Hand-out Behavioural Operations Management

WS 2020/2021, version: 26 October 2020

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 Đula

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. Students learn about simple experiments to investigate dynamic decision making.

Timetable

The first, the last, and the guest lecture will be held on Zoom as live sessions with a link provided to registered attendees. All other lectures will be pre-recorded and available via Ilias at the day indicated.

Date	**Topic**	**Mode**	**Reading assignment***
Introduction and foundations			
02/11/2020	Introduction to department and to the course; course logistics; definition of behavioural operations management	live	
09/11/2020	Foundations of behavioural operations management	recorded	Bendoly et al., ch. 1

16/11/2020	Laboratory and field experiments as primary investigation methods	recorded	Bendoly et al., ch. 2
Systemic characteristics of decisions and behaviour			
23/11/2020	Constraints and variability: design and effects of production lines	recorded	Gupta&Boyd, 2008
30/11/2020	Randomness, luck, and deterministic chaos in operations performance	recorded	Langer, 1975
07/12/2020	Complexity: adapting operations strategies and endogenous demand	recorded	Huang&Liu, 2015
Isolated decisions and behaviour			
14/12/2020	Cognition: the Newsvendor task and other inventory settings	recorded	Schweitzer&Cachon, 2000
21/12/2020	Emotion: demand forecasting and organisational needs	recorded	Frederick, 2005
11/01/2021	Personality: controlling an inventory system	recorded	Strohhecker& Größler, 2013
Nested decisions and behaviour			
18/01/2021	Reciprocity, fairness, and trust in supplier-buyer relationships	recorded	Forsythe et al., 1994
25/01/2021	*Guest lecture: Prof Florian Kapmeier (ESB Reutlingen)—Price forecasting in a commodity market*	live	
01/02/2021	Societal and cultural embedding of operations, sustainability	recorded	Battacharya&Sen, 2004
Interventions and conclusion			
08/02/2021	Change management and organizational interventions; outlook	live	Bendoly et al., ch. 19

* The reading list is tentative and might change later. Please read the chapter/article indicated *before* the lecture.

Plan of tutorials

Tutorials will take place on Zoom, starting on 09/11/2020 and will take three teaching hours each (08:00-10:30). A permanent Zoom link will be provided to registered attendees through Ilias. Except for the first and last tutorial, students will have to participate in serious gaming activities; technicalities will be clarified on Ilias or at the beginning of the class. A link to major concepts of behavioural operations management will be made in the debriefing discussions.

Date	**Topic**
09/11/2020	Introduction & Stanford Prison Experiment video
16/11/2020	Salt seller
30/11/2020	Platform wars
14/12/2020	Humanitarian logistics
11/01/2021	Eclipsing the competition
25/01/2021	Clean start entrepreneurs
08/02/2021	Recap & exam preparation & Q&A

Examination

Assessment will be carried out by means of a written exam. 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 class or in the required reading assignments (see timetable). Participating in the tutorials is expected from all students and at least one exam question will cover a topic from the tutorials.

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 Simple 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.

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.

Strohhecker, J. and A. Größler (2013): Do Personal Traits Influence Inventory Management Performance? – The case of intelligence, personality, interest and knowledge. *International Journal of Production Economics* **142**(3), 37–50.

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]

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.

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.