

## **An experimental study for simulation based assessment of information system design performance**

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### **Abstract**

This paper presents an experimental study for evaluating the decision support value of queueing network (QN) based simulation models for information system design performance. For illustration, queueing network simulation models have been extracted corresponding to three annotated design alternatives of a selected case study. The design alternatives are produced using logical requirements of the selected system. The performance of each alternative is then predicted using quantifiable parameters considering the dynamics of the system such as service time, waiting time and number of entities waiting in the system. In particular, results have shown that the first alternative performs better than the other two in terms of the selected parameters. In general, the case study revealed that QN-based simulation models are capable to distinguish the performance of design alternatives in terms of selected parameters and under given assumptions. This also means that the use of simulation may lead to better designed information systems.