Business decision support (non-IE)

Offered by: Department of Industrial Engineering en Innovation Sciences
Language: English
Primarily interesting for: All non-IE students interested in (quantitative) decision making in a business setting.
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Content and composition
Which decisions do you have to make as a business to optimize your operational processes? How can you make sure that these decisions are not ad hoc, but backed up by quantitative models of your processes? How can you analyze your data and make your business decisions based on actual facts (data) rather than assumptions? These are some of the questions that contemporary businesses have to deal with. In this elective package you learn how to address these questions based on techniques from information systems research. In Business Modeling, you learn to formalize business process descriptions and how to generate formal models of your processes. In Business Process Simulation, you learn how to translate a business model into an executable model that can be used for analyzing the performance of the business process. Finally, Business Analytics and Decision Support discusses analyzing the data from business processes to serve as input for optimal business decisions.

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There are no obligatory precedence relations.

Course description

Business modeling
Business models are needed to understand and analyze modern organizations. Moreover, business models specify the functionality of business information systems that organizations use to produce and deliver their goods and services. Particularly relevant are models that capture the process behavior of organizations and their information needs. This course teaches how to model business processes and business data, and introduces the basic principles of business information systems in practice.
Business Process Simulation

Business Process Simulation is a tool for analyzing the performance of a business process and the impact of certain changes to these processes. Simulation is used when analytical techniques such as queuing theory or a direct experiment in practice cannot be used. A model of the business process is built and executed in a simulation tool in order to get insights in the performance indicators and bottlenecks in the process. Based on this information ideas for redesigning the process (to make it more efficient) can be generated or checked for their impact. In this course, you work in a group on a simulation project for a realistic case. You will apply a simulation methodology to arrive at recommendations for improvement and redesign of the business processes.

Business Analytics and Decision Support

Agile organizations can gain competitive advantage through timely, thorough and relevant analysis of their (past) performance data. Coupling the results of this analysis to operational and management decisions leads to operational excellence. In this course, students learn about advanced methods of data analysis and information processing, as well as their link to decision making models. Both individual and group decision making is discussed.