

## *Ljubljana Doctoral Summer School*

**8 – 12 July 2024**

9:00 – 13:00 (CET, Ljubljana)

## **QUANTITATIVE APPROACHES TO LITERATURE REVIEWS: BIBLIOMETRIC METHODS AND TOPIC MODELING (ECTS: 4)**

**Ivan ZUPIC**

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### **Aims of the course**

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The purpose of this intensive course is to train researchers in using advanced quantitative methods for literature reviews. Specifically, the course will deliver training in bibliometric methods (e.g. co-citation analysis, bibliographic coupling, historiography) and topic modeling to participants using a combination of lectures, discussions and hands-on workshops.

Bibliometric methods use citation as a measure of communication. Aggregating and analyzing citation data from publications in a specific field allows researchers to base their literature review on the aggregate opinions of other scholars working in the field expressed through citing literature. This kind of analysis introduces quantitative rigor into literature reviews.

Topic modeling is a set of machine learning methods for analyzing text. The algorithm can extract thematic information from large collections of text documents that would be unfeasible to read by researchers. It is helpful to think about topic modeling methods as principal component analysis for text data. The most used topic model - Latent Dirichlet Allocation (LDA) and its extensions will be introduced to workshop participants. These methods are useful as a quantitative aid to literature reviews but can also be used in other research projects on any kind of text data: company document archives, social media, press articles and more. Topic modeling has only recently started to be used in management and economics research, which makes it a useful new tool in any researcher's arsenal.

Finally, the course will present a range of intermediate and innovative applications of bibliometric methods and topic modeling that will take the participants literature review skills beyond the basic use of these quantitative approaches to literature reviews. Participants will also learn how to apply these methods within a broader literature review process, how to handle theory development based on the findings and how to handle publishing process of quantitative reviews.

### **Syllabus**

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- Introduction: Quantitative approaches to literature reviews
- Bibliometric methods workshop

- Intermediate bibliometric methods and innovative approaches in their use
- Analyzing text: topic modelling
- Theory development, writing and publishing quantitative literature reviews

## Course delivery

This course will use a combination of lectures, discussions and hands-on workshops.

## Course materials / List of readings

- Zupic, I., & Čater, T. (2015). Bibliometric methods in management and organization. *Organizational Research Methods*, 18(3), 429–472. <https://doi.org/10.1177/1094428114562629>
- Vogel, B., Reichard, R. J., Batistič, S., & Černe, M. (2021). A bibliometric review of the leadership development field: How we got here, where we are, and where we are headed. *The Leadership Quarterly*, 101381. <https://doi.org/10.1016/j.leaqua.2020.101381>
- Budler, M., Župič, I., & Trkman, P. (2021). The development of business model research: A bibliometric review. *Journal of Business Research*, 135, 480–495. <https://doi.org/10.1016/j.jbusres.2021.06.045>
- Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, 133, 285–296. <https://doi.org/https://doi.org/10.1016/j.jbusres.2021.04.070>
- Devinney, T. M., & Hohberger, J. (2017). The past is prologue: Moving on from Culture's Consequences. *Journal of International Business Studies*, 48(1), 48–62. <https://doi.org/10.1057/s41267-016-0034-z>
- Hannigan, T. R., Haans, R. F. J., Vakili, K., Tchalian, H., Glaser, V. L., Wang, M. S., ... Jennings, P. D. (2019). Topic Modeling in Management Research: Rendering New Theory from Textual Data. *Academy of Management Annals*, 13(2), 586–632. <https://doi.org/10.5465/annals.2017.0099>
- Hopp, C., Antons, D., Kaminski, J., & Salge, T. O. (2018). The Topic Landscape of Disruption Research—A Call for Consolidation, Reconciliation, and Generalization. *Journal of Product Innovation Management*, 35(3), 458–487. <https://doi.org/10.1111/jpim.12440>
- Kobayashi, V. B., Mol, S. T., Berkers, H. A., Kismihók, G., & Den Hartog, D. N. (2017). Text Classification for Organizational Researchers: A Tutorial. *Organizational Research Methods*, 21(3), 766–799. <https://doi.org/10.1177/1094428117719322>
- Antons, D., Joshi, A. M., & Salge, T. O. (2018). Content, Contribution, and Knowledge Consumption: Uncovering Hidden Topic Structure and Rhetorical Signals in Scientific Texts. *Journal of Management*, 45(7), 3035–3076. <https://doi.org/10.1177/0149206318774619>

## Course credit

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Students needing course credit for their PhD studies will have to submit an extended abstract (1500-2000 words) with preliminary quantitative analysis (bibliometric or topic modelling) of their chosen research field.

## Course leader

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*Ivan Zupic is a Lecturer in Entrepreneurship at Institute of Management Studies, Goldsmiths, University of London. He received his Ph.D. degree in Management and Organization from the School of Economics and Business, University of Ljubljana. His research interests include digital economy, high-growth firms, entrepreneurial ecosystems and research methods. His research has been published in peer-reviewed journals such as Organizational Research Methods, Journal of Business Research, Management Decision and European Management Journal. Before entering academia, he worked as a consultant in the IT industry and as a journalist/photographer in the media.*

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