

# Bayesian network analysis for data-driven decision support



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Bayesian networks (BNs) are statistical models with an easy-to-understand graphical representation. They can analyze and visualize dependencies between many variables. The goal of the project was to examine the usefulness of BNs when applied to data in the health context. Intracranial aneurysms (IAs) and hospital catering processes were chosen as respective use-cases for the analysis. While BN could uncover dependencies within large and detailed medical datasets of IAs, this could not be done when applied to a much smaller, less detailed and anonymized dataset in hospital catering management. In

combination with simulation replacing missing data with synthesized data, we showed that BN can potentially uncover dependencies in the hospital catering processes. The project offered not only the possibility to develop know-how in the application of BN and modeling, but also provided a basis for several affiliated initiatives and further projects, as well as interdisciplinary exchange within the school. ■

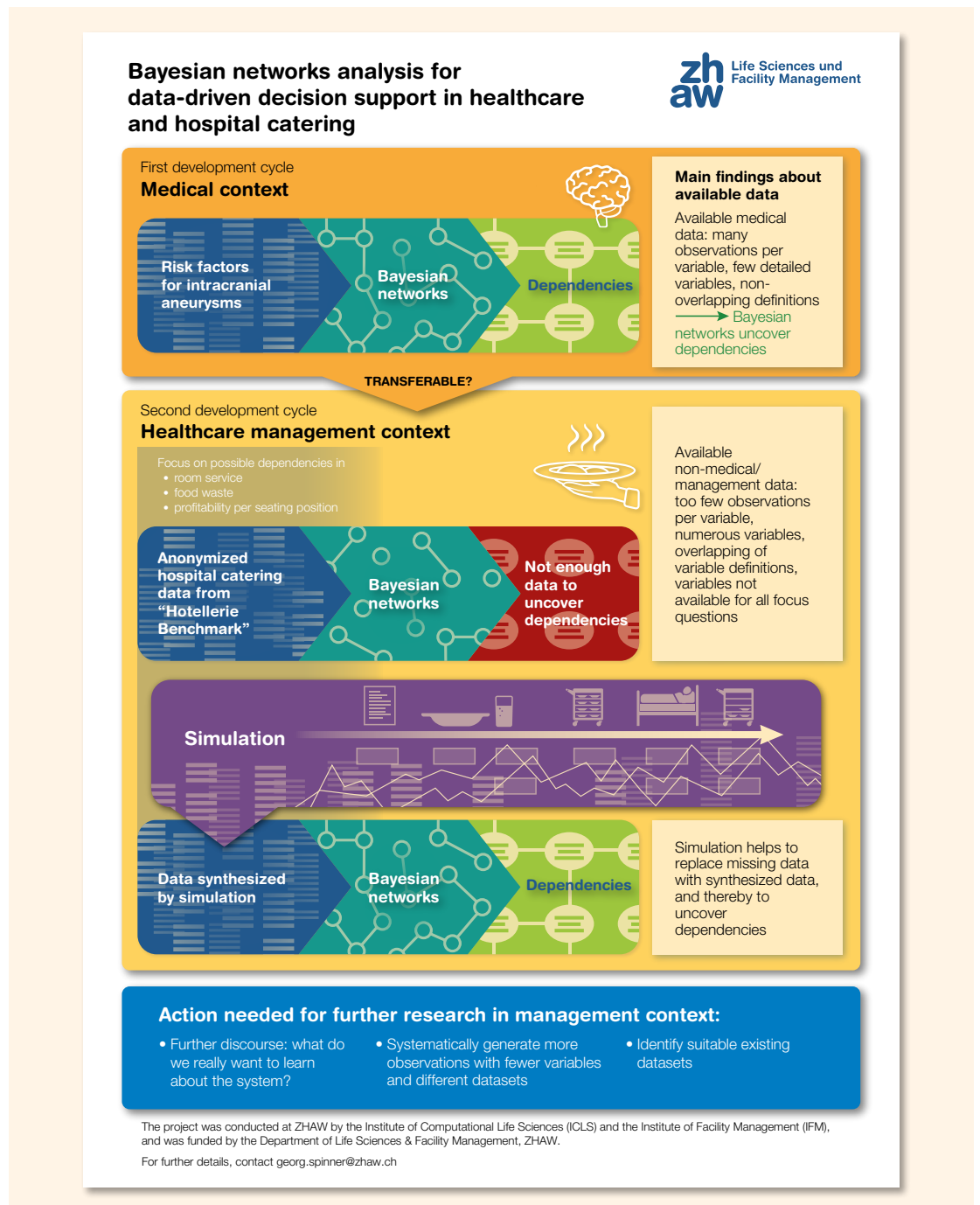


Fig.: Bayesian networks analysis for data-driven decision support in healthcare and hospital catering