in order to provide the required level of responsiveness. How should the process be designed and operated in order to provide continuously high service quality regarding responsiveness?

The theoretical insights from the literature shall be applied to the case of Covid-19-suspect/ infect cases handling at the public health offices. By first mapping and then simulating this process using ARENA Simulation, this exemplary service can be analyzed for different improvement measures to increase throughput time and responsiveness.

The aim of this master thesis should be:

- to conduct a literature review to identify the measurement approaches for responsiveness and the influencing factors, which could increase responsiveness,
- to evaluate the use of waiting time as appropriate measure for responsiveness,
- to give a recommendation on first, how to measure and second, how to increase responsiveness in service operations, and
- to apply the gained knowledge to a simulation of the practical example of a service process to identify concrete improvement measures.

Basic Literature:

Davis, M. M., & Heineke, J. (1998): How disconfirmation, perception and actual waiting times impact customer satisfaction. *International Journal of Service Industry Management*, 9(1), 64-73.

Law, A. M. (2019): How to Build Valid and Credible Simulation Models. In *2019 Winter Simulation Conference (WSC)*, IEEE, 1402-1414

Luo, W., Liberatore, M. J., Nydick, R. L., Chung, Q. B., & Sloane, E. (2004): Impact of process change on customer perception of waiting time: a field study. *Omega*, 32(1), 77-83.

Santos Bernardes, E., & Hanna, M. D. (2009): A theoretical review of flexibility, agility and responsiveness in the operations management literature. *International Journal of Operations & Production Management*, 29(1), 30-53.