

## Behavioural Operations Management

WS 2024/2025, version: 1 October 2024

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: Julian Wiesner

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 on the individual and group level;
- discuss relevant experiments in the behavioural operations management literature;
- understand and evaluate improvement guidelines for operations' decision-making;
- evaluate 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 is decision-making in high-level management teams considered, but also decision-making on the shop floor. The effects of behavioural factors on organisational value-creation processes are at the centre of interest. Experiments on the topic are presented. Students learn about simple experiments to investigate dynamic decision-making.

### Timetable

Lectures will take place on Mondays (as indicated in the timetable) at 3:45 pm in lecture hall **M 17.91**.

Date	Topic	Reading assignment
<i>Conceptual and methodological foundations</i>		
21/10/2024	Introduction to department and course; foundations of behavioural operations management	Bendoly et al., 2015, ch. 1
28/10/2024	Laboratory and field experiments as primary investigation methods	Bendoly et al., 2015, ch. 2
04/11/2024	Agent-based simulation to explore decision-making and behaviour	Wilensky&Rand, 2015, ch. 1

<i>Decision-making and behaviour in systems</i>		
11/11/2024	Constraints and variability: design and effects of production lines and queuing systems	Gupta&Boyd, 2008
18/11/2024	Randomness and deterministic chaos in operations performance	Franco-Santos&Otley, 2018
25/11/2024	Complexity: adapting operations strategies and endogenous demand	Huang&Liu, 2015
<i>Individual decisions and behaviour</i>		
02/12/2024	Cognition: the Newsvendor task and other inventory settings	Schweitzer&Cachon, 2000
09/12/2024	Intuition: demand forecasting, problem-solving, and entrepreneurship	Belvedere&Goodwin, 2017
16/12/2024	Personality: controlling complex inventory systems and “positive” psychology	Strohhecker&Größler, 2013
<i>Nested decisions and behaviour</i>		
13/01/2025	Group decision-making, e. g. in improvement projects	Riccobono et al., 2016
20/01/2025	Fairness and trust: management of supply networks	Jokela&Söderman, 2017
27/01/2025	Societal and cultural embedding of operations, sustainability	Price&Sun, 2017
<i>Interventions and conclusion</i>		
03/02/2025	Change management and organizational interventions; outlook; exam preparation	Bendoly et al., 2015, ch. 19

Please read the chapter/article indicated *before* the lecture.

### Plan of tutorials

Tutorials will take place on Mondays (as indicated in the timetable) at 11:30 am in lecture hall **M 17.24**.

<b>Date</b>	<b>Topic</b>	<b>Laptop needed?</b>
28/10/2024	Stanford Prison Experiment (Experiments) L2	No
04/11/2024	Netlogo (ABM) L3	Yes
11/11/2024	Jewelry restoration (Constraints) L4	No
18/11/2024	Statapult competition (Randomness) L5	No
25/11/2024	Furniture manufacturing case (Complexity) L6	No
02/12/2024	Experience the Newsvendor (Cognition) L7	Yes
09/12/2024	Five Easy Pieces (Problem-solving) L8	No
16/12/2024	Individual Differences Tests (Personality) L9	No
13/01/2025	Stickle Bricks production line (Group DM) L10	No
20/01/2025	Coffee value chain (Fairness) L11	Yes
27/01/2025	Schelling’s model (Societal and cultural embedding) L12	No
03/02/2025	Guest lecture (tbd); Q&A	No

## Examination

Assessment will be carried out using a written exam; please register during the standard exam registration period. To pass the course with 6 credit points, 50% of all points are necessary. The exam's content comprises all topics discussed in class or in the required reading assignments (see timetable). All students are expected to participate in the tutorials. Mandatory exam questions will address a tutorial topic and an issue discussed in the reading assignments.

## Mandatory literature

Belvedere, V., P. Goodwin (2017): The influence of product involvement and emotion on short-term product demand forecasting. *International Journal of Forecasting* **33**(3), 652–661.

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

Franco-Santos, M., D. Otley (2018): Reviewing and theorizing the unintended consequences of performance management systems. *International Journal of Management Reviews* **20**(3), 696–730.

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.

Jokela, P., A. Söderman (2017): Re-examining the link between fairness and commitment in buyer-supplier relationships. *Journal of Purchasing and Supply Management* **23**(4), 268–279.

Price, J. M., W. Sun (2017): Doing good and doing bad: The impact of corporate social responsibility and irresponsibility on firm performance. *Journal of Business Research* **80**, 82–97.

Riccobono, F., M. Bruccoleri, A. Größler (2016): Groupthink and Project Performance: the influence of personal traits and interpersonal ties. *Production and Operations Management* **25**(4), 609–629.

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.

Wilensky, U. and W. Rand (2015): *An Introduction to Agent-based Modeling*, MIT Press [ch. 1].

## 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.

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.

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.

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.

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.

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.