
HUMAN-AI COLLABORATION IN RESEARCH. THE WORKSHOP FOR DOCTORAL STUDENTS OF UNIVERSITY OF PALERMO

Przemysław Tomczyk, PhD

Palermo, May 06-07, 2025



About me

- Doctor of Economics (Warsaw School of Economics)
- Assistant Professor at the Department of Marketing at Kozminski University
- Artificial intelligence in science
- YT: @drprzemek



Towards the **full automation** of **scientific writing**



dr Przemek Tomczyk AI

@drprzemek · 1,57 tys. subskrybentów · 41 filmów

Jesteś studentem albo naukowcem? Na tym kanale dowiesz się, jak zautomatyzować sw...[więcej](#)

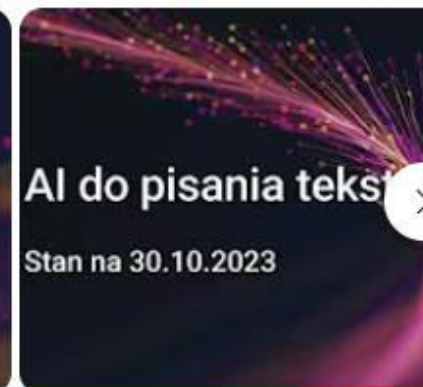
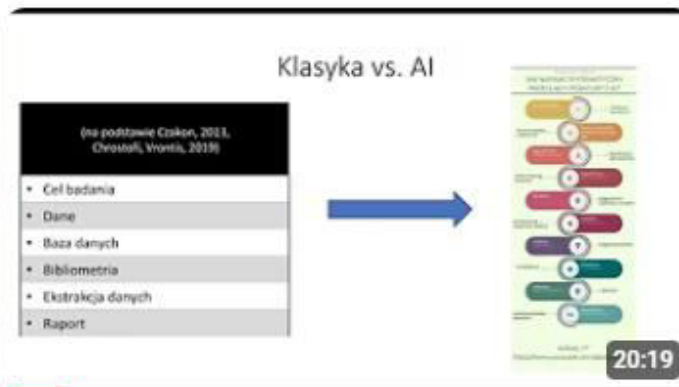
[linkedin.com/in/przemyslawtomczyk](https://www.linkedin.com/in/przemyslawtomczyk) i jeszcze 1 link

Dostosuj kanał

Zarządzaj filmami

Główna Video Shorts Playlisty Posty 🔍

Dla Ciebie



GENERAL AGENDA

1. Day 1 (May, 6, Tuesday)

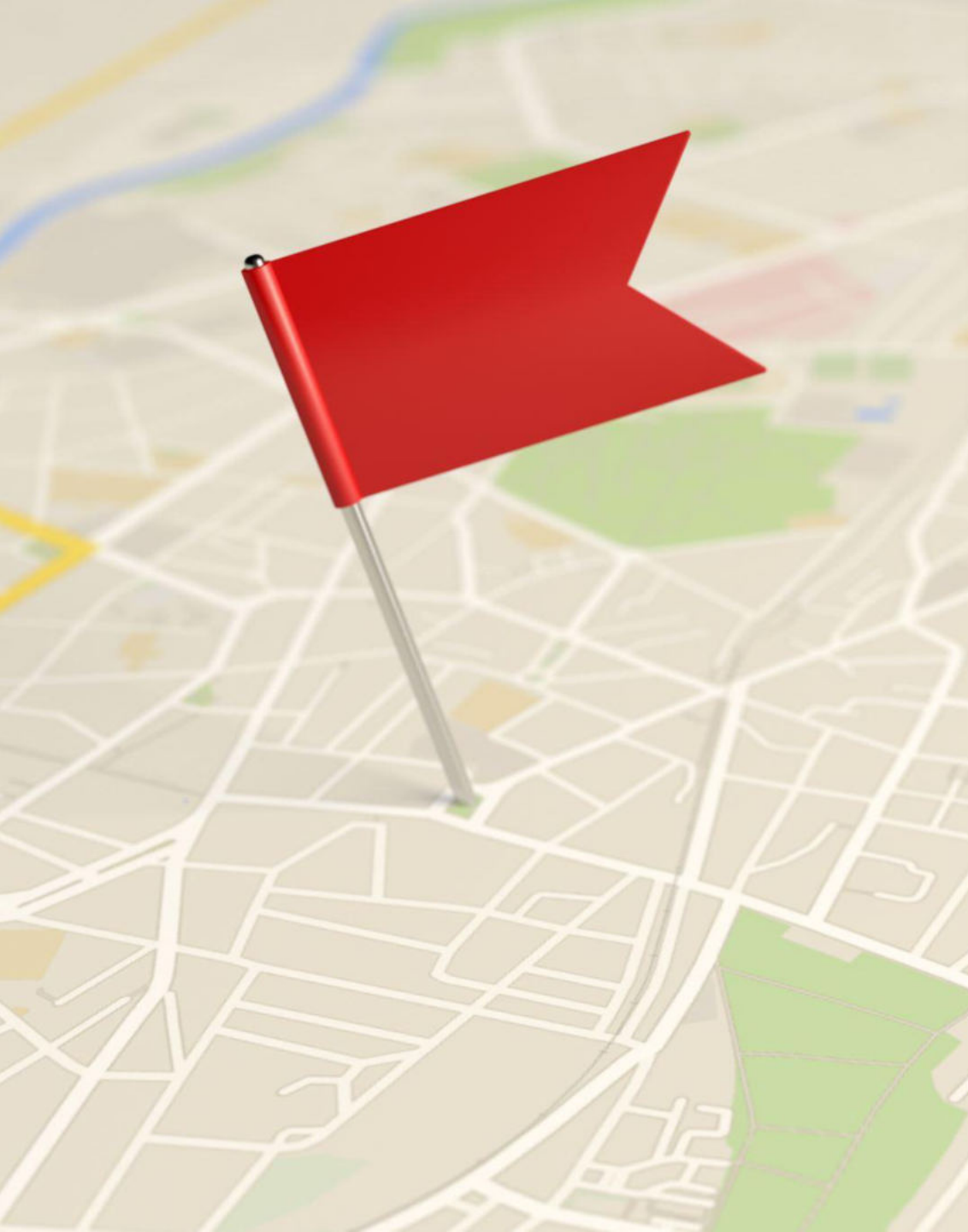
Human-Machine Collaboration in Academia: Enhancing Systematic Literature Reviews with AI Tools

2. Day 2 (May, 5, Wednesday)

Bibliometric Analysis Meets AI: Mapping Literature Efficiently in the Age of Automation

My latest articles on artificial intelligence and writing scientific articles

- Tomczyk, P., Brüggemann, P., & Paul, J. (2024). Variable science mapping as literature review method, *Journal of Marketing Analytics*, pp. 1-13. <https://doi.org/10.1057/s41270-024-00336-9>
- Tomczyk, P., Brüggemann, P., Mergner, N., & Petrescu, M. (2024). Exploring AI's role in literature searching: traditional methods versus AI-based tools in analyzing topical e-commerce themes, in *Digital Marketing & eCommerce Conference* (pp. 141-148). Springer, Cham.
- Tomczyk, P., Brüggemann, P., & Doligalski, T. (2024). The Automation of Science? Possibilities and Boundaries of AI Applications for Conducting Systematic Literature Reviews. *International Journal on Artificial Intelligence Tools*.
- Tomczyk, P., Brüggeman, P., & Vrontis D. (2024). AI Meets Academia: Transforming Systematic Literature Reviews, *EuroMed Journal of Business* (in press).
- Tomczyk, P., Brüggemann, P., Mergner, N., & Petrescu, M. (2024). Are AI tools better than traditional tools in literature searching? Evidence from E-commerce research, *Journal of Librarianship and Information Science* (in press).



Useful links on AI in academia

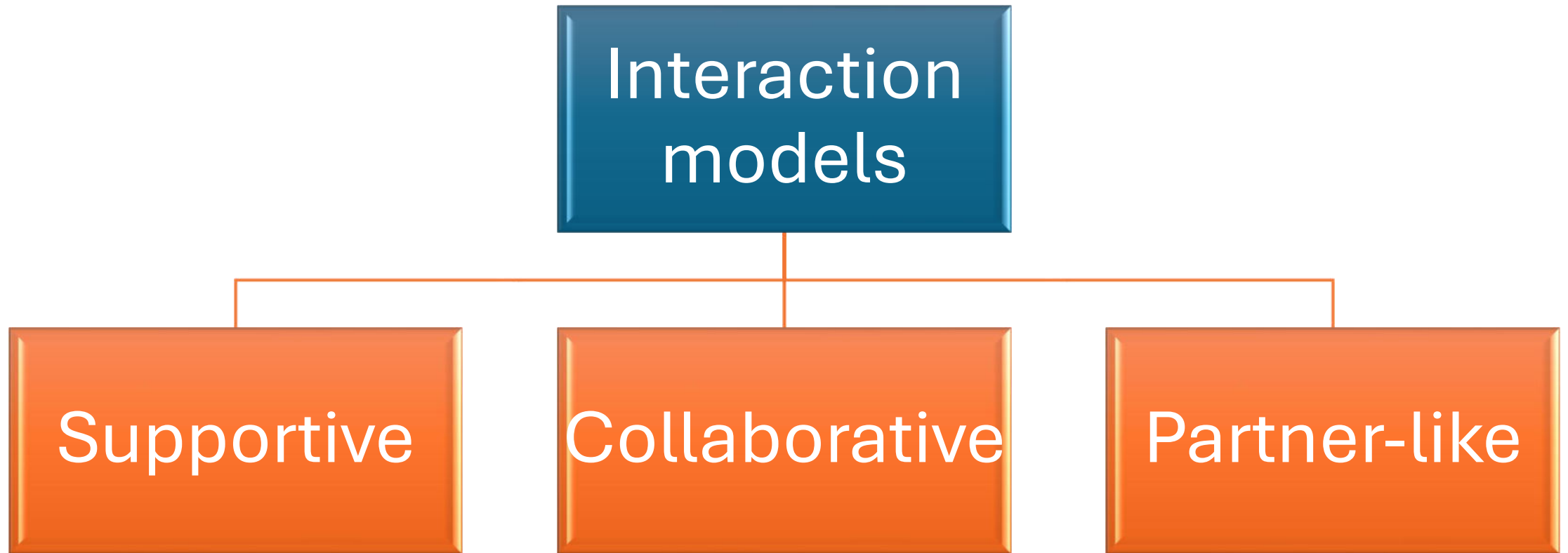
- <https://www.youtube.com/@DrAndyStapleton>
- <https://www.youtube.com/@qualitativeresearcher>
- <https://www.youtube.com/@AcademicEnglishNow>

Rules

- Objectivism
- Ethics
- Distance



Human-AI interaction models (Tomczyk, 2025, under review)



Day 1 (May, 6, Tuesday)

Human-Machine Collaboration in
Academia: Enhancing Systematic Literature
Reviews with AI Tools

SLR structure

- Abstract
- Introduction
- Research design
- Bibliometrics (optional)
- Thematic analysis
- Conclusions
- Discussion
- Further research

SLR procedure (Vrontis, Christofi, 2021*)

Stage	Description	References
Scoping Review	Defines the boundaries and focus of the study, systematically determining inclusion criteria and timeframe.	Vrontis & Christofi, 2021
Research Purpose and Research Question	Defines the scope and focus of the study, followed by the formulation of research questions based on identified gaps.	Pereira et al., 2023a; Billore et al., 2023; Vrontis & Christofi, 2021
Research Context	Refers to the setting, background, and elements that may affect the research, helping in interpreting findings.	Vrontis et al., 2020; Christofi et al., 2017; Baima et al., 2020; Vrontis et al., 2022
Literature Identification	Systematic search and assessment of relevant publications to map the current state of knowledge on a topic.	Jain et al., 2022
Literature Selection	Selecting relevant sources based on research questions, objectives, and quality to ensure a rigorous literature base.	Christofi et al., 2017; Battisti et al., 2023
Data Extraction and Synthesis	Collecting and analyzing data from selected literature to identify patterns and synthesize key insights.	Christofi et al., 2021; Battisti et al., 2023
Reporting and Recommendation	Summarizing and synthesizing results, identifying gaps, and providing recommendations for future research.	Christofi et al., 2017; Pereira et al., 2023b

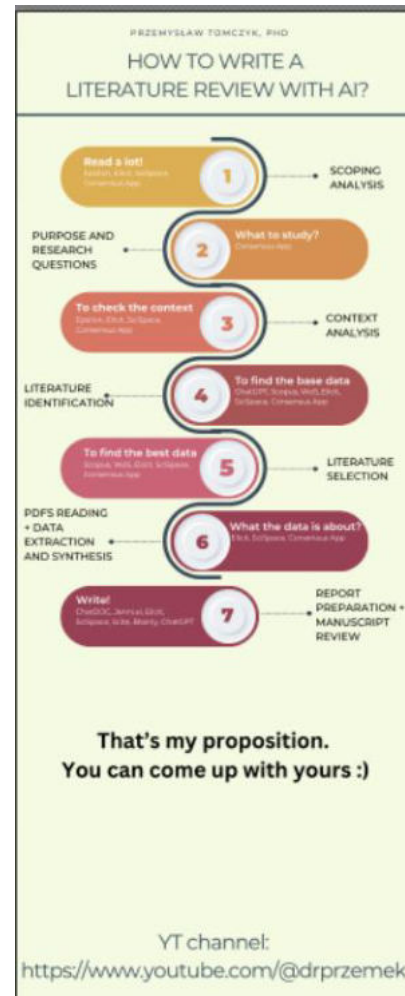
*Vrontis, D., & Christofi, M. (2021). R&D internationalization and innovation: A systematic review, integrative framework and future research directions. *Journal of Business Research*, 128, 812-823.

SLR with AI. Table of software

Tool	web	Scoping analysis	Purpose and research questions	Context analysis	Literature identification	Literature selection	Data extraction and synthesis	Report preparation and recommendations	SUM	Price
Consensus.app	https://consensus.app/	1	1	1	1	1	1		6	Freemium
SciSpace	https://typeset.io/	1		1	1	1	1	1	6	Freemium
Elicit	https://elicit.org/	1		1	1	1	1		5	Freemium
Epsilon	https://www.epsilon-ai.com/	1		1	1			1	4	Freemium
Julius	https://julius.ai/	1	1	1				1	4	Freemium
Open Read	https://www.openread.academy/	1		1	1			1	4	Freemium
Paper Digest	https://www.paperdigest.org/	1		1	1			1	4	Freemium
Research Kick	start.researchkick.com		1	1	1		1		4	Paid
SciSummary	https://scisummary.com/	1			1	1	1		4	Freemium
Scite	https://scite.ai/	1		1	1			1	4	Freemium
Blainly	https://blainy.com/	1		1				1	3	Freemium
Genei	https://app.genei.io/	1		1				1	3	Paid
Jenni	https://jenni.ai/	1		1				1	3	Freemium
MirrorThink	https://mirrorthink.ai/	1		1				1	3	Paid
Perplexity	https://www.perplexity.ai/	1		1				1	3	Freemium
PowerDrill	https://powerdrill.ai/	1		1				1	3	Freemium
Research Buddy	https://researchbuddy.app/	1		1				1	3	Freemium
Textero	https://app.textero.ai/	1		1				1	3	Freemium
Petal	https://www.petal.org/						1	1	2	Freemium
Cambiran	https://www.cambrianml.org/				1				1	Free
ChatDoc	https://chatdoc.com/							1	1	Paid
SUM		17	3	17	10	4	6	15	72	

AI procedure proposition

(everyone will get the electronic posters!)





Let's start!



Day 2 (May, 7, Wednesday)

Bibliometric Analysis Meets AI: Mapping
Literature Efficiently in the Age of
Automation

Introduction to Bibliometric Analysis

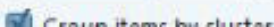
- **Definition:** Bibliometric analysis is a quantitative method used to analyze the scientific literature to evaluate the impact of publications, authors, journals, and research institutions.
- **Meaning:** Assessment of scientific developments in a given field.
- Identification of research trends.
- Identify the most influential publications and authors.



Basic bibliometric indicators

1. **Number of citations** – the number of times a publication has been cited by other works.
2. **Keyword co-occurrences** – the number of publications in which specific keywords appeared together
3. **Number of co-citations** – the number of times when two publications have been cited jointly by other works.
4. **Number of shared references** – the number of references shared by two works
5. **Other** (frequency of publishing, publishing journals etc.)

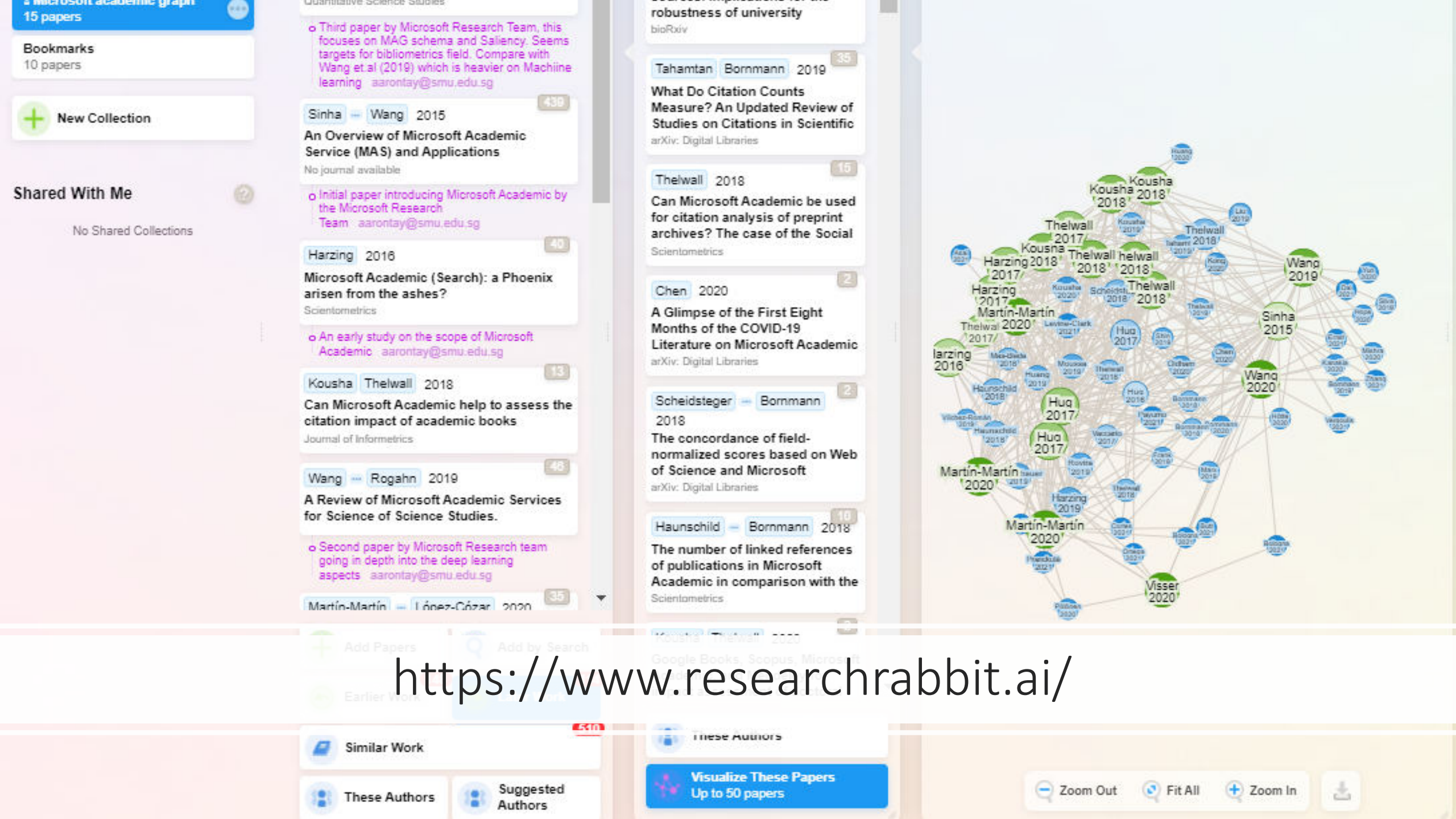




<https://www.vosviewer.com/>



And a bonus...



<https://www.researchrabbit.ai/>

Contact me, if you
have any questions!

tomczyk.przemyslaw@gmail.com
ptomczyk@kozminski.edu.pl

