

Hand-out Seminar BSc: Applications of modelling and simulation in operations management

SS 2017

Version: 16 March 2017

Learning objectives

After successfully finishing the course, students can:

- independently understand a scientific paper;
- summarize and criticize a scientific paper;
- put a scientific paper into context with regard to broader discussions in the field of operations management;
- give an academic presentation.

Content

The seminar asks students to independently acquire knowledge based on a scientific paper. This paper has to be understood, summarized, criticized, and put into context. Students hold a presentation about their understanding and findings.

Requirements

One course in the bachelor elective “Operations Management” successfully passed.

Literature

Students are requested to choose one scientific article from the following list, on which their seminar paper and presentation will be based:

1. Vlachos, D., Georgiadis, P., & Iakovou, E. (2007). A system dynamics model for dynamic capacity planning of remanufacturing in closed-loop supply chains. *Computers & Operations Research*, 34(2), 367-394.
2. Besiou, M., Stapleton, O., & Van Wassenhove, L. N. (2011). System dynamics for humanitarian operations. *Journal of Humanitarian Logistics and Supply Chain Management*, 1(1), 78-103.
3. De Marco, A., Cagliano, A. C., Nervo, M. L., & Rafele, C. (2012). Using System Dynamics to assess the impact of RFID technology on retail operations. *International journal of production economics*, 135(1), 333-344.
4. Legato, P., & Mazza, R. M. (2001). Berth planning and resources optimisation at a container terminal via discrete event simulation. *European Journal of Operational Research*, 133(3), 537-547.
5. Sinreich, D., & Marmor, Y. (2005). Emergency department operations: the basis for developing a simulation tool. *IIE transactions*, 37(3), 233-245.
6. Cigolini, R., Pero, M., Rossi, T., & Sianesi, A. (2014). Linking supply chain configuration to supply chain performance: A discrete event simulation model. *Simulation Modelling Practice and Theory*, 40, 1-11.

7. Albino, V., Carbonara, N., & Giannoccaro, I. (2006). Innovation in industrial districts: An agent-based simulation model. *International Journal of Production Economics*, 104(1), 30-45.
8. Amini, M., Wakolbinger, T., Racer, M., & Nejad, M. G. (2012). Alternative supply chain production–sales policies for new product diffusion: An agent-based modeling and simulation approach. *European Journal of Operational Research*, 216(2), 301-311.
9. Cid Yanez, F., Frayret, J. M., Léger, F., & Rousseau, A. (2009). Agent-based simulation and analysis of demand-driven production strategies in the timber industry. *International journal of production research*, 47(22), 6295-6319.

Timetable

Date, time	Topic	Room
24/04/2017, 09:45–11:15	Kick-off: explanation of procedures and topics	M 17.98
15/05/2017	Deadline for withdrawing from the seminar	
14/07/2017, 10:00–16:00	Presentation of seminar papers; deadline for submitting papers and presentation material	M 17.71

Intermediate supervision

During the period of writing the seminar paper and preparing the presentation, advice can be sought with the research associates of the department, Mr Brauch and Mr Đula in KII, 07.005, Tuesdays and Wednesdays 10:00–12:00.

Examination

Student assessment is based on a written and an oral examination: seminar paper and presentation. Weight: seminar paper 60%, presentation 40%.

The seminar paper should not be longer than 12 pages (or 15 pages including cover sheet, table of contents, and literature list), font size 12 points, font type Times New Roman, line spacing 1.5, margins 2.5 cm (top and bottom) and 2 cm (left and right). Please provide page numbers. The cover page should include the title of the paper, the student's name and matriculation number. Please provide an electronic as well as a paper version before the presentations (i.e., deadline: 10 February 2017, 10:00). With regard to the criteria for a good paper, please check the learning objectives. A structure with more than five sections or more than two levels of sub-sections is not useful for a seminar paper.

The presentation should not be longer than 15 minutes. Thus, it must focus on the importance and relevance of the topic being discussed, the most important findings within the paper, and an evaluation of these findings. Powerpoint slides are a possible way to support the talk but other forms (e.g., speech with hand-outs, Prezis, posters, Pecha-Kuchas, model walk-throughs) are also encouraged but must be organized by the students. Presentation material must be made available to the teachers for assessment. Students should be prepared to answer questions regarding their presentation and paper.