



Summary of Resources: GTM Virtual Forum “Looking to the Future: TechMining and Evidence-Based Foresight”

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Ozcan Saritas, Serhat Burmaoglu, Dilek Ozdemir, **The evolution of Foresight: What evidence is there in scientific publications?**, *Futures*, Volume 137, 2022.

<https://doi.org/10.1016/j.futures.2022.102916>

What will applying the science mapping approach to a foresight defined dataset (WoS 2000-2019) show us about the evolution of

- scope and coverage of the Foresight activities
- sources of information and data
- processes (introduction of novel combinations of quantitative and qualitative approaches and methods)

Overview of TechMining–driven Future–oriented Technology Analyses (FTA) – Resources

Alan Porter

Search Technology

- ▶ Porter, A.L., (2010), Technology Foresight: Types and Methods, *International Journal of Foresight and Innovation Policy*, 6 (1 / 2 / 3), 36–45.
- ▶ Robinson, D.K.R., Huang, L., Guo, Y., and Porter, A.L. (2013), Forecasting Innovation Pathways for New and Emerging Science & Technologies, *Technological Forecasting & Social Change*, 80 (2), 267–285.
- ▶ *Technological Forecasting & Social Change*: Special Section on Forecasting Technical Emergence (16 papers), with open access to 8 of those through September 14, 2019 at <https://vpinstitute.org/academic-portal/tech-emergence-contest/tech-emergence-bibliography/>.

Intelligent Bibliometrics & Tech Mining: Challenges & Future Directions

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- **Incorporating multiple data sources for a comprehensive study, such as rich training sets and labelled data**
 - Scientific documents + Social media + Clinical trails + Altermetric data (e.g., website clicks, downloads, and likes)
 - **Ethical issues
- **Cross-disciplinary interactions**
 - Knowledge in bibliometrics (IT/CS/Info. Sci.), management science and economics, and technological areas.
 - Effective and efficient interactions between computational models and expert knowledge
 - Transferring domain knowledge, interpreting analytic results, and achieving forecasting agreements VS. Purely quantitative prediction models

A Benchmark of Evidence-Based Foresight

- We seek “10-year horizon” case studies to share, including the following three components:

Digital Information sources > Processing Methods> Visualizations and Other Outputs EXAMPLES

- METHOD: update foresight outputs with “built-in” processes that evaluate and integrate new-learnings as time progresses (the “old” retrospective questions)
- METHOD: accelerate and optimize methods involving human-expertise (e.g. Delphi)
- METHOD: optimize integration of “360 degree view”, i.e. science, economic, political, social domains
 - New data sources
 - Librarians, they should be trained continuously on how to search for information, do you have any advice for them? raining for them on the topic of information search and digital tools
- We also seek to identify and embrace promising work beyond boundaries of known TechMining community.
 - METHOD: reporting/communication - built-in “dissimilation” approaches to meet , for engagement



Link for submitting proposals, ideas, case studies for “A Benchmark of Evidence-Based Foresight”

Soon to be added at....

GTM2022: November 3-4, 2022
<http://www.gtmconference.org/>