**Hand-out Behavioural Operations Management**

**WS 2019/2020,** version: 30 September 2019

Please note: This document reflects our planning before the term started; it will **not** be updated regularly. For short-term changes regarding rooms or times, see Campus. Changes regarding the content will be discussed in class and, if appropriate, communicated via Ilias.

Technicalities

One semester course, taught every second semester in the winter term.

Six credit points; on average, four contact hours per week. Taught in English.

Course coordinator and lecturer: Prof Dr Andreas Größler; tutorials: Ivan Ðula and Manuel Brauch

Part of the MSc study programme in (technically oriented) business administration.

Learning objectives

After successfully finishing the course, students can:

* name and identify managerial decision-making biases;
* discuss relevant experiments in the behavioural operations management literature;
* understand and evaluate improvement guidelines for operations’ decision-making;
* design simple experiments in the realm of dynamic decision making.

Content

The course discusses managerial decision-making, cognition, and biases from an operations point of view, i.e. not only decision-making in high-level management teams are considered but also decision-making on the shop floor. The effects of behavioural factors on organisational value creation processes is in the centre of interest. Experiments on the topic are presented and, partially, repeated in class. Students learn about simple experiments to investigate dynamic decision making.

Timetable

Lectures will be held on Mondays, 15:45-17:15 in M 17.17.

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| **Date** | **Topic** | **Reading assignment** |
| 21/10/2019 | Introduction to department and to the course; course logistics; definition of behavioural operations management |  |
| 28/10/2019 | Foundations of behavioural operations | Bendoly et al., ch. 1 |
| 04/11/2019 | Laboratory and field experiments as primary investigation methods | Bendoly et al., ch. 2 |
| 11/11/2019 | Constraints and variability in operational systems | Gupta&Boyd, 2008 |
| 18/11/2019 | Behavioural aspects in process analysis and individual decision-making | Frederick, 2005 |
| 25/11/2019 | Process control and improvement; forecasting decisions | Langer, 1975 |
| 02/12/2019 | Human behaviour in scheduling and queueing systems | Jackson et al., 2004 |
| 09/12/2019 | Endogenous effects of operator or customer behaviour on performance | Huang&Liu, 2015 |
| 16/12/2019 | *Mid-term assessment*  Other-regarding behaviour (fairness, reciprocity) and supplier-buyer relationships | Forsythe et al., 1994 |
| 13/01/2020 | Behavioural inventory decisions: Newsvendor and other inventory settings | Schweitzer&Cachon, 2000 |
| 20/01/2020 | *Guest lecture: Prof Florian Kapmeier (ESB Reutlingen)—Price forecasting in a commodity market* | |
| 27/01/2020 | Design of social supply chains; trust in supply networks | Battacharya&Sen, 2004 |
| 03/02/2020 | Change management and organizational interventions; future of BOM | Bendoly et al., ch. 19 |
| *tbd* | *Site visit* | |

Please read the chapter/article indicated *before* the lecture. Together with the tutorial in that week, this prepares for the content that is addressed in the lecture.

Plan of tutorials

Tutorials will take place on Mondays, 08:00-09:30, in M 17.81, starting on 04/11/2019.

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| **Date** | **Topic** | **Laptop needed?** |
| 04/11/2019 | Stanford Prison Experiment | No |
| 11/11/2019 | Jewelry restoration | No |
| 18/11/2019 | Kristen’s Cookie Company | Yes |
| 25/11/2019 | Statapult competition | No |
| 02/12/2019 | Furniture manufacturing case | No |
| 09/12/2019 | Roles and processes in retailing | No |
| 16/12/2019 | Stickle Bricks production line | No |
| 13/01/2020 | Humanitarian logistics: “Kicking the mean habit” | Yes |
| 20/01/2020 | Salt seller game | Yes |
| 27/01/2020 | Coffee value chain | No |
| 03/02/2020 | Sharing the risk; Q&A | No |

Examination

Assessment will be carried out by means of a written exam (90%) and a short multiple-choice mid-term assessment during a regular class (10%; for date see time table). The mid-term assessment cannot be retaken or be written at another date. In total, 50% of all points are necessary to pass the course with 6 credit points. The content of the exam comprises all topics discussed in either the lectures or tutorials plus all required reading assignments (see timetable). Participating in the tutorials is expected from all students.

Literature

Bendoly, E., W. van Wezel, D.G. Bachrach (eds.)(2015): *Handbook of Behavioral Operations Management*, Oxford University [chs. 1, 2, 19].

Bhattacharya, C.B., S. Sen (2004): Doing Better at Doing Good: When, why, and how consumers respond to corporate social initiatives. *California Management Review* **47**(1), 9–24.

Forsythe, R., J.L. Horowitz, N.E. Savin, M. Sefton (1994). Fairness in Simply Bargaining Experiments. *Games and Economic Behavior* **6**, 347–369.

Frederick, S. (2005): Cognitive Reflection and Decision Making. *Journal of Economic Perspectives* **19**(4), 25–42.

Gupta, M.C., L.H. Boyd (2008): Theory of Constraints: a theory for operations management. *International Journal of Operations & Production Management* **28**(10), 991–1012.

Huang, T., Q. Liu (2015). Strategic Capacity Management when Customers have Boundedly Rational Expectations. *Production and Operations Management* **24**(12), 867–879.

Jackson, S., J.R. Wilson, B.L. MacCarthy (2004): A New Model of Scheduling in Manufacturing: Tasks, roles, and monitoring. *Human factors* **46**(3), 533–550.

Langer, E.J. (1975): The Illusion of Control. *Journal of Personality and Social Psychology* **32**(2), 311–328.

Schweitzer, M.E., G.P. Cachon (2000): Decision Bias in the Newsvendor Problem with a Known Demand Distribution: Experimental evidence. *Management Science* **46**(3), 404–420.

Additional Literature

Baines, T., S. Mason, P.O. Siebers, J. Ladbrook (2004): Humans: the missing link in manufacturing simulation? *Simulation Modelling Practice and Theory* **12**(7), 515–526.

Boudreau, J., W. Hopp, J.O. McClain, L.J. Thomas (2003): On the Interface between Operations and Human Resources Management. *Manufacturing & Service Operations Management* **5**(3), 179–202.

Donohue, K., E. Katok, S. Leider (eds.)(2019): *The Handbook of Behavioral Operations*, Wiley.

[in particular ch. 3: Foundations; chs. 1 & 4: Experiments; ch. 5: Individual decision-making; ch. 12: Forecasting; ch. 9: Queuing systems; ch. 17: Endogenous demand; chs. 6 & 13: Collaboration, fairness; ch. 11: Inventory decisions; ch. 14: Trust; ch. 18: Outlook]

Pasin, F., H. Giroux (2011): The Impact of a Simulation Game on Operations Management Education. *Computers & Education* **57**(1), 1240–1254.

Zuffo, R.G. (2011): Taylor is Dead, Hurray Taylor! The" Human Factor" in Scientific Management: Between ethics, scientific psychology and common sense. *Journal of Business and Management* **17**(1), 23–41.