Workshop on Systematic and Bibliometric Literature Review

Syllabus

Instructor: Dr. I. K. Nti

Institution: University of Cincinnati, USA

Duration: 3 Days

Course Description

This workshop provides postgraduate students and early career researchers with the essential skills to conduct systematic and bibliometric literature reviews.

Participants will learn how to structure and conduct high-quality reviews using systematic review protocols and bibliometric tools such as VOSviewer and R.

The training is designed to enhance research rigor, identify gaps in the literature, and facilitate the integration of evidence-based findings into research projects.

Learning Outcomes

By the end of the workshop, participants will be able to:

1. Develop a systematic review protocol, including research questions, inclusion/exclusion criteria, and search strategies.
2. Use bibliometric tools (VOSviewer and R for bibliometrics) to analyze research trends, key authors, and citation networks.
3. Critically evaluate and synthesize studies for systematic reviews.
4. Apply text mining techniques to analyze research literature.
5. Structure and present a systematic or bibliometric review for academic publications.

Workshop Schedule

Day 1: Introduction to Systematic and Bibliometric Literature Reviews

Session 1: Introduction to Literature Review Types

- Traditional vs. Systematic vs. Bibliometric Reviews
- Importance of systematic and bibliometric analysis in research

Session 2: Systematic Review Protocols

- Developing research questions using frameworks (PICO, SPIDER)
- Inclusion and exclusion criteria
- Search strategies for literature reviews

Session 3: PRISMA Guidelines & Study Selection Process

- Understanding the PRISMA flow diagram
- Screening and selecting relevant studies

Day 2: Tools and Techniques for Literature Review

Session 4: Managing Literature with Mendeley or Zotero

- Organizing references and citations
- Annotation and note-taking for systematic reviews

Session 5: Hands-on with Bibliometric Analysis

- Introduction to VOSviewer and R for bibliometrics
- Citation and co-citation analysis
- Co-authorship mapping and research impact analysis

Session 6: Text Mining & NLP for Literature Review

- Using Python or R for text analysis
- Identifying thematic clusters in research papers

Day 3: Application and Integration into Research Projects

Session 7: Synthesizing Findings into Structured Reviews

- Writing a systematic literature review paper
- Structuring bibliometric studies for publication

Session 8: Presentation & Research Communication

- Reporting findings in research papers and proposals
- Effective visualization of bibliometric data

Session 9: Group Exercise & Feedback

- Participants present their systematic/bibliometric review drafts
- Peer review and expert feedback session

Assessment & Certification

- **Pre- and Post-Workshop Assessments**: Participants will complete a pre-assessment to gauge prior knowledge and a post-assessment to measure learning gains.
- **Hands-on Exercises**: Participants will be required to complete small tasks using bibliometric tools.
- **Final Presentation**: Each participant will present a structured draft of a literature review for feedback.
- **Certification**: A certificate of participant will be awarded to participants who successfully complete the training.

Required Software & Tools

1. **Reference Management**: Mendeley or Zotero
2. **Bibliometric Analysis**: VOSviewer, R for bibliometrics
3. **Text Mining & NLP**: Python (NLTK, spaCy), R

Target Audience

- Postgraduate students across all disciplines
- Early-career researchers interested in literature review methodologies
- Academics looking to enhance their research synthesis skills

Resources & Additional Readings

- PRISMA Statement for Systematic Reviews (https://www.prisma-statement.org/)
- Systematic Reviews in Research (Book/Journal References)
- Bibliometric Analysis Techniques (VOSviewer Manual, R Packages)

For inquiries, contact

✉ [ntious1@gmail.com] (mailto:ntious1@gmail.com)

⚲ University of Cincinnati, USA