



A practical guide on using ChatGPT for research studies

Mastering Bibliometric Analysis with ChatGPT

Your essential handbook for communication with ChatGPT and performing effective bibliometric analysis to take your research to the next level.

Aidi Ahmi

Mastering Bibliometric Analysis with ChatGPT

Your essential handbook for communication with ChatGPT and performing effective bibliometric analysis to take your research to the next level.



Aidi Ahmi

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the publisher's prior written permission. Applications for the copyright holder's written permission to produce any part of this publication should be addressed to the publisher.

© 2024

Disclaimer: Every reasonable effort has been made to ensure that the material in this book is true, correct, complete, and appropriate at the time of writing. Nevertheless, the publishers and the author do not accept responsibility for any omission or error or for any injury, damage, loss, or financial consequences arising from using the book.

Printed in Malaysia

Pre-Printing Edition, 2024

Credit: Photo by Nubia Navarro (nubikini):

<https://www.pexels.com/photo/wall-e-die-cast-model-981588/>



Table of Contents

| | |
|--|------------|
| Table of Contents | iv |
| List of Figures | x |
| List of Tables | xi |
| List of Abbreviations | xii |
| List of Case Examples | xiv |
| Preface | xv |
| | |
| Chapter One | 1 |
| Introduction | 1 |
| ChatGPT and Its Applications | 2 |
| Understanding ChatGPT's Core Functionality | 3 |
| ChatGPT in Text Generation and Completion | 4 |
| ChatGPT for Data Extraction and Preprocessing | 4 |
| ChatGPT in Natural Language Processing and Text Analysis | 4 |
| ChatGPT for Visualization and Presentation | 4 |
| ChatGPT as a Writing Assistant | 5 |
| Bibliometric Analysis: An Overview | 6 |
| History and Evolution of Bibliometrics | 6 |
| Key Concepts and Measures in Bibliometrics | 7 |
| Methodologies and Techniques in Bibliometric Analysis | 7 |
| Applications of Bibliometric Analysis | 8 |
| Limitations of Bibliometric Analysis | 9 |
| | |
| Chapter Two | 13 |
| Understanding ChatGPT | 13 |
| The GPT Model Family | 15 |
| The Architecture of ChatGPT | 17 |

| | |
|--|-----------|
| Natural Language Processing and Understanding | 19 |
| | 23 |
| Chapter Three | |
| Utilizing ChatGPT for Topic Discovery, Research Questions, and Objectives | 23 |
| Communicating Effectively with ChatGPT | 25 |
| The Importance of Context | 25 |
| Giving Clear Instructions | 26 |
| Examples of Establishing Context and Providing Instructions | 26 |
| Custom Instruction | 27 |
| Adapting the Prompts Used in This Book | 30 |
| Topic Discovery and Selection | 30 |
| Generating Topic Suggestions Based on Specific Research Interests | 30 |
| Conducting Bibliometric Analysis Based on Current Research Projects or Thesis Titles | 32 |
| Generating Research Paper Titles | 36 |
| Conventional and Descriptive Titles | 36 |
| Tailoring Prompts for Specific and Varied Title Suggestions | 37 |
| Titles with Different Tones | 38 |
| Defining Research Questions and Objectives | 42 |
| Using ChatGPT to Generate Research Questions | 42 |
| Using ChatGPT to Refine Research Objectives | 43 |
| Benefits of Using ChatGPT for Research Questions and Objectives | 43 |
| Limitations of Using ChatGPT for Research Questions and Objectives | 44 |
| Chapter Four | 47 |
| Harnessing ChatGPT for Keyword Identification and Database Searches | 47 |
| Keyword Generation and Refinement | 48 |
| Initial Keyword Generation | 49 |
| Keyword Expansion and Synonym Identification | 50 |
| Keyword Refinement | 51 |
| Query Construction for Scopus and Web of Science | 55 |
| Creating an Initial Query | 55 |
| Expanding the Query with ChatGPT | 56 |
| Refining the Query with ChatGPT | 57 |
| Testing and Adjusting the Query | 58 |

| | |
|---|-----------|
| Streamlining the Search Process | 60 |
| Streamlining Keyword Identification | 60 |
| Generating Search Queries | 60 |
| Expanding and Refining Search Queries | 61 |
| Repeating Searches with Varied Parameters | 61 |
| Streamlining the Search Process for Multiple Databases | 62 |
| Integrating ChatGPT with Search Automation Tools | 63 |
| Chapter Five | 65 |
| Screening and Cleaning Results with ChatGPT | 65 |
| Reviewing and Filtering Search Results | 67 |
| Identifying Relevant Publications | 67 |
| Prioritizing Publications | 71 |
| Handling Large Data | 73 |
| Facilitating Decision-Making | 74 |
| Organizing Publications by Subtopics | 75 |
| Removing Irrelevant Records | 77 |
| Detecting Variations in the Same Article Title or Author Name | 78 |
| Determining the Relevance of a Document Based on Title, Abstract, or Keywords | 78 |
| Assisting in Manual Verification of a Document's Relevance | 79 |
| Documenting the Removal Process and Providing a Rationale | 79 |
| Data Extraction and Preprocessing | 80 |
| Identifying Relevant Data | 80 |
| Extracting Specific Features | 81 |
| Preprocessing the Data | 81 |
| Preparing Data for Analysis | 82 |
| Chapter Six | 87 |
| Interpreting Bibliometric Analysis Results with ChatGPT | 87 |
| Assessing the Growth and Impact of Research | 89 |
| Evaluating Journal Performance | 101 |
| Co-authorship and Collaboration Analysis | 109 |
| Co-authorship Analysis | 109 |
| Collaboration Analysis | 111 |
| Keywords and Terms Analysis | 113 |

| | |
|--|------------|
| Cluster Analysis | 114 |
| Evolution of Keywords or Terms | 117 |
| Research Hotpots | 120 |
| Words Analysis | 122 |
| Citation Analysis | 128 |
| Chapter Seven | 135 |
| Drafting Bibliometric Manuscript with ChatGPT | 135 |
| Structuring Your Manuscript | 136 |
| Outline Creation | 137 |
| Introduction Section Development | 137 |
| Summarizing and Structuring Content | 138 |
| Enhancing Literature Review | 140 |
| Expansion of Methodology | 143 |
| Transitions and Cohesion | 145 |
| Revising and Rearranging | 145 |
| Enhancing Clarity and Readability | 146 |
| Language Use | 147 |
| Sentence Structure | 147 |
| Organization | 148 |
| Coherence | 148 |
| Consistency | 149 |
| Editing and Proofreading | 149 |
| Drawing Discussion and Conclusions | 150 |
| Summary of Key Findings | 151 |
| Interpretation of Findings | 152 |
| Implications for Practice | 152 |
| Recommendations for Future Research | 153 |
| Identification of Research Gaps and Opportunities | 153 |
| Evaluating Research Policies and Funding Initiatives | 154 |
| Contribution to the Body of Knowledge | 154 |
| Conclusion | 155 |
| Summarizing and Drafting Abstract | 157 |

| | |
|---|------------|
| Chapter Eight | 161 |
| Ethical Considerations and Challenges | 161 |
| Responsible Use of ChatGPT | 162 |
| Data Privacy and Security | 162 |
| Transparency | 163 |
| Bias Mitigation | 163 |
| Accountability | 164 |
| Addressing Bias and Fairness | 165 |
| Recognizing Potential Sources of Bias | 165 |
| Strategies for Addressing Bias and Fairness | 166 |
| Ethical Considerations | 167 |
| Maintaining Data Privacy and Security | 168 |
| Data Handling Practices | 168 |
| Confidentiality | 169 |
| Compliance with Legal Frameworks | 169 |
| Ethical Considerations | 170 |
| Collaboration with AI Developers | 170 |
| Educating Research Community | 171 |
| Continual Assessment and Improvement | 171 |
| Dos and Don'ts in Using ChatGPT for Bibliometric Analysis | 172 |
| Dos | 172 |
| Don'ts | 173 |
| | |
| Chapter Nine | 177 |
| The Future of ChatGPT and Bibliometrics | 177 |
| Advances in AI and Language Models | 179 |
| Emerging Trends in Bibliometric Analysis | 181 |
| Integration of Altmetrics | 181 |
| Text Mining and Natural Language Processing | 181 |
| Semantic-based Bibliometric Analysis | 181 |
| Multimodal and Interdisciplinary Analysis | 182 |
| Open Science and Open Data | 182 |
| Dynamic Visualization and Interactive Tools | 182 |
| Automated Research Gap Identification | 182 |
| The Role of Open Science and Collaboration | 183 |
| Open Access | 183 |

| | |
|---|------------|
| Open Data and Reproducibility | 184 |
| Collaborative Platforms and Tools | 184 |
| Interdisciplinary Research | 185 |
| Training and Education | 185 |
| Policy and Funding Implications | 186 |
| Chapter Ten | 189 |
| Conclusion | 189 |
| Reflections on the ChatGPT-Bibliometrics Journey | 190 |
| Encouraging Further Research and Development | 192 |
| Advancing AI-driven Language Models and Their Applications in Bibliometrics | 192 |
| Fostering Collaboration and Interdisciplinary Research | 193 |
| Engaging Stakeholders in the Research and Development Process | 193 |
| REFERENCES | 197 |
| Appendix A: Resources and Tools for ChatGPT and Bibliometric Analysis | 203 |
| Appendix B: 99 Possible Research Questions for Bibliometric Analysis Study | 207 |
| Appendix C: Glossary of Key Terms and Concepts | 213 |



List of Figures

| | |
|---|-----|
| Figure 1.1 ChatGPT by OpenAI..... | 3 |
| Figure 1.2 ChatGPT Frontpage (Free Plan)..... | 5 |
| Figure 3.1 Custom Instructions..... | 28 |
| Figure 5.1 List of Unclean Titles and Abstract | 68 |
| Figure 6.1 Core Sources by Bradford’s Law | 105 |
| Figure 6.2 Factorial Analysis | 126 |
| Figure 7.1 Flow Diagram of Search Strategy | 144 |



List of Tables

| | |
|--|-----|
| Table 6.1 Publication by Year | 93 |
| Table 6.2 Most Productive Institutions..... | 98 |
| Table 6.3 Most Productive Journals | 104 |



List of Abbreviations

| | |
|---------|--------------------------------------|
| AI | Artificial Intelligence |
| API | Application Programming Interface |
| BPE | Byte Pair Encoding |
| CCPA | California Consumer Privacy Act |
| CNNs | Convolutional Neural Networks |
| CORD-19 | COVID-19 Open Research Dataset |
| CORE | Collection of Open Research Metadata |
| CSV | Comma-Separated Values |
| DOI | Digital Object Identifier |
| GDPR | General Data Protection Regulation |
| GPT | Generative Pre-trained Transformer |
| GUI | Graphical User Interface |
| h-index | Hirsch Index |
| IF | Impact Factor |
| ISSN | International Standard Serial Number |
| JCR | Journal Citation Reports |
| JSON | JavaScript Object Notation |
| NDA | Non-Disclosure Agreements |

| | |
|--------|--------------------------------|
| NER | Named Entity Recognition |
| NLP | Natural Language Processing |
| NLU | Natural Language Understanding |
| OA | Open Access |
| OCR | Optical Character Recognition |
| OpenAI | Open Artificial Intelligence |
| PDF | Portable Document Format |
| RNNs | Recurrent Neural Networks |
| RQ | Research Question |
| SJR | SCImago Journal Rank |
| URL | Uniform Resource Locator |
| WoS | Web of Science |
| XML | eXtensible Markup Language |



List of Case Examples

- Case #4.1 AI in Healthcare
- Case #4.2 CSR Reporting
- Case #4.3 Dental Health Interventions
- Case #4.4 Islamic Finance
- Case #6.1 Evaluating Research Growth in a Specific Field
- Case #6.2 Assessing the Research Impact of Institutions
- Case #6.3 Most Productive Journals in Educational Technology
- Case #6.4 Co-authorship Analysis in Neuroscience Research (Author Focus)
- Case #6.5 Collaboration Analysis in Renewable Energy Research
- Case #6.6 Clustering Analysis of the AI in Healthcare Research
- Case #6.7 Emerging Clusters in Sustainable Development Studies
- Case #6.8 Research Hotspots in Accounting Studies
- Case #6.9 Decoding the Discourse in 'Modern Financial Theory' Literature
- Case #6.10 Interpreting Factorial Analysis in Social Media Behavioral Studies
- Case #6.11 Citation Analysis of the Climate Change Research
- Case #6.12 Co-citation Analysis of AI in Biotechnology
- Case #6.13 Bibliographic Coupling Analysis of Quantum Computing Studies



Preface

The rapid development of artificial intelligence (AI) has transformed how research is conducted, data is analyzed, and findings are communicated. As AI continues to evolve, so does its potential to revolutionize the landscape of bibliometrics, a field dedicated to quantitatively studying scholarly literature. This book focuses on applying ChatGPT, a powerful AI language model, in every stage of conducting bibliometric analysis.

This book aims to provide a comprehensive guide for researchers, students, and professionals interested in harnessing the power of ChatGPT to streamline their bibliometric research. Whether you are an experienced bibliometrician or a newcomer to the field, this book aims to demystify the use of AI for bibliometric analysis and provide practical tools and techniques to improve your research process.

In Chapter 1, I introduce ChatGPT and its various applications alongside an overview of bibliometric analysis. This chapter lays the groundwork for the subsequent chapters by explaining the relevance of ChatGPT in the bibliometrics field.

Chapter 2 delves deeper into the architecture of ChatGPT, helping readers understand how the model functions and processes natural language. This understanding is essential for leveraging ChatGPT effectively in your research.

In Chapter 3, I explore how ChatGPT can be used to identify research topics. I discuss strategies for discovering compelling topics and refining research questions with the help of ChatGPT's natural language processing capabilities.

Chapter 4 focuses on using ChatGPT for keyword identification and database searches, including constructing effective queries for Scopus and Web of Science. I

demonstrate how to streamline the search process, making it more efficient and accurate.

Screening and cleaning search results are crucial steps in the bibliometric analysis process. Chapter 5 discusses how ChatGPT can review and filter search results, remove duplicates and irrelevant records, and extract and preprocess data.

Chapter 6 is dedicated to guiding you through the actual process of analyzing bibliometric analysis using ChatGPT. In this chapter, I cover various approaches for utilizing ChatGPT to analyze complex datasets, particularly those generated by VOSviewer and Biblioshiny. You'll find detailed discussions on authorship and collaboration analysis, network visualization, thematic analysis, and citation analysis. I aim to help you gain valuable insights from your data, empowering you to conduct your research with greater depth and precision.

Chapter 7 discusses the process of drafting a bibliometric analysis paper with the assistance of ChatGPT. From structuring your manuscript to enhancing clarity and readability, I guide you on leveraging AI to produce well-written and informative papers. In this chapter, I also explore how ChatGPT can support you in assessing the quality and impact of your research, identifying emerging trends and patterns, and drawing conclusions and implications.

Chapter 8 addresses the ethical considerations and challenges of using AI, particularly ChatGPT, in bibliometric analysis. I discuss responsible use, addressing bias and fairness, and maintaining data privacy and security.

Chapter 9 looks ahead to the future of ChatGPT and bibliometrics, examining advances in AI and language models, emerging trends in bibliometric analysis, and the role of open science and collaboration.

Finally, in Chapter 10, I reflect on the ChatGPT-bibliometrics journey and encourage further research and development in this exciting intersection of AI and bibliometric analysis.

Throughout the book, I have made an effort to present information in a clear and accessible manner, with practical examples and sample cases to illustrate the concepts discussed. I hope this book will become an indispensable resource for anyone

looking to harness the power of ChatGPT for bibliometric analysis, enhancing their research process and maximizing the impact of their work.

As AI continues to evolve, I recognize that the techniques and strategies presented in this book may also develop. I encourage readers to stay updated with the latest developments in AI and bibliometric analysis to ensure their research remains at the cutting edge of innovation.

In addition to the main chapters, I have included several appendices to support your learning journey further. Appendix A lists resources and tools for working with ChatGPT and conducting bibliometric analysis. Appendix B lists 99 potential research questions explicitly tailored for conducting a bibliometric analysis study and aims to inspire and guide researchers in crafting thoughtful inquiries that align with your study objectives. Finally, Appendix C offers a glossary of key terms and concepts used throughout the book, designed to assist readers in navigating the subject matter.

It is my sincerest hope that this book will inspire you to explore the power of AI in bibliometric analysis and that it will become a valuable resource in your research toolkit. I am confident that with the guidance provided in this book, you will be able to harness the capabilities of ChatGPT to enhance your research process and produce insightful, high-quality bibliometric analyses.

As you embark on your journey with ChatGPT and bibliometrics, remember that the field is continually evolving, and the potential applications of AI in research are vast and varied. I encourage you to think creatively, embrace innovation, and explore how AI can enrich your research endeavors. Together, we can push the boundaries of what is possible in bibliometric analysis and contribute to advancing knowledge in this fascinating field.

Happy reading, and I wish you the best of luck in your research journey with ChatGPT and bibliometric analysis!

0.12

Oil ▲2



Mastering Bibliometrics with ChatGPT

The landscape of academic research is rapidly changing, and bibliometric analysis has become a vital instrument for identifying trends. The emergence of artificial intelligence language models like ChatGPT presents an unparalleled opportunity for researchers to enhance and streamline their bibliometric analysis process.

*Mastering Bibliometric Analysis with ChatGPT: A Practical Guide on using ChatGPT for research studies integrates the power of ChatGPT with proven bibliometric techniques to elevate your research to new heights. This comprehensive guide covers every stage of the process, from topic selection to the creation of a well-structured, polished manuscript.

Inside this book, you'll learn how to harness ChatGPT for various bibliometric analysis topics, including identifying keywords, constructing databases, network visualization, co-authorship analysis, thematic and content analysis. Additionally, the book addresses the ethical considerations and challenges in using AI for bibliometric analysis, such as bias, fairness, data privacy, and security.

Packed with practical examples, case studies, and exercises, *Mastering Bibliometric Analysis with ChatGPT: A Practical Guide on using ChatGPT for research studies seamlessly integrates ChatGPT into all aspects of the bibliometric analysis process. The book also explores the future of bibliometric analysis and the role of AI in advancing the field of science and collaboration.

Whether you're an experienced researcher or a novice, this handbook offers invaluable insights and practical advice to help you research endeavors and stay ahead in the fast-paced world of bibliometric analysis.



About Aidi Ahmi

Aidi Ahmi is an associate professor in the School of Information Systems at the University of North Carolina at Charlotte. He is also a frequent speaker at international conferences and has published numerous articles in the field of information systems research.

www.aidi-ahmi.com

Mastering Bibliometric Analysis with ChatGPT

Your essential handbook for communication with ChatGPT and performing effective bibliometric analysis to take your research to the next level.

Aidi Ahmi



bit.ly/mba_chatgpt

Mastering Bibliometric Analysis with ChatGPT

*Your essential handbook for communication with ChatGPT and
performing effective bibliometric analysis and take your research to the
next level.*



Aidi Ahmi



CHAPTER ONE

Introduction

In recent years, artificial intelligence (AI) has transformed the landscape of various fields, including science, technology, and academia. Researchers have been exploring innovative ways to utilize AI's potential to optimize and enhance their work, and bibliometrics is no exception. Bibliometrics, the quantitative analysis of scholarly literature, is critical in evaluating the impact and quality of academic research. The advent of powerful AI language models like ChatGPT can revolutionize how bibliometric analysis is conducted, enabling more efficient, accurate, and insightful research.

This book aims to provide a comprehensive guide to using ChatGPT in every stage of bibliometric analysis, from identifying research topics to drafting bibliometric analysis papers. The content is designed for readers with varying experience levels, whether you are a seasoned bibliometrician or new to the field. The primary goal is to demonstrate the practical applications of ChatGPT in bibliometrics and offer step-by-step guidance on effectively harnessing this AI language model for your research needs.

The book is structured to cover the entire process of conducting bibliometric analysis with the support of ChatGPT. Each chapter focuses on a specific stage,

"Embrace the adventure of bibliometric analysis as you journey through the vast scientific landscape, uncovering knowledge and sparking new ideas."

ChatGPT will be better equipped to generate research topic suggestions, answer questions, and guide you throughout your bibliometric analysis journey by providing this background information.

Conducting Bibliometric Analysis Based on Current Research Projects or Thesis Titles

When working on a research project or writing a thesis, conducting a bibliometric analysis can offer valuable insights into the research landscape, enabling you to identify knowledge gaps, emerging trends, and potential collaborators. ChatGPT can help you identify possible topics for bibliometric analysis by suggesting related areas or sub-topics based on your current research project or thesis title. By providing the model with a brief description of your project or thesis, you can receive suggestions on aspects worth exploring further through bibliometric analysis.

Example prompt for a current research project:



You

I am working on a project about integrating wind energy into the power grid. What related TOPICS could I explore for a bibliometric analysis?

Below you can see how ChatGPT's response:



ChatGPT

Integrating wind energy into the power grid is a multifaceted and dynamic field with many related topics that you can explore for a bibliometric analysis. Here are some key topics and research areas you could consider:

1. **Wind Energy Technology:** Analyze research trends in wind turbine design, materials, and efficiency improvements.
2. **Grid Integration Strategies:** Study the various approaches and technologies for integrating wind energy into the power grid, including smart grids, energy storage, and grid management.
3. ...

You can observe that this list encompasses a range of topics aligned with your research interests. This compilation aims to assist you in selecting a suitable research avenue for your upcoming projects and publications.

Initial Keyword Generation

ChatGPT can generate an initial list of keywords based on a given research topic or question. To do this, simply provide ChatGPT with a brief description of your research topic or a specific research question and ask it to suggest relevant keywords. For example, let's say you want to focus on a topic related to climate change and biodiversity. You can ask ChatGPT:



You

ChatGPT, I am conducting a bibliometric analysis that explores the interface between climate change and biodiversity. This study aims to uncover patterns in research publications, authorship, and citation impact within this domain. Given the multifaceted nature of these subjects, could you generate a comprehensive list of keywords that reflect the critical aspects of these interconnected topics for a thorough literature search?

ChatGPT might generate a list of keywords like:



ChatGPT

Certainly, conducting a thorough literature search for your bibliometric analysis on the interface between climate change and biodiversity requires a carefully curated list of keywords that encompass the critical aspects of these interconnected topics. Below, I provide a comprehensive list of keywords that you can use for your search:

1. Climate Change
2. Global Warming
3. Climate Variability
4. Climate Trends
5. ...



Please note that the response generated in this book is part of a complete sample answer provided by ChatGPT.

Additionally, the warning sign displayed in this book serves as a reminder that users must verify the reliability of the responses provided by ChatGPT. Although we have the freedom to ask various questions, the responses may not always be dependable. Thus, human judgment is essential in evaluating this information.

For example, below is the response that ChatGPT provides when I provide a list of titles and abstracts related to Accounting Information Systems studies:



ChatGPT

Here is the feedback for each of the provided titles and abstracts in table format:

| Title | Relevant (Yes/No) | Reason |
|--|-------------------|---|
| Accounting comparability and relative performance evaluation by capital markets | No | This paper primarily focuses on accounting comparability and its impact on capital markets. It does not directly relate to AIS (Accounting Information Systems) or provide information specific to AIS. |
| Analysis of factors affecting adoption of cloud accounting in Indonesia | Yes | This paper is relevant to AIS as it discusses the adoption of cloud accounting systems in Indonesia and their impact on accounting practices. It also mentions accounting information systems. |
| The Impact of Using Smart Algorithms and Blockchain Technology on the Profits' Quality in Saudi Financial Market | Yes | This study examines the impact of smart algorithms and blockchain technology on profit quality in the context of the Saudi financial market. It is relevant to AIS as it discusses the influence of technology on accounting practices. |



You may need to review the AI-generated responses and make decisions about whether to include or exclude each publication based on its relevance. Additionally, as demonstrated in this example, ChatGPT is capable of generating tables for you.



Case #6.10: Interpreting Factorial Analysis in Social Media Behavioral Studies

In social media research, a scholar delves into the behavioral patterns that define user engagement and content dissemination. Utilizing Biblioshiny, they have conducted a factorial analysis that elucidates the underlying factors driving these behaviors. The resulting figure (see Figure 5.2 as an example) is a complex visualization of factorial dimensions representing various aspects of social media usage.

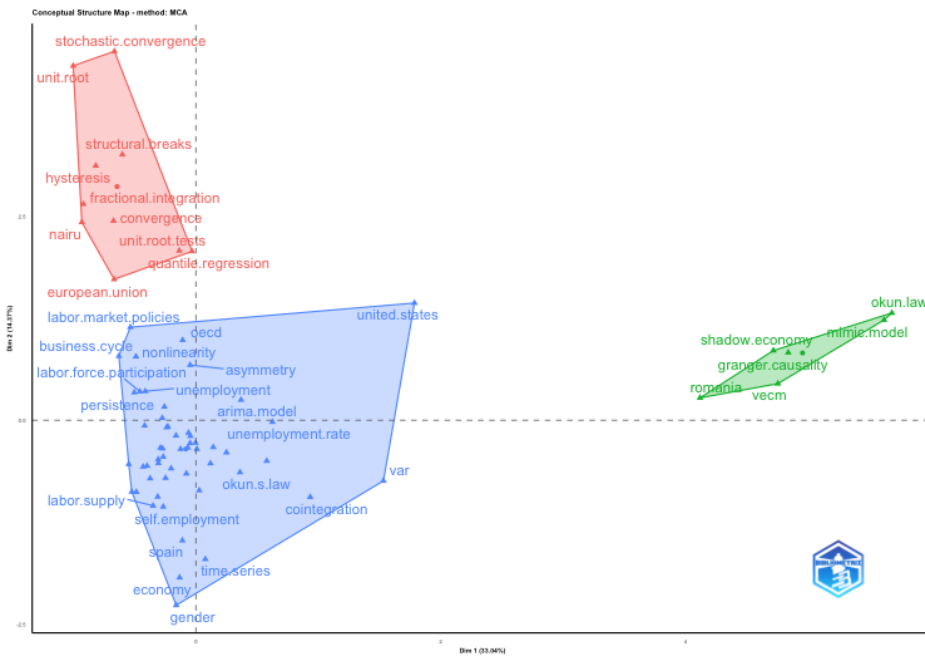


Figure 6.2 Factorial Analysis

Proposed ChatGPT Prompt:



You

Given the factorial analysis data and the corresponding figure generated by Biblioshiny, identify and explain the factors that are most influential in shaping user behavior on social media platforms.

[PASTE THE DATA THAT GENERATE THE FIGURE HERE]



REFERENCES

- Abdullah, M., Madain, A., & Jararweh, Y. (2022). ChatGPT: Fundamentals, Applications and Social Impacts. *2022 Ninth International Conference on Social Networks Analysis, Management and Security (SNAMS)*.
- Agada, J. (1987). Bibliometrics, history of the development of ideas, *Encyclopedia of Library and Information Science: Volume 42-Supplement 7: The Albert I Royal Library to The United Nations Bibliographic Information System (UNBIS)*, 144.
- Ahmi, A. (2023a) biblioMagika, available from <https://aidi-ahmi.com/index.php/bibliomagika>
- Ahmi, A. (2023b). *Bibliometric Analysis using biblioMagika®*.
- Ahmi, A. (2023c). OpenRefine: An approachable tool for cleaning and harmonizing bibliographical data. *11th International Conference on Applied Science and Technology 2022 (11th ICAST 2022) AIP Conference Proceedings*, 2827, 030006-1-030006–030011. <https://doi.org/10.1063/5.0164724>
- Akrami, N. E., Hanine, M., Flores, E. S., Aray, D. G., & Ashraf, I. (2023). Unleashing the potential of blockchain and machine learning: Insights and emerging trends from bibliometric analysis. *IEEE Access: Practical Innovations, Open Solutions*, 11, 78879–78903. <https://doi.org/10.1109/access.2023.3298371>



APPENDIX B

99 Possible Research Questions for Bibliometric Analysis Study

1. What are the most influential papers in the field of [RESEARCH TOPIC]?
2. How has the number of publications in [RESEARCH TOPIC] evolved over time?
3. What are the most productive countries in [RESEARCH TOPIC] research?
4. Which institutions have the highest research output in [RESEARCH TOPIC]?
5. Who are the most prolific authors in [RESEARCH TOPIC]?
6. How has the collaboration network in [RESEARCH TOPIC] evolved over time?
7. What are the most prominent research themes in [RESEARCH TOPIC]?
8. How do the citation patterns in [RESEARCH TOPIC] vary across different publication types (e.g., journal articles, conference papers)?
9. How does the distribution of publications in [RESEARCH TOPIC] differ across various funding sources?
10. Which journals publish the most articles in [RESEARCH TOPIC]?
11. How do the citation rates in [RESEARCH TOPIC] vary across different countries?

This page intentionally left blank.

0.12

Oil ▲2



Mastering Bibliometrics with ChatGPT

The landscape of academic research is rapidly changing, and bibliometric analysis has become a vital instrument for identifying trends. The emergence of artificial intelligence language models like ChatGPT presents an unparalleled opportunity for researchers to enhance and streamline their bibliometric analysis process.

*Mastering Bibliometric Analysis with ChatGPT: A Practical Guide on using ChatGPT for research studies integrates the power of ChatGPT with proven bibliometric techniques to elevate your research to new heights. This comprehensive guide covers every stage of the process, from topic selection to the creation of a well-structured, polished manuscript.

Inside this book, you'll learn how to harness ChatGPT for various bibliometric analysis tasks, including identifying keywords, constructing databases, network visualization, co-authorship analysis, thematic and content analysis. Additionally, the book addresses the ethical considerations and challenges in using AI for bibliometric analysis, such as bias, fairness, data privacy, and security.

Packed with practical examples, case studies, and exercises, *Mastering Bibliometric Analysis with ChatGPT: A Practical Guide on using ChatGPT for research studies seamlessly integrates ChatGPT into all aspects of the bibliometric analysis process. The book also explores the future of bibliometric analysis and the role of AI in advancing the field of research and collaboration.

Whether you're an experienced researcher or a novice, this handbook offers invaluable insights and practical advice to help you stay ahead in the fast-paced world of bibliometric analysis.



About Aidi Ahmi

Aidi Ahmi is an associate professor in the School of Information Systems at the University of North Carolina at Charlotte. He is also a frequent speaker at international conferences and has published numerous articles in the field of information systems research.

www.aidi-ahmi.com

Mastering Bibliometric Analysis with ChatGPT

Your essential handbook for communication with ChatGPT and performing effective bibliometric analysis to take your research to the next level.

Aidi Ahmi



bit.ly/mba_chatgpt