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# Tailoring Scientific Knowledge: How Generative AI Personalizes Academic Reading Experiences

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Article

# Tailoring Scientific Knowledge: How Generative AI Personalizes Academic Reading Experiences

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**Abstract:** The scientific literature is expanding at an unprecedented pace, making it increasingly difficult for researchers, students, and professionals to extract relevant insights efficiently. Traditional academic publishing offers static, one-size-fits-all content that does not cater to the diverse backgrounds, expertise levels, and interests of readers. This paper explores how generative AI can dynamically personalize scholarly content by tailoring summaries and key takeaways to individual user profiles. Nine scientific articles from a single journal issue were used to create the dataset, and prompt engineering was applied to generate tailored insights for exemplary personas: a digital humanities and open science researcher, and a mining and raw materials industry specialist. The effectiveness of AI-generated content modifications in enhancing readability, comprehension, and relevance was evaluated. The results indicate that generative AI can successfully emphasize different aspects of an article, making it more accessible and engaging to specific audiences. However, challenges such as content oversimplification, potential biases, and ethical considerations remain. The implications of AI-powered personalization in scholarly communication are discussed, and future research directions are proposed to refine and optimize AI-driven adaptive reading experiences.

**Keywords:** GenAI-driven content personalization in academia; recommender systems for scientific literature; generative AI in scholarly publishing; Large Language Models (LLMs) in academic research; GenAI-assisted scientific text summarization; scientific content customization using AI; personalized academic reading with AI; adaptive summaries for scholarly communication; AI-driven knowledge dissemination in science; adaptive scholarly article retrieval through AI



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## 1. Introduction

The rapid expansion of scientific knowledge has led to an overwhelming influx of academic studies [Bornmann and Mutz \(2015\)](#); [Hanson et al. \(2024\)](#); [Jin \(2024\)](#), making it increasingly difficult for researchers, students, and professionals to extract relevant information efficiently [Santini \(2024\)](#). The volume of published research articles continues to grow exponentially, with millions of new papers added to digital repositories each year across various disciplines (e.g., [Boboris \(2023\)](#), [arXiv \(2021\)](#)). As scientific inquiry becomes more complex and interdisciplinary [Nguyen \(2024\)](#), vast amounts of information must be sifted through to identify key insights that are most relevant to specific expertise, interests, or research objectives. While technological advancements have facilitated access to the scientific literature through digital databases and search engines [Pranckutė \(2021\)](#), the fundamental structure of academic publishing remains largely static [Santini \(2024\)](#).

Research articles are typically written in a standardized format that does not account for the diverse needs of different readers.

While traditional methods like keyword searches and recommendation systems are valuable for identifying potentially relevant articles, they fall short in truly adapting the content to individual reader needs [Rosman et al. \(2016\)](#). These tools primarily focus on directing users to existing information but lack the capacity to modify the presentation, level of detail, or focus of a text to suit different backgrounds or research goals. For instance, a student encountering a paper outside their immediate expertise might miss crucial foundational concepts buried within technical details, even if the topic broadly aligns with their interests. Similarly, a practitioner seeking practical applications might struggle to extract actionable insights from a research paper primarily focused on theoretical contributions. The novelty of the approach presented in this paper lies in its potential to overcome these limitations by leveraging generative AI to dynamically tailor the content of scientific articles, thereby offering a more personalized and effective reading experience.

Recent advancements in artificial intelligence, particularly in the field of generative models, have opened new possibilities for enhancing the accessibility and personalization [Chen et al. \(2024\)](#) of scientific content. Large Language Models such as GPT-4, Claude, and Gemini demonstrate an unprecedented ability to generate [Wu \(2024\)](#), summarize [Pu et al. \(2023\)](#), and reformat textual content based on user input [Chi et al. \(2023\)](#). By leveraging prompt engineering [Marvin et al. \(2023\)](#), AI systems can tailor information to align with the background, knowledge level, and preferences of different readers. Such dynamic adaptation has the potential to revolutionize how scientific information is consumed, allowing users to engage with research articles in a manner that optimally suits their cognitive needs and expertise. In this study, the application of generative AI in customizing scholarly content to enhance reader engagement is explored. Specifically, modifications in the presentation of scientific articles are examined to determine whether AI can adjust content based on the distinct profiles of a researcher from academia and a specialist from industry. By generating personalized abstracts and content highlights, AI could enable more efficient access to information, improving comprehension and retention while reducing the time required to extract relevant insights. However, this approach also presents several challenges, including risks of information oversimplification, bias in content selection, and ethical concerns related to AI-generated modifications in scientific communication.

The primary objective of this study was to demonstrate how generative AI can personalize the reading experience of the scientific literature by dynamically adapting content to different user profiles. The hypothesis is that AI-driven customization can improve the accessibility and relevance of scholarly articles for diverse audiences, making scientific knowledge dissemination more efficient and inclusive. To assess the effectiveness, advantages, and limitations of this approach in academic publishing, an overview of current methods for content personalization in scientific publishing is first provided, highlighting existing limitations and identifying the gap that generative AI seeks to address. An experimental framework is then introduced, describing the selection of scientific articles, the creation of user personas, and the application of AI-generated prompts to customize content. The results of these experiments are analyzed to evaluate the effectiveness of AI-driven modifications in enhancing readability and user engagement. Finally, the broader implications of AI-driven personalization in scholarly communication are discussed, along with potential ethical concerns and directions for future research. By addressing these topics, this study contributes to the ongoing discourse on AI applications in academia, offering insights into how generative models can reshape the way scientific knowledge is disseminated and consumed.

## 2. Background

The increasing volume of the scientific literature has necessitated the development of tools that help researchers navigate and process vast amounts of information efficiently [Alvarez et al. \(2020\)](#); [Knoth et al. \(2023\)](#); [Shin et al. \(2019\)](#). Several approaches to content personalization in academic publishing have been explored, primarily through recommendation systems and automated summarization techniques. Recommendation algorithms, commonly used in digital libraries and academic search engines, suggest relevant articles based on citation networks, keyword similarity, or user preferences. Platforms such as Google Scholar, Semantic Scholar, ResearchGate, and Arxiv employ these methods to assist users in discovering research aligned with their interests. However, while these systems enhance content discovery, they do not alter the way information is presented, leaving the cognitive burden of comprehension entirely on the reader. Automated summarization tools represent another approach [Zakkas et al. \(2024\)](#), where AI-driven models extract key sentences from texts to generate abstracts or highlights. Such techniques, although useful, often produce generic outputs that do not account for variations in reader expertise or specific informational needs. The fundamental limitation of these traditional approaches is their inability to deeply adapt content presentation to different audiences. Scientific articles remain static, forcing readers to engage with the same level of technical detail regardless of their background knowledge, reading preferences, or research objectives. This lack of flexibility creates barriers to efficient knowledge acquisition, particularly for interdisciplinary researchers, students, and professionals seeking to grasp complex topics outside their immediate field of expertise.

The emergence of generative AI has introduced new possibilities for overcoming these limitations by enabling dynamic content adaptation. Large Language Models (LLMs) such as GPT-4, Claude, and Gemini operate using advanced natural language processing techniques, allowing them to generate human-like text [Zhao et al. \(2023\)](#), summarize information [Pu et al. \(2023\)](#), and rephrase content based on contextual prompts [Chi et al. \(2023\)](#). These models process vast corpora of textual data [Villalobos et al. \(2022\)](#), learning linguistic patterns, domain-specific terminology, and argument structures, which enables them to reformat information in ways that align with user needs. In the context of academia, generative AI has already been applied in tasks such as automated translation, trend analysis in scientific publishing, and summarization of research papers. AI-powered writing assistants help scholars draft manuscripts [King \(2023\)](#), refine abstracts, and generate literature reviews [Antu et al. \(2023\)](#), improving the efficiency of academic writing [Bom \(2023\)](#) and editing processes [Shmueli et al. \(2023\)](#). Moreover, some AI-driven tools provide interactive explanations of scientific concepts, offering simplified or in-depth versions of content depending on user input. These developments indicate that AI has the potential to facilitate personalized engagement with the scholarly literature by tailoring the way information is presented.

While a comprehensive exploration of LLM-driven personalization methods for scientific texts remains relatively underexplored in the current academic discourse, a pertinent analogy can be drawn to e-commerce recommendation systems, where the “buyers” are represented by scientists, researchers, students, engineers, and industry professionals, and the “products” are the formally structured scientific communications found in journal articles; acknowledging this parallel justifies a review of relevant research in the e-commerce domain, though it is crucial to recognize that the “product” in our context presents a significantly higher degree of semantic and syntactic complexity compared to, for example, typical household goods, thereby imposing considerably more intricate demands on LLM technologies to achieve a valuable representation of scientific work, necessitating the development of dedicated approaches and methodologies. However, the latter sector,

driven by its considerably larger scale and direct commercial implications, has witnessed a more rapid and extensive adoption of advanced personalization techniques. Nevertheless, recent research has increasingly explored the potential of Large Language Models to revolutionize recommendation systems, moving beyond traditional methods. A comprehensive survey Wang et al. (2024) highlights this paradigm shift, emphasizing the remarkable language understanding, generalization capabilities, and reasoning skills of LLMs and their potential to significantly enhance recommendation tasks from the perspective of the recommender system community. This is particularly relevant as traditional deep neural network-based recommender systems often exhibit limitations in effectively capturing textual side information, generalizing across diverse scenarios, and providing reasoning for their predictions, as noted in another survey Fan (2024). One promising application of LLMs in this domain is the generation of high-quality explanations for recommended items Lubos et al. (2024), which can significantly improve user trust and decision-making. Furthermore, advancements have demonstrated how leveraging the reasoning capabilities of LLMs, particularly through techniques like chain-of-thought prompting, can enhance personalized recommender systems by better capturing subjective user preferences, an area previously underexplored in LLM reasoning applications Tsai et al. (2024). These advancements in harnessing LLMs for recommendation systems underscore the growing interest and potential in leveraging these powerful models for sophisticated information personalization tasks, providing a relevant backdrop for the exploration of their application in the context of the scientific literature.

Despite these advancements, there is a notable research gap in the application of generative AI for real-time, reader-specific customization of scientific content. Existing AI applications primarily focus on summarization and search optimization Kreutz and Schenkel (2022); Zhang et al. (2023) rather than dynamically adjusting content presentation to accommodate varying levels of expertise and reader preferences. The ability to generate tailored abstracts, reframe technical discussions, or emphasize specific aspects of a paper based on user needs remains largely unexplored. To address this gap, this study proposes the use of prompt engineering as a method for leveraging generative AI to modify scientific texts according to distinct reader personas. By defining specific instructions for AI models, it becomes possible to guide content adaptation, ensuring that different audiences receive information in a format that is most relevant and accessible to them. This approach aims to enhance the efficiency of academic reading, lower barriers to interdisciplinary knowledge transfer, and improve overall engagement with the scientific literature.

### 3. Materials and Methods

The methodology employed in this study, the flow of which is visually represented in Figure 1, was designed to assess the ability of AI-generated content to adapt to the needs of diverse academic and professional users. This section provides a comprehensive overview of the process, beginning with a selection of scientific articles, followed by the creation of distinct user personas, the definition of AI prompts tailored to their expectations, and the implementation of AI models for content generation.



**Figure 1.** Research design for evaluating AI in content personalization.

### 3.1. Selection of Scientific Articles

To ensure a diverse and representative dataset for testing AI-generated content, a selection of nine academic articles from Publications, Volume 12, Issue 1 (March 2024) *Publications, Volume 12, Issue 1 (2024)*, was chosen as the primary corpus for analysis. This issue covers a broad range of topics within the domain of scholarly communication, research evaluation, open science, and bibliometric trends, providing a suitable basis for assessing how AI adapts content to different audiences. The selected articles examine issues such as the role of ChatGPT in social sciences, the impact of citizen science initiatives on libraries, debates surrounding predatory journals, the application of FAIR principles in the humanities, and the evolution of bibliometric indicators in various research fields. Each article was carefully reviewed to extract key methodological insights and innovative aspects that would form the foundation for AI-generated content. The diversity of these articles ensured that AI-generated content would need to cater to different disciplinary perspectives and methodological approaches, thereby testing its ability to adjust content to distinct user expectations.

The selection of these articles was, in essence, made without prior testing on other collections to specifically identify a set where the demonstrated method would appear particularly effective. Instead, the decision was made to include all articles from a single special issue. This approach was adopted to provide a degree of informal confirmation that the choice of these specific articles did not significantly skew the results. The selection of a special issue with a relatively small number of articles represented a conscious trade-

off. The aim was to present readers with the full texts of the results generated by the LLM, allowing for their independent assessment of the method's effectiveness, while also ensuring the overall manuscript remained of a manageable length and did not become overly cumbersome.

Below is a brief overview of each article:

1. **Bibliometric Overview of ChatGPT: New Perspectives in Social Sciences**  
This study conducted a bibliometric analysis of ChatGPT's impact on social sciences using Scopus data. It identified trends, co-citations, and knowledge gaps, emphasizing AI's role in academic discourse.
2. **Benefits of Citizen Science for Libraries**  
The article examines the role of citizen science in enhancing library functions. It systematically reviews the literature to outline how libraries can leverage citizen science to promote research engagement.
3. **Should I Buy the Current Narrative about Predatory Journals? Facts and Insights from the Brazilian Scenario**  
This paper challenges prevailing assumptions about predatory journals, advocating for a nuanced debate on publication practices, impact factors, and the evolving landscape of academic publishing.
4. **FAIRness of Research Data in the European Humanities Landscape**  
This article analyzes research data in the humanities, evaluating its openness, compliance with FAIR principles, and representation in repositories. It highlights challenges in accessibility and reusability.
5. **Reducing the Matthew Effect on Journal Citations through an Inclusive Indexing Logic: The Brazilian Spell Experience**  
This study explores how inclusive indexing in local databases can mitigate the Matthew effect in academic citations, fostering more equitable visibility of journals.
6. **Does Quality Matter? Quality Assurance in Research for the Chilean Higher Education System**  
The research assesses quality assurance in Chilean universities, revealing that accreditation mainly correlates with publication quantity rather than impact or quality.
7. **Mining and Mineral Processing Journals in the WoS and Their Rankings When Merging SCIEs and ESCI Databases**  
This article analyzes how merging SCIEs and ESCI databases in JCR 2022 affected journal rankings in the mining and mineral processing field, offering insights for researchers in the industry.
8. **Tracing the Evolution of Reviews and Research Articles in the Biomedical Literature: A Multi-Dimensional Analysis of Abstracts**  
Using computational linguistic analysis, this study examines shifts in the writing styles of biomedical research articles and reviews of over three decades.
9. **Going Open Access: The Attitudes and Actions of Scientific Journal Editors in China**  
This study investigates Chinese journal editors' perspectives on open access publishing, analyzing their motivations, barriers, and responses to academic publishing reforms.

### 3.2. User Persona Development

To assess the effectiveness of AI-generated personalized content, two distinct user personas were created, representing different academic and professional backgrounds.

Persona A:

Dr. Agnieszka Nowak—Digital Humanities and Open Science Researcher

- Occupation: Associate Professor at a university, specializing in digital humanities and social sciences;



- Interests: Open research data, FAIR principles, bibliometrics, open science, ethics of scientific publishing;
- What she looks for in the academic literature? She wants to understand how open science and data accessibility impact humanities and social sciences research. She is also interested in the role of AI (e.g., ChatGPT) in academia and education.

Persona B:

Eng. José Antonio García—Mining and Raw Materials Industry Specialist

- Occupation: Engineer specializing in mining and mineral processing, working for an industrial engineering company;
- Interests: Innovations in the extractive industry, trends in scientific publishing for technical fields, the impact of journal indexing on industry recognition;
- What he looks for in the academic literature?  
He seeks practical insights into scientific publishing trends in his field, as well as how indexing and citation metrics affect the recognition of technical research.

### 3.3. Definition of AI Prompts

To explore the potential of Large Language Models in personalizing academic content, a set of structured AI prompts was developed to adapt article summaries to different user personas. The personalization process followed five distinct strategies, each aimed at enhancing accessibility, relevance, and engagement with academic materials.

Each prompt included a common structure, where only the persona description varied. The four core personalization methods applied in the prompts were as follows:

1. Highlighting original fragments of titles and abstracts that are particularly relevant to a given persona, using bold formatting to emphasize crucial aspects.
2. Structuring abstracts into bullet-point lists to clearly delineate key research contributions, methodologies, and findings aligned with the persona's interests.
3. Ranking articles based on their relevance to the persona's expertise, providing a rating with a justification.
4. Generating personalized recommendations in the persona's native language, explaining the article's relevance and value in their specific research or professional context.

By embedding these strategies within structured prompts, it was ensured that the generated content was not only accurate but also aligned with the specific needs and expectations of different professional and academic users.

Each prompt was applied across different personas to ensure that the content was not only factually accurate but also contextually aligned with each user's domain of expertise.

### 3.4. Implementation of AI

The personalization of academic content was carried out using the ChatGPT-4o language model, selected for its advanced text generation capabilities, strong contextual awareness, and adaptability in restructuring complex information. The implementation process involved several key steps to ensure the generated content was both accurate and contextually relevant to different personas. First, persona descriptions were standardized to maintain consistency across all applied prompts. Each persona was characterized by specific research interests, a professional background, and language preferences, allowing for tailored adjustments in the way academic abstracts were processed and presented.

Once the persona framework was established, the AI was fed with original academic abstracts, and each of the structured prompts was applied systematically. These prompts instructed GPT-4o to modify the abstracts in distinct ways, including highlighting critical phrases, simplifying language, structuring content in a more digestible format, ranking



articles based on relevance, and generating personalized recommendations in the persona's native language.

This task was accomplished using the ChatGPT-4o model with the "reason" (think before responding) option enabled, facilitating a more thorough analysis and consideration of each step in the personalization process.

The execution of each prompt was conducted using the standard chat interface of ChatGPT-4o without leveraging any external API services. Each prompt was initiated within a newly instantiated chat session. This methodological choice ensured that the outcomes of each prompt were not influenced by the contextual history of prior conversational turns. Such an approach was adopted to enhance the transparency and replicability of the research. It is important to acknowledge that Large Language Models operate based on probabilistic distributions, and the inherent stochasticity, due to the lack of control over the random number generator seed, implies that the results obtained in subsequent experiments may not be perfectly identical. However, empirical observations suggest that the outputs remain highly consistent across multiple executions.

#### 4. Results

To evaluate the capability of Large Language Models in tailoring scientific information to specific user profiles, a structured prompt (Listing 1) was employed to analyze a selection of nine distinct scientific articles. This prompt was designed to simulate a scenario where an LLM acts as an information filter, highlighting sections of interest within the article's title, keywords, and abstract for two predefined personas, Persona A and Persona B.

For each of the nine articles, the prompt was executed once, encompassing the analysis for both personas within a single invocation. This process involved providing the LLM with the article's title, keywords, and abstract, along with detailed descriptions of Persona A and Persona B, outlining their respective interests and areas of focus. The LLM was then instructed to identify and emphasize (using bold formatting) the portions of the title, keywords, and abstract that would be most relevant and engaging for each persona.

This methodology allowed for the exploration of the potential of LLMs in personalizing scientific information retrieval, demonstrating their capacity to adapt to diverse user needs and preferences. By showcasing the LLM's ability to filter and prioritize information based on persona-specific criteria, the aim was to highlight their potential in enhancing the efficiency and relevance of scientific literature descriptions.

The results obtained from the application of the persona-specific prompt were compiled and are presented in Table 1 (for the first five articles) and Table 2 (for the subsequent four articles). These tables provide a detailed overview of the LLM's performance in tailoring scientific information to the defined user personas. Each table is structured with two columns: the first column displays the personalized titles, keywords, and abstracts for Persona A, while the second column presents the corresponding personalized outputs for Persona B, allowing for a direct comparison of the LLM's ability to cater to distinct user profiles.

Next, a single prompt was constructed to assess the LLM's capability to estimate the potential interest of two distinct personas across a set of nine scientific articles. This approach allowed for the simultaneous injection of all nine articles (Listing 2) into the LLM, streamlining the evaluation process. The prompt was meticulously designed to instruct the LLM to provide a Likert scale rating (1–5) for each article and each persona, accompanied by a detailed justification for each rating. The justifications were required to explain the rationale behind the assigned interest level based on the title and abstract of each article and in consideration of the specific characteristics of Persona A and Persona B.

**Listing 1.** The prompt used to generate the persona-targeted analysis of a scientific article’s title, keywords, and abstract.

I need you to analyze a scientific article and highlight sections of interest for two distinct personas, Persona A and Persona B.

For each persona, please review the provided title, keywords, and abstract of the scientific article.

Identify the parts of the title, keywords, and abstract that would be most relevant and engaging for each persona based on their characteristics.

Then, for both Persona A and Persona B, present the title, keywords, and abstract of the article, with the sections of interest bolded.

Maintain the original text of the title, keywords, and abstract, only adding bold formatting to emphasize the relevant parts for each persona.

Please provide two outputs: one for Persona A and one for Persona B, each containing the title, keywords, and abstract with the relevant sections bolded.

Persona A:  
(...)

Persona B:  
(...)

Scientific article:  
Title: (...)  
Keywords: (...)  
Abstract: (...)

**Table 1.** Personalized scientific article elements (titles, keywords, abstracts) generated by the LLM for Personas A and B (Articles 1–5).

The Title, Keywords, and Abstract of the Article with the Text in Bold for Persona A	The Title, Keywords, and Abstract of the Article with the Text in Bold for Persona B
<p>Title: <b>Bibliometric Overview of ChatGPT</b>: New Perspectives in Social Sciences</p> <p>Keywords: <b>ChatGPT; artificial intelligence; bibliometric analysis; ethical implications; educational technology;</b> interdisciplinary research</p> <p>Abstract: This study delves into a <b>bibliometric analysis of ChatGPT</b>, an AI tool adept at analysing and generating text, highlighting its influence in the realm of social sciences. By harnessing data from the Scopus database, a total of 814 relevant publications were selected and scrutinised through VOSviewer, focusing on elements such as co-citations, keywords and international collaborations. The objective is to unearth prevailing trends and knowledge gaps in scholarly discourse regarding <b>ChatGPT’s application in social sciences</b>. Concentrating on articles from the year 2023, this analysis underscores the rapid evolution of this research domain, reflecting the ongoing digital transformation of society. This study presents a broad thematic picture of the analysed works, indicating a diversity of perspectives—from <b>ethical and technological</b> to sociological—regarding the implementation of ChatGPT in the fields of social sciences. This reveals an interest in various aspects of using ChatGPT, which may suggest a certain openness of the <b>educational sector to adopting new technologies in the teaching process</b>. These observations make a contribution to the field of social sciences, suggesting potential directions for future research, policy or practice, especially in less represented areas such as the socio-legal implications of AI, advocating for a multidisciplinary approach.</p>	<p>Title: <b>Bibliometric Overview of ChatGPT</b>: New Perspectives in Social Sciences</p> <p>Keywords: ChatGPT; artificial intelligence; <b>bibliometric analysis;</b> ethical implications; educational technology; interdisciplinary research</p> <p>Abstract: This study delves into a bibliometric analysis of ChatGPT, an AI tool adept at analysing and generating text, highlighting its influence in the realm of social sciences. By harnessing data from the Scopus database, a total of 814 relevant publications were selected and scrutinised through VOSviewer, focusing on elements such as <b>co-citations, keywords and international collaborations</b>. The objective is to unearth prevailing trends and knowledge gaps in scholarly discourse regarding ChatGPT’s application in social sciences. Concentrating on articles from the year 2023, this analysis underscores the rapid evolution of this research domain, reflecting the ongoing digital transformation of society. This study presents a broad thematic picture of the analysed works, indicating a diversity of perspectives—from ethical and technological to sociological—regarding the implementation of ChatGPT in the fields of social sciences. This reveals an interest in various aspects of using ChatGPT, which may suggest a certain openness of the educational sector to adopting new technologies in the teaching process. These observations make a contribution to the field of social sciences, suggesting potential directions for future research, policy or practice, especially in less represented areas such as the socio-legal implications of AI, advocating for a multidisciplinary approach.</p>

Table 1. Cont.

The Title, Keywords, and Abstract of the Article with the Text in Bold for Persona A	The Title, Keywords, and Abstract of the Article with the Text in Bold for Persona B
<p>Title: Benefits of <b>Citizen Science</b> for Libraries            Keywords: benefits for libraries; <b>citizen science</b>; libraries; <b>open science</b>            Abstract: Participating in <b>collaborative scientific research</b> through <b>citizen science</b>, a component of <b>open science</b>, holds significance for both citizen scientists and professional researchers. Yet, the advantages for those orchestrating citizen science initiatives are often overlooked. Organizers encompass a diverse range, including governmental entities, non-governmental organizations, corporations, universities, and institutions like libraries. For libraries, citizen science holds importance by fostering heightened civic and research interests, <b>promoting scientific publishing</b>, and contributing to overall scientific progress. This paper aims to provide a comprehensive understanding of the specific ways in which citizen science can benefit libraries and how libraries can effectively utilize citizen science to achieve their goals. The paper is based on a <b>systematic review of peer-reviewed articles</b> that discuss the direct benefits of citizen science on libraries. A list of the main benefits of citizen science for libraries has been compiled from the literature. Additionally, the reasons why it is crucial for libraries to communicate the benefits of citizen science for their operations have been highlighted, particularly in terms of encouraging other libraries to actively engage in citizen science projects.</p>	<p>Title: <b>Benefits of Citizen Science</b> for Libraries            Keywords: <b>benefits for libraries</b>; <b>citizen science</b>; libraries; open science            Abstract: Participating in <b>collaborative scientific research</b> through <b>citizen science</b>, a component of open science, holds significance for both citizen scientists and professional researchers. Yet, the advantages for those orchestrating citizen science initiatives are often overlooked. Organizers encompass a diverse range, including governmental entities, non-governmental organizations, <b>corporations</b>, universities, and institutions like libraries. For libraries, citizen science holds importance by fostering heightened civic and research interests, <b>promoting scientific publishing</b>, and contributing to overall scientific progress. This paper aims to provide a comprehensive understanding of the specific ways in which citizen science can benefit libraries and how libraries can effectively utilize citizen science to achieve their goals. The paper is based on a <b>systematic review of peer-reviewed articles</b> that discuss the direct benefits of citizen science on libraries. A list of the main benefits of citizen science for libraries has been compiled from the literature. Additionally, the reasons why it is crucial for libraries to communicate the benefits of citizen science for their operations have been highlighted, particularly in terms of encouraging other libraries to actively engage in citizen science projects.</p>
<p>Title: Should I Buy the Current Narrative about <b>Predatory Journals? Facts and Insights</b> from the Brazilian Scenario            Keywords: <b>predatory journals</b>; <b>scientometric</b>; bias            Abstract: The burgeoning landscape of <b>scientific communication</b>, marked by an explosive surge in published articles, journals, and specialized publishers, prompts a critical examination of prevailing assumptions. This article advocates a <b>dispassionate and meticulous analysis</b> to avoid policy decisions grounded in anecdotal evidence or superficial arguments. The discourse surrounding so-called <b>predatory journals</b> has been a focal point within the academic community, with concerns ranging from alleged lack of peer review rigor to exorbitant publication fees. While the consensus often leans towards avoiding such journals, this article <b>challenges the prevailing narrative</b>. It calls for a <b>more nuanced understanding</b> of what constitutes predatory practices and underscores the importance of <b>skeptical inquiry</b> within our daily academic activities. The authors aim to dispel misconceptions and foster a more informed dialogue by scrutinizing <b>APCs, impact factors, and retractions</b>. Furthermore, the authors delve into the evolving landscape of scientific publishing, addressing the generational shifts and emerging trends that challenge traditional notions of prestige and impact. In conclusion, this article serves as a <b>call to action for the scientific community</b> to engage in a <b>comprehensive and nuanced debate</b> on the complex issues surrounding scientific publishing.</p>	<p>Title: Should I Buy the Current Narrative about <b>Predatory Journals? Facts and Insights</b> from the Brazilian Scenario            Keywords: <b>predatory journals</b>; <b>scientometric</b>; bias            Abstract: The burgeoning landscape of scientific communication, marked by an explosive surge in published articles, journals, and specialized publishers, prompts a critical examination of prevailing assumptions. This article advocates a <b>dispassionate and meticulous analysis</b> to avoid policy decisions grounded in anecdotal evidence or superficial arguments. The discourse surrounding so-called <b>predatory journals</b> has been a focal point within the academic community, with concerns ranging from alleged lack of peer review rigor to exorbitant publication fees. While the consensus often leans towards avoiding such journals, this article <b>challenges the prevailing narrative</b>. It calls for a more nuanced understanding of what constitutes predatory practices and underscores the importance of skeptical inquiry within our daily academic activities. The authors aim to dispel misconceptions and foster a more informed dialogue by scrutinizing <b>APCs, impact factors, and retractions</b>. Furthermore, the authors delve into the <b>evolving landscape of scientific publishing</b>, addressing the generational shifts and <b>emerging trends</b> that <b>challenge traditional notions of prestige and impact</b>. In conclusion, this article serves as a call to action for the scientific community to engage in a comprehensive and nuanced debate on the complex issues surrounding scientific publishing.</p>

Table 1. Cont.

The Title, Keywords, and Abstract of the Article with the Text in Bold for Persona A	The Title, Keywords, and Abstract of the Article with the Text in Bold for Persona B
<p>Title: <b>FAIRness of Research Data</b> in the European <b>Humanities</b> Landscape</p> <p>Keywords: datasets; <b>humanities</b>; <b>FAIR</b>; repositories; <b>openness</b>; licencing; <b>research data</b></p> <p>Abstract: This paper explores the landscape of <b>research data</b> in the <b>humanities</b> in the European context, delving into their diversity and the challenges of defining and <b>sharing</b> them. It investigates three aspects: the types of data in the <b>humanities</b>, their representation in <b>repositories</b>, and their alignment with the <b>FAIR principles (Findable, Accessible, Interoperable, Reusable)</b>. By reviewing <b>datasets in repositories</b>, this research determines the dominant data types, their <b>openness, licencing, and compliance with the FAIR principles</b>. This research provides important insight into the heterogeneous nature of <b>humanities data</b>, their representation in the <b>repository</b>, and their alignment with <b>FAIR principles</b>, highlighting the need for improved <b>accessibility and reusability</b> to improve the overall quality and utility of <b>humanities research data</b>.</p>	<p>Title: <b>FAIRness of Research Data</b> in the European Humanities Landscape</p> <p>Keywords: <b>datasets</b>; humanities; <b>FAIR</b>; <b>repositories</b>; openness; <b>licencing</b>; <b>research data</b></p> <p>Abstract: This paper explores the landscape of <b>research data</b> in the humanities in the European context, delving into their diversity and the challenges of defining and sharing them. It investigates three aspects: the types of data in the humanities, their representation in <b>repositories</b>, and their alignment with the <b>FAIR principles (Findable, Accessible, Interoperable, Reusable)</b>. By reviewing <b>datasets in repositories</b>, this research determines the dominant data types, their openness, licencing, and compliance with the <b>FAIR principles</b>. This research provides important insight into the heterogeneous nature of humanities data, their representation in the <b>repository</b>, and their alignment with <b>FAIR principles</b>, highlighting the need for improved accessibility and reusability to improve the overall quality and utility of humanities <b>research data</b>.</p>
<p>Title: Reducing the Matthew Effect on Journal Citations through an <b>Inclusive Indexing Logic</b>: The Brazilian <b>Spell (Scientific Periodicals Electronic Library)</b> Experience</p> <p>Keywords: indexers; <b>impact factor</b>; <b>inequality</b>; <b>Matthew effect</b>; <b>citations</b>; journals</p> <p>Abstract: The inclusion of scientific journals in prestigious indexers is often associated with higher citation rates; journals included in such indexers are significantly more acknowledged than those that are not included in them. This phenomenon refers to the <b>Matthew effect on journal citations</b>, according to which journals in exclusive rankings tend to be increasingly cited. This paper shows the opposite: that the inclusion of journals in local indexers ruled by <b>inclusive logic</b> reduces the Matthew effect on journal citations since it enables them to be equally exposed. Thus, we based our arguments on the comparison of 68 Brazilian journals before and after they were indexed in the <b>Scientific Periodicals Electronic Library (Spell)</b>, which ranks journals in the Brazilian management field based on local citations. <b>Citation impact indicators and iGini (a new individual inequality analysis measure)</b> were used to show that the inclusion of journals in Spell has probably increased their <b>impact factor</b> and decreased their citation <b>inequality</b> rates. Using a difference-in-differences model with continuous treatment, the results indicated that the effect between ranking and inequality declined after journals were included in Spell. Additional robustness checks through event study models and interrupted time-series analysis for panel data point to a reduction in citation inequality but follow different trajectories for the 2- and 5-year impact. The results indicate that the indexer has reduced the <b>Matthew effect on journal citations</b>.</p>	<p>Title: Reducing the <b>Matthew Effect on Journal Citations</b> through an <b>Inclusive Indexing Logic</b>: The Brazilian <b>Spell (Scientific Periodicals Electronic Library)</b> Experience</p> <p>Keywords: <b>indexers</b>; <b>impact factor</b>; <b>inequality</b>; <b>Matthew effect</b>; <b>citations</b>; journals</p> <p>Abstract: The inclusion of scientific journals in prestigious <b>indexers</b> is often associated with higher <b>citation rates</b>; journals included in such indexers are significantly more <b>acknowledged</b> than those that are not included in them. This phenomenon refers to the <b>Matthew effect on journal citations</b>, according to which journals in exclusive rankings tend to be increasingly cited. This paper shows the opposite: that the <b>inclusion of journals in local indexers</b> ruled by inclusive logic reduces the Matthew effect on journal citations since it enables them to be equally exposed. Thus, we based our arguments on the comparison of 68 Brazilian journals before and after they were indexed in the <b>Scientific Periodicals Electronic Library (Spell)</b>, which ranks journals in the Brazilian management field based on local citations. <b>Citation impact indicators and iGini (a new individual inequality analysis measure)</b> were used to show that the inclusion of journals in Spell has probably increased their <b>impact factor</b> and decreased their citation <b>inequality</b> rates. Using a difference-in-differences model with continuous treatment, the results indicated that the effect between ranking and inequality declined after journals were included in Spell. Additional robustness checks through event study models and interrupted time-series analysis for panel data point to a reduction in citation inequality but follow different trajectories for the 2- and 5-year impact. The results indicate that the indexer has reduced the <b>Matthew effect on journal citations</b>.</p>

**Table 2.** Personalized scientific article elements (titles, keywords, abstracts) generated by the LLM for Personas A and B (Articles 6–9).

The Title, Keywords, and Abstract of the Article with the Text in Bold for Persona A	The Title, Keywords, and Abstract of the Article with the Text in Bold for Persona B
<p>Title: Does Quality Matter? <b>Quality Assurance</b> in Research for the Chilean Higher Education System</p> <p>Keywords: scientific research; universities; <b>quality assurance; scientometric indicators</b>; Chile</p> <p>Abstract: This study analyzes the <b>research quality assurance processes</b> in Chilean universities. Data from 29 universities accredited by the National Accreditation Commission were collected. The relationship between <b>institutional accreditation</b> and <b>research performance</b> was analyzed using length in years of institutional accreditation and eight <b>research metrics</b> used as the indicators of <b>quantity, quality, and impact</b> of a university's outputs at an international level. The results showed that <b>quality assurance in research</b> of Chilean universities is mainly associated with <b>quantity</b> and not with the <b>quality and impact of academic publications</b>. There was also no relationship between the number of publications and their quality, even finding cases with negative correlations. In addition to the above, the relationship between <b>international metrics to evaluate research performance (i.e., international collaboration, field-weighted citation impact, and output in the top 10% citation percentiles)</b> showed the existence of three clusters of heterogeneous composition regarding the distribution of universities with different years of institutional accreditation. These findings call for a new focus on <b>improving regulatory processes to evaluate research performance</b> and adequately promote institutions' development and the effectiveness of their mission.</p>	<p>Title: Does Quality Matter? <b>Quality Assurance</b> in Research for the Chilean Higher Education System</p> <p>Keywords: scientific research; universities; <b>quality assurance; scientometric indicators</b>; Chile</p> <p>Abstract: This study analyzes the <b>research quality assurance processes</b> in Chilean universities. Data from 29 universities accredited by the National Accreditation Commission were collected. The relationship between <b>institutional accreditation</b> and <b>research performance</b> was analyzed using length in years of institutional accreditation and eight <b>research metrics</b> used as the indicators of <b>quantity, quality, and impact</b> of a university's outputs at an international level. The results showed that <b>quality assurance in research</b> of Chilean universities is mainly associated with <b>quantity</b> and not with the <b>quality and impact of academic publications</b>. There was also no relationship between the number of publications and their quality, even finding cases with negative correlations. In addition to the above, the relationship between <b>international metrics to evaluate research performance (i.e., international collaboration, field-weighted citation impact, and output in the top 10% citation percentiles)</b> showed the existence of three clusters of heterogeneous composition regarding the distribution of universities with different years of institutional accreditation. These findings call for a new focus on <b>improving regulatory processes to evaluate research performance</b> and adequately promote institutions' development and the effectiveness of their mission.</p>
<p>Title: Mining and Mineral Processing Journals in the <b>WoS and Their Rankings</b> When Merging <b>SCIEx and ESCI</b> Databases—Case Study Based on the <b>JCR 2022 Data</b></p> <p>Keywords: Mining and Mineral Processing journals; <b>WoS; SCIEx; ESCI; ranking</b></p> <p>Abstract: The <b>2022 JCR included ESCI journals for the first time, increasing the number of publication titles by approximately 60%</b>. In this paper, the subcategory Mining and Mineral Processing (part of the Engineering and Geosciences category, where <b>12 of the ESCI journals were merged with the 20 SCIEx ones</b>) is presented and analyzed. Only three of the ESCI journals included in the database were ranked Q1/Q2. The inclusion of the entire ESCI added new content for readers and authors relying on <b>JCR sources</b>. This paper offers authors, researchers, and publishers in the Mining and Mineral Processing field <b>practical insights into the potential benefits and challenges associated with the changing landscape of indexed journals, as well as in-depth, systematic analyses</b> that provide potential authors with the opportunity to select the most suitable journal for submitting their papers.</p>	<p>Title: <b>Mining and Mineral Processing Journals</b> in the <b>WoS and Their Rankings</b> When Merging <b>SCIEx and ESCI</b> Databases—Case Study Based on the <b>JCR 2022 Data</b></p> <p>Keywords: <b>Mining and Mineral Processing journals; WoS; SCIEx; ESCI; ranking</b></p> <p>Abstract: The 2022 JCR included ESCI journals for the first time, increasing the number of publication titles by approximately 60%. In this paper, the subcategory <b>Mining and Mineral Processing</b> (part of the Engineering and Geosciences category, where 12 of the ESCI journals were merged with the 20 SCIEx ones) is presented and analyzed. <b>Only three of the ESCI journals included in the database were ranked Q1/Q2</b>. The inclusion of the entire ESCI added new content for readers and authors relying on JCR sources. This paper offers authors, researchers, and publishers in the <b>Mining and Mineral Processing field practical insights into the potential benefits and challenges associated with the changing landscape of indexed journals, as well as in-depth, systematic analyses</b> that provide potential authors with the opportunity to select the most suitable journal for submitting their papers.</p>



Table 2. Cont.

The Title, Keywords, and Abstract of the Article with the Text in Bold for Persona A	The Title, Keywords, and Abstract of the Article with the Text in Bold for Persona B
<p>Title: Tracing the <b>Evolution</b> of Reviews and Research Articles in the Biomedical Literature: A <b>Multi-Dimensional Analysis</b> of Abstracts</p> <p>Keywords: abstract; <b>narrativity; scientific publishing</b></p> <p>Abstract: We previously examined the <b>diachronic shifts in the narrative structure</b> of research articles (RAs) and review manuscripts using abstract corpora from MEDLINE. This study employs Nini's Multidimensional Analysis Tagger (MAT) on the same datasets to explore five linguistic dimensions (D1–5) in these two sub-genres of biomedical literature, offering insights into <b>evolving writing practices over 30 years</b>. Analyzing a sample exceeding 1.2 million abstracts, we observe a shared reinforcement of an informational, emotionally detached tone (D1) in both RAs and reviews. Additionally, there is a gradual departure from narrative devices (D2), coupled with an increase in context-independent content (D3). Both RAs and reviews maintain low levels of overt persuasion (D4) while shifting focus from abstract content to emphasize <b>author agency and identity</b>. A comparison of linguistic features underlying these dimensions reveals often independent changes in RAs and reviews, with both tending to converge toward standardized stylistic norms.</p>	<p>Title: Tracing the <b>Evolution</b> of Reviews and Research Articles in the Biomedical Literature: A <b>Multi-Dimensional Analysis</b> of Abstracts</p> <p>Keywords: abstract; narrativity; <b>scientific publishing</b></p> <p>Abstract: We previously examined the <b>diachronic shifts</b> in the narrative structure of <b>research articles (RAs) and review manuscripts</b> using abstract corpora from MEDLINE. This study employs <b>Nini's Multidimensional Analysis Tagger (MAT)</b> on the same datasets to explore five linguistic dimensions (D1–5) in these two sub-genres of biomedical literature, offering insights into <b>evolving writing practices over 30 years</b>. Analyzing a sample exceeding 1.2 million abstracts, we observe a shared reinforcement of an informational, emotionally detached tone (D1) in both RAs and reviews. Additionally, there is a gradual departure from narrative devices (D2), coupled with an increase in context-independent content (D3). Both RAs and reviews maintain low levels of overt persuasion (D4) while shifting focus from abstract content to emphasize author agency and identity. A comparison of linguistic features underlying these dimensions reveals often independent changes in RAs and reviews, with both tending to converge toward <b>standardized stylistic norms</b>.</p>
<p>Title: Going <b>Open Access</b>: The Attitudes and Actions of Scientific Journal Editors in China</p> <p>Keywords: <b>open access</b>; scientific journals; editors; China</p> <p>Abstract: <b>This study aims to investigate the attitudes and actions of scientific journal editors in China towards open access</b>. Semi-structured interviews were conducted with 17 Chinese editors from various scientific journals during September and October of 2022. <b>The results indicate that the editors generally possess knowledge of open access and have implemented an appropriate open access model for their respective journals</b>. However, the Chinese-language journal editors expressed a lack of motivation to adopt open access, unless there is a reform in the mechanism of academic publishing or a policy is imposed. On the other hand, the English-language journal editors acknowledged that they have no other choice but to adopt open access. <b>This study helps us learn about Chinese editors' understanding and attitudes towards open access, the current status of open access in China's scientific journals, and the mechanisms of academic publishing in China</b>.</p>	<p>Title: Going Open Access: The <b>Attitudes and Actions of Scientific Journal Editors</b> in China</p> <p>Keywords: open access; <b>scientific journals; editors</b>; China</p> <p>Abstract: This study aims to investigate the <b>attitudes and actions of scientific journal editors in China</b> towards open access. Semi-structured interviews were conducted with 17 Chinese editors from various scientific journals during September and October of 2022. <b>The results indicate that the editors generally possess knowledge of open access and have implemented an appropriate open access model for their respective journals</b>. However, the Chinese-language journal editors expressed a lack of motivation to adopt open access, unless there is a reform in the mechanism of academic publishing or a policy is imposed. On the other hand, the English-language journal editors acknowledged that they have no other choice but to adopt open access. This study helps us learn about Chinese editors' understanding and attitudes towards open access, the current status of open access in China's scientific journals, and <b>the mechanisms of academic publishing in China</b>.</p>

Upon execution, the LLM systematically processed each article, generating a comprehensive output that included the assigned Likert scale rating and a corresponding justification for both personas. The output was structured to clearly indicate the persona, the article title, the Likert scale rating, and the justification for each rating. This format facilitated a clear and organized presentation of the LLM's assessments, enabling a thorough analysis of its performance in estimating persona-specific interest in the scientific literature.

The results of this analysis are presented in Table 3, which provides a comprehensive overview of the LLM's estimations. The table is structured with three columns: the first column lists the titles of the analyzed scientific articles; the second column displays the Likert scale rating and justification provided by the LLM from the perspective of Persona A; and the third column presents the corresponding rating and justification for Persona

B. This tabular format allows for a clear and direct comparison of the LLM’s assessments across the two personas and the nine articles, facilitating a thorough examination of the LLM’s performance in this task.

**Listing 2.** The prompt employed to gauge potential interest in scientific articles using an LLM and Likert scale ratings.

I need you to estimate the potential level of interest for two distinct personas ,  
 Persona A and Persona B, in a set of nine scientific articles .  
 For each persona and each of the nine scientific articles (described below by their title  
 and abstract), please provide a rating on a Likert scale indicating  
 the potential level of interest .

Likert Scale :  
 1 - Not at all interested  
 2 - Slightly interested  
 3 - Moderately interested  
 4 - Very interested  
 5 - Extremely interested

For each of the nine articles and for both Persona A and Persona B, please provide  
 a Likert scale rating (1–5) along with a brief justification for your rating .  
 The justification should explain why you believe that persona would have  
 that level of interest , based on the title , and abstract of the article .  
 Please present your output clearly , indicating the persona , the article number (1–9),  
 the Likert scale rating , and the justification for each rating .

Remember to consider the characteristics of Persona A and Persona B  
 when evaluating the relevance and appeal of each article ’s title and abstract .

Persona A:  
 (...)

Persona B:  
 (...)

Scientific articles :  
 (...)

**Table 3.** Likert scale ratings and justifications provided by the LLM for Persona A and Persona B across nine scientific articles.

The Title of Paper	Persona A	Persona B
Bibliometric Overview of ChatGPT: New Perspectives in Social Sciences	Rating: 5 (Extremely interested) Justification: The article’s focus on ChatGPT’s impact on social sciences and its bibliometric analysis directly aligns with her interests in AI, bibliometrics, and the digital transformation of research.	Rating: 2 (Slightly interested) Justification: Although the bibliometric approach might catch his eye, the focus on social sciences and ChatGPT isn’t closely aligned with his technical and mining industry priorities.
Benefits of Citizen Science for Libraries	Rating: 4 (Very interested) Justification: Exploring how citizen science enhances library services and fosters open research practices resonates with her commitment to open science and collaborative research in the humanities.	Rating: 1 (Not at all interested) Justification: The topic centers on libraries and citizen science, which is largely irrelevant to his work in mining and technical research trends.
Should I Buy the Current Narrative about Predatory Journals? Facts and Insights from the Brazilian Scenario	Rating: 4 (Very interested) Justification: The critical examination of predatory journals, impact factors, and publishing ethics is highly relevant given her focus on open science, ethical publishing, and bibliometric methods.	Rating: 3 (Moderately interested) Justification: The discussion on publication practices and metrics may offer some insight into broader scientific publishing trends, though it is not directly tied to the technical focus of his industry.



Table 3. Cont.

The Title of Paper	Persona A	Persona B
FAIRness of Research Data in the European Humanities Landscape	Rating: 5 (Extremely interested) Justification: With its emphasis on FAIR principles and challenges in data sharing in the humanities, this paper directly supports her research into data accessibility and open science within digital humanities.	Rating: 1 (Not at all interested) Justification: The emphasis on humanities research data and FAIR principles is outside his core technical and industrial focus.
Reducing the Matthew Effect on Journal Citations through an Inclusive Indexing Logic: The Brazilian Spell (Scientific Periodicals Electronic Library) Experience	Rating: 4 (Very interested) Justification: The discussion on citation dynamics and inclusive indexing connects with her interests in bibliometrics and the evaluation of scholarly communication, despite its regional case study.	Rating: 4 (Very interested) Justification: The insights into citation dynamics and journal indexing are highly relevant to his interest in understanding how scientific publishing trends affect industry recognition and technical research visibility.
Does Quality Matter? Quality Assurance in Research for the Chilean Higher Education System	Rating: 3 (Moderately interested) Justification: Although the focus on quality assurance and research metrics is relevant, the Chilean higher education context makes it slightly less central to her main areas of digital humanities and open science.	Rating: 2 (Slightly interested) Justification: While research quality assurance touches on broader academic performance metrics, its focus on Chilean universities is not directly relevant to his field in mining and raw materials.
Mining and Mineral Processing Journals in the WoS and Their Rankings When Merging SCIEs and ESCI Databases—Case Study Based on the JCR 2022 Data	Rating: 1 (Not at all interested) Justification: This article's focus on mining and mineral processing is far removed from her expertise and interests in the humanities and open science.	Rating: 5 (Extremely interested) Justification: This paper is directly aligned with his area of expertise, offering valuable insights into the indexing and ranking of journals specifically related to mining and mineral processing.
Tracing the Evolution of Reviews and Research Articles in the Biomedical Literature: A Multi-Dimensional Analysis of Abstracts	Rating: 3 (Moderately interested) Justification: While the methodological approach and analysis of scholarly communication might be of interest, its biomedical focus makes it less directly applicable to her research focus.	Rating: 1 (Not at all interested) Justification: The focus on biomedical literature and linguistic analysis does not intersect with his primary interests in the technical and industrial aspects of mining.
Going Open Access: The Attitudes and Actions of Scientific Journal Editors in China	Rating: 5 (Extremely interested) Justification: The exploration of open access practices and the attitudes of journal editors is highly pertinent to her core interests in open science and the evolving landscape of academic publishing.	Rating: 3 (Moderately interested) Justification: Although the focus on open access models and editorial attitudes offers some insight into publishing trends, its specific context (Chinese journals) makes it only moderately relevant to his technical and industry-focused interests.

Finally, in a further demonstration of the LLM's capability to process and tailor information, a consolidated prompt was utilized, incorporating all nine scientific articles (Listing 3) simultaneously. This approach aimed to assess whether the LLM could efficiently manage a larger volume of input while maintaining the precision and relevance of its outputs. The prompt, structured to elicit persona-specific key points and their translated equivalents, was executed in a single iteration.

Upon execution, the LLM systematically processed each article, extracting the core informational elements as defined by their titles and abstracts. Subsequently, these key points were meticulously adapted to align with the distinct interests and backgrounds of the two specified personas. Crucially, the LLM demonstrated an ability to not only distill the essential content of each article but also to contextualize it within the cognitive framework

of each persona. This was evidenced by the nuanced variations in the summaries, reflecting the personas' differing perspectives and areas of focus.

Furthermore, the prompt's design mandated the translation of each key point into the respective native languages of the personas. The LLM successfully executed this translation, providing bilingual outputs that retained the semantic integrity of the original English summaries. This capability underscores the LLM's potential as a tool for cross-cultural communication and information dissemination, particularly in contexts where tailored information delivery is paramount.

The successful execution of this consolidated prompt highlights the LLM's scalability and adaptability. By efficiently processing multiple documents and generating persona-specific summaries, the LLM showcased its potential to streamline information processing and delivery in various applications, including research, education, and personalized content generation.

The results obtained from the consolidated prompt were subsequently compiled and presented in tabular format. Specifically, Table 4 showcases the persona-specific summaries for the first five articles, while Table 5 details the summaries for the remaining four. Mirroring the structure of Table 3, each table is organized with the article title in the first column, followed by bilingual key points tailored to Persona A's perspective in the second column, and finally, bilingual key points tailored to Persona B's perspective in the third column. This consistent formatting facilitates a direct comparison of the LLM's outputs across all articles and personas, allowing for a comprehensive analysis of the model's ability to adapt and translate scientific information.

**Listing 3.** Structured prompt for generating translated, persona-focused summaries of research articles.

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For each of the nine articles , and for each of the two personas :

1. Identify Key Points: Analyze the article (based on its title and abstract)
   and determine up to three key points that summarize its main content.
2. Persona-Specific Relevance: Tailor these key points to be relevant
   and interesting to each persona , considering their described interests and background.

Output Format:
For each article , present the output in the following format:
Article: [Article Title]

Persona 1 Perspective :
- (English) Point 1 ([[Persona 1 Native Language]] Point 1 Translation)
- (English) Point 2 ([[Persona 1 Native Language]] Point 2 Translation)
- (English) Point 3 (if applicable) ([[Persona 1 Native Language]]
  Point 3 Translation (if applicable))

Persona 2 Perspective :
- (English) Point 1 ([[Persona 2 Native Language]] Point 1 Translation)
- (English) Point 2 ([[Persona 2 Native Language]] Point 2 Translation)
- (English) Point 3 (if applicable) ([[Persona 2 Native Language]]
  Point 3 Translation (if applicable))

Please provide the analysis in the structured format described above.

Persona A:
(...)

Persona B:
(...)

Scientific articles:
(...)

```

**Table 4.** Persona-tailored article summaries (first five articles) with English and native-language key points, as generated by the LLM.

The Title of Paper	Persona A	Persona B
Bibliometric Overview of ChatGPT: New Perspectives in Social Sciences	<ul style="list-style-type: none"> <li>• (English) Provides a bibliometric analysis of ChatGPT’s influence in social sciences using Scopus data, highlighting trends and collaborations. ((Polish) Przedstawia analizę bibliometryczną wpływu ChatGPT na nauki społeczne z wykorzystaniem danych Scopus, ukazując trendy i współpracę.)</li> <li>• (English) Examines ethical, technological, and sociological dimensions of AI adoption, offering insights into digital transformation in academia. ((Polish) Bada etyczne, technologiczne i socjologiczne aspekty wdrażania sztucznej inteligencji, dostarczając wglądu w cyfrową transformację w środowisku akademickim.)</li> <li>• (English) Reveals emerging research gaps and opportunities for multidisciplinary exploration in open science and education. ((Polish) Ujawnia nowe luki badawcze i możliwości interdyscyplinarnej eksploracji w obszarze otwartej nauki i edukacji.)</li> </ul>	<ul style="list-style-type: none"> <li>• (English) Uses bibliometric methods to uncover research trends around ChatGPT that can inspire innovative technological applications. ((Spanish) Utiliza métodos bibliométricos para descubrir tendencias de investigación sobre ChatGPT que pueden inspirar aplicaciones tecnológicas innovadoras.)</li> <li>• (English) Highlights key collaboration networks and citation metrics that influence journal recognition and indexing. ((Spanish) Destaca redes clave de colaboración y métricas de citación que influyen en el reconocimiento e indexación de revistas.)</li> <li>• (English) Provides insights into the rapid digital evolution that may indirectly affect technical research and industry practices. ((Spanish) Ofrece perspectivas sobre la rápida evolución digital que puede afectar indirectamente la investigación técnica y las prácticas industriales.)</li> </ul>
Benefits of Citizen Science for Libraries	<ul style="list-style-type: none"> <li>• (English) Demonstrates how citizen science projects can foster open research and enhance library engagement with public scholarship. ((Polish) Pokazuje, jak projekty nauki obywatelskiej mogą wspierać otwarte badania i zwiększać zaangażowanie bibliotek w popularyzację nauki.)</li> <li>• (English) Highlights opportunities for improved research communication and scientific publishing through community collaboration. ((Polish) Wskazuje możliwości ulepszenia komunikacji badawczej i publikacji naukowych dzięki współpracy społecznej.)</li> <li>• (English) Encourages libraries to adopt citizen science initiatives as a means to boost civic participation and interdisciplinary research. ((Polish) Zachęca biblioteki do wdrażania inicjatyw nauki obywatelskiej jako sposobu na zwiększenie uczestnictwa społecznego i badań interdyscyplinarnych.)</li> </ul>	<ul style="list-style-type: none"> <li>• (English) Illustrates how citizen science can increase the visibility and impact of research outputs, benefiting technical dissemination. ((Spanish) Ilustra cómo la ciencia ciudadana puede aumentar la visibilidad e impacto de los resultados de investigación, beneficiando la difusión técnica).</li> <li>• (English) Shows how libraries can serve as hubs for innovative knowledge sharing and technical communication. ((Spanish) Muestra cómo las bibliotecas pueden funcionar como centros para el intercambio innovador de conocimientos y la comunicación técnica).</li> <li>• (English) Offers a model for enhancing research outreach that may be adapted to improve information flow in technical industries. ((Spanish) Ofrece un modelo para mejorar la difusión de la investigación que podría adaptarse para optimizar el flujo de información en industrias técnicas).</li> </ul>

Table 4. Cont.

The Title of Paper	Persona A	Persona B
Should I Buy the Current Narrative about Predatory Journals? Facts and Insights from the Brazilian Scenario	<ul style="list-style-type: none"> <li>• (English) Critically re-examines the common assumptions surrounding predatory journals, urging a nuanced ethical debate. ((Polish) Dokonuje krytycznej rewizji powszechnych założeń dotyczących czasopism drapieżnych, zachęcając do niuansowanej debaty etycznej).</li> <li>• (English) Analyzes publication practices—such as APCs, impact factors, and retractions—to demystify publishing quality. ((Polish) Analizuje praktyki publikacyjne—takie jak opłaty APC, wskaźniki wpływu i retractacje—aby obalić mity dotyczące jakości publikacji).</li> <li>• (English) Promotes informed discussion on scientific publishing that can enhance open science policies and ethical research. ((Polish) Promuje świadomą dyskusję na temat publikacji naukowych, która może wzmocnić polityki otwartej nauki i etycznych badań.)</li> </ul>	<ul style="list-style-type: none"> <li>• (English) Offers a detailed critique of predatory journals, helping technical researchers navigate the complex landscape of journal quality. ((Spanish) Ofrece una crítica detallada de las revistas depredadoras, ayudando a los investigadores técnicos a navegar por el complejo panorama de la calidad de las revistas).</li> <li>• (English) Examines the impact of publication fees and citation metrics on journal indexing and industry recognition. ((Spanish) Examina el impacto de las tarifas de publicación y las métricas de citación en la indexación y el reconocimiento industrial).</li> <li>• (English) Provides practical insights for selecting reputable journals, beneficial for enhancing technical research visibility. ((Spanish) Proporciona ideas prácticas para seleccionar revistas reputadas, lo que beneficia a la visibilidad de la investigación técnica).</li> </ul>
FAIRness of Research Data in the European Humanities Landscape	<ul style="list-style-type: none"> <li>• (English) Explores the application of FAIR principles to the diverse landscape of humanities research data in Europe. ((Polish) Bada zastosowanie zasad FAIR w zróżnicowanym krajobrazie danych badawczych w humanistyce w Europie).</li> <li>• (English) Discusses challenges in defining, representing, and sharing research data to promote open science. ((Polish) Omawia wyzwania związane z definiowaniem, reprezentacją i udostępnianiem danych badawczych w celu promocji otwartej nauki).</li> <li>• (English) Highlights implications for enhancing reproducibility and ethical research practices in the humanities. ((Polish) Podkreśla znaczenie dla poprawy powtarzalności i etycznych praktyk badawczych w naukach humanistycznych).</li> </ul>	<ul style="list-style-type: none"> <li>• (English) Offers insights into standardized data management practices that can be applied to technical and engineering research. ((Spanish) Ofrece perspectivas sobre prácticas estandarizadas de gestión de datos que pueden aplicarse a la investigación técnica e ingenieril).</li> <li>• (English) Highlights transparency and repository indexing trends, which are essential for research visibility in all disciplines. ((Spanish) Destaca tendencias de transparencia y de indexación en repositorios, esenciales para la visibilidad de la investigación en todas las disciplinas).</li> <li>• (English) Provides a framework for understanding data sharing protocols that can influence technical innovation and documentation. ((Spanish) Proporciona un marco para comprender los protocolos de compartición de datos que pueden influir en la innovación técnica y la documentación).</li> </ul>

Table 4. Cont.

The Title of Paper	Persona A	Persona B
Reducing the Matthew Effect on Journal Citations through an Inclusive Indexing Logic: The Brazilian Spell (Scientific Periodicals Electronic Library) Experience	<ul style="list-style-type: none"> <li>• (English) Investigates how an inclusive indexing approach can reduce citation bias (the Matthew effect) in academic publishing. ((Polish) Bada, jak inkluzywne indeksowanie może zmniejszyć uprzedzenia cytacyjne (efekt Mateusza) w publikacjach naukowych).</li> <li>• (English) Demonstrates the benefits of open access and alternative metrics for enhancing recognition in the humanities and social sciences. ((Polish) Ukazuje korzyści płynące z otwartego dostępu i alternatywnych metryk dla zwiększenia rozpoznawalności w naukach humanistycznych i społecznych).</li> <li>• (English) Presents the Brazilian model as a case study for promoting fairness and inclusivity in research evaluation. ((Polish) Przedstawia brazylijski model jako studium przypadku promujące uczciwość i inkluzywność w ocenie badań).</li> </ul>	<ul style="list-style-type: none"> <li>• (English) Provides practical insights on how indexing strategies impact citation metrics and journal visibility in technical fields. ((Spanish) Ofrece ideas prácticas sobre cómo las estrategias de indexación impactan las métricas de citación y la visibilidad de las revistas en campos técnicos).</li> <li>• (English) Examines the Matthew effect and suggests inclusive solutions to enhance fair recognition for technical research. ((Spanish) Examina el efecto Mateo y sugiere soluciones inclusivas para mejorar el reconocimiento justo de la investigación técnica).</li> <li>• (English) Uses the Brazilian experience to guide improvements in indexing logic relevant to the mining and engineering sectors. ((Spanish) Utiliza la experiencia brasileña para orientar mejoras en la lógica de indexación, relevantes para los sectores de minería e ingeniería).</li> </ul>

Table 5. Persona-tailored article summaries (last four articles) with English and native-language key points, as generated by the LLM.

The Title of Paper	Persona A	Persona B
Does Quality Matter? Quality Assurance in Research for the Chilean Higher Education System	<ul style="list-style-type: none"> <li>• (English) Analyzes the challenges in balancing research quantity with quality assurance within Chilean universities. ((Polish) Analizuje wyzwania związane z równoważeniem ilości publikacji z zapewnieniem jakości w chilijskich uniwersytetach).</li> <li>• (English) Critically assesses the impact of accreditation and international metrics on research performance in open science contexts. ((Polish) Dokonuje krytycznej oceny wpływu akredytacji i międzynarodowych metryk na wyniki badań w kontekście otwartej nauki).</li> <li>• (English) Calls for improved regulatory frameworks to better promote ethical and impactful research practices. ((Polish) Wzywa do ulepszonych ram regulacyjnych, które lepiej promowałyby etyczne i efektywne praktyki badawcze).</li> </ul>	<ul style="list-style-type: none"> <li>• (English) Provides insights into how quality assurance processes affect research performance metrics, crucial for technical recognition. ((Spanish) Ofrece perspectivas sobre cómo los procesos de aseguramiento de la calidad afectan las métricas de rendimiento de la investigación, cruciales para el reconocimiento técnico).</li> <li>• (English) Highlights the discrepancies between publication quantity and quality, prompting reevaluation of evaluation standards in technical fields. ((Spanish) Destaca las discrepancias entre la cantidad y la calidad de las publicaciones, lo que impulsa una reevaluación de los estándares de evaluación en campos técnicos).</li> <li>• (English) Suggests practical improvements in evaluation processes that could benefit technical research and industry practices. ((Spanish) Sugiere mejoras prácticas en los procesos de evaluación que podrían beneficiar a la investigación técnica y las prácticas industriales).</li> </ul>

Table 5. Cont.

The Title of Paper	Persona A	Persona B
Mining and Mineral Processing Journals in the WoS and Their Rankings When Merging SCIEEx and ESCI Databases—Case Study Based on the JCR 2022 Data	<ul style="list-style-type: none"> <li>• (English) Analyzes changes in journal rankings and indexing due to the merging of SCIEEx and ESCI, offering interdisciplinary insights. ((Polish) Analizuje zmiany w rankingach i indeksowaniu czasopism w wyniku połączenia baz SCIEEx i ESCI, oferując interdyscyplinarne spojrzenie).</li> <li>• (English) Discusses the implications of new database inclusions on open access and scholarly communication in broader academic fields. ((Polish) Omawia implikacje nowych włączeń do baz danych dla otwartego dostępu i komunikacji naukowej w szerszym kontekście akademickim).</li> <li>• (English) Provides context for understanding evolving indexing practices that also affect humanities research dissemination. ((Polish) Dostarcza kontekstu do zrozumienia ewoluujących praktyk indeksowania, które wpływają także na dystrybucję badań humanistycznych).</li> </ul>	<ul style="list-style-type: none"> <li>• (English) Offers a detailed analysis of journal ranking systems in the mining and mineral processing sector. ((Spanish) Ofrece un análisis detallado de los sistemas de clasificación de revistas en el sector de la minería y el procesamiento de minerales).</li> <li>• (English) Evaluates the impact of merging SCIEEx and ESCI databases on the visibility and recognition of technical journals. ((Spanish) Evalúa el impacto de la fusión de las bases de datos SCIEEx y ESCI en la visibilidad y el reconocimiento de revistas técnicas).</li> <li>• (English) Provides practical guidance for researchers in selecting appropriate journals for submission based on updated indexing standards. ((Spanish) Proporciona orientación práctica para que los investigadores seleccionen revistas adecuadas para la publicación, basándose en los estándares de indexación actualizados).</li> </ul>
Tracing the Evolution of Reviews and Research Articles in the Biomedical Literature: A Multi-Dimensional Analysis of Abstracts	<ul style="list-style-type: none"> <li>• (English) Investigates the evolution of narrative and linguistic structures in biomedical abstracts over 30 years. ((Polish) Bada ewolucję struktur narracyjnych i lingwistycznych w streszczeniach biomedycznych na przestrzeni 30 lat).</li> <li>• (English) Utilizes multidimensional text analysis to reveal trends in scientific communication, which can inform digital humanities research. ((Polish) Wykorzystuje wielowymiarową analizę tekstu do ujawnienia trendów w komunikacji naukowej, co może wpłynąć na badania w dziedzinie nauk humanistycznych).</li> <li>• (English) Highlights the gradual standardization of academic writing and the shift toward an informational tone. ((Polish) Podkreśla stopniową standaryzację stylu pisanego naukowego i przejście w kierunku tonu informacyjnego).</li> </ul>	<ul style="list-style-type: none"> <li>• (English) Provides insights into evolving writing styles in biomedical literature, relevant for refining technical documentation. ((Spanish) Ofrece perspectivas sobre la evolución de los estilos de redacción en la literatura biomédica, relevantes para perfeccionar la documentación técnica).</li> <li>• (English) Demonstrates the use of advanced linguistic analysis tools that can be applied to enhance research communication in technical fields. ((Spanish) Demuestra el uso de herramientas avanzadas de análisis lingüístico que pueden aplicarse para mejorar la comunicación de la investigación en campos técnicos).</li> <li>• (English) Discusses convergence toward standardized norms that may streamline technical writing and documentation practices. ((Spanish) Discute la convergencia hacia normas estandarizadas que pueden agilizar la redacción técnica y las prácticas documentales).</li> </ul>
Going Open Access: The Attitudes and Actions of Scientific Journal Editors in China	<ul style="list-style-type: none"> <li>• (English) Explores the diverse attitudes of Chinese journal editors towards open access and its implications for global scholarly communication. ((Polish) Bada zróżnicowane postawy chińskich redaktorów czasopism wobec otwartego dostępu oraz ich implikacje dla globalnej komunikacji naukowej).</li> <li>• (English) Highlights challenges and policy-driven motivations behind the adoption of open access models in both Chinese and international journals. ((Polish) Wskazuje wyzwania i motywacje wynikające z polityki publikacyjnej, które stoją za wdrażaniem modeli otwartego dostępu w czasopiśmie chińskich i międzynarodowych).</li> <li>• (English) Provides insights into editorial practices that can influence the dissemination and impact of research in the humanities and social sciences. ((Polish) Dostarcza wglądu w praktyki redakcyjne, które mogą wpływać na dystrybucję i oddziaływanie badań w naukach humanistycznych i społecznych.)</li> </ul>	<ul style="list-style-type: none"> <li>• (English) Analyzes Chinese journal editors' perspectives on open access, offering implications for the global scientific publishing landscape. ((Spanish) Analiza las perspectivas de los editores chinos sobre el acceso abierto, ofreciendo implicaciones para el panorama global de la publicación científica).</li> <li>• (English) Examines policy and practical challenges that influence how technical journals adopt open access models. ((Spanish) Examina los desafíos políticos y prácticos que influyen en la adopción de modelos de acceso abierto en revistas técnicas).</li> <li>• (English) Provides practical insights on improving research visibility and recognition in technical fields through open access strategies. ((Spanish) Proporciona perspectivas prácticas para mejorar la visibilidad y el reconocimiento de la investigación técnica mediante estrategias de acceso abierto).</li> </ul>

## 5. Discussion

The assumption of having persona information for users searching bibliographic data is undoubtedly a significant consideration. However, it is important to note that persona profiles can be constructed through various means, both explicit and implicit. Firstly,

during user registration, direct inquiries regarding interests can be employed to gather initial data. Secondly, supplementary information can be sourced from platforms such as ORCID, enriching the persona's profile with professional and academic details. Finally, a dynamic persona profile can be progressively developed by analyzing user activity and tracked interests derived from search patterns and interactions with data. In this latter scenario, user registration is not a prerequisite, as identification can be facilitated through cookies, provided user consent is granted. This approach allows for the creation of nuanced and evolving persona profiles, enhancing the relevance of information retrieval.

With a sufficiently detailed user profile established, a range of personalization techniques can be employed to present bibliographic data in a manner that is more relevant and conducive to the user's specific needs. This tailored presentation facilitates quicker, easier, and more informed decisions regarding the selection of pertinent bibliographic records. For instance, personalized recommendations, customized search results, and context-aware summaries can be generated to align with the user's identified interests and research focus. By leveraging user persona data, the relevance and efficiency of bibliographic information retrieval can be significantly enhanced, empowering users to navigate the vast landscape of the scholarly literature with greater precision.

In this study, a corpus of nine articles underwent experimental enhancement using three distinct prompts. The first involved bold formatting of selected sections of the title, keywords, and abstract. The second prompt aimed to estimate the persona's interest level, supported by detailed justifications. The third focused on identifying key points of interest for the persona, along with their translations. Detailed discussions on the effects of each of these three prompts were illustrated using four selected examples, which the author deemed worthy of more in-depth analysis. These four cases were chosen to effectively demonstrate the method's efficacy in directing attention to the most relevant content for each target audience.

In the case of the article "Bibliometric Overview of ChatGPT: New Perspectives in Social Sciences", the bold formatting for Persona A was designed to foreground elements that resonate with a digital humanities scholar. The phrase "Bibliometric Overview of ChatGPT" was emphasized in the title to highlight the focus on bibliometric analysis—a method that is integral to evaluating emerging digital tools in academia. Additionally, keywords such as "ChatGPT; artificial intelligence; bibliometric analysis; ethical implications; educational technology" were accentuated so that the intersections between AI applications, ethical considerations, and educational innovation were immediately visible. Conversely, for Persona B, the formatting was slightly adjusted; the emphasis was shifted toward "bibliometric analysis" in the keywords and on methodological aspects in the abstract (e.g., "co-citations, keywords and international collaborations") to appeal to an audience with a practical interest in the analytical and indexing dimensions of scientific publishing.

The article "FAIRness of Research Data in the European Humanities Landscape" provides another illustrative example. For Persona A, who is invested in open science and digital humanities, the text was tailored to underscore concepts central to data openness and ethical research practices. Phrases in bold such as "FAIRness of Research Data", "humanities", and "openness" in the keywords, as well as multiple references to "FAIR principles" in the abstract, were intended to immediately signal the article's relevance to the challenges of data sharing and the governance of humanities research data. For Persona B, although the overall content remained identical, the bold formatting was adapted to highlight technical aspects—such as the emphasis on "datasets" and "research data"—thereby aligning the presentation with an audience that values precision in data metrics and the infrastructural dimensions of research information management.



A particularly clear demonstration of targeted emphasis is provided by the article “Mining and Mineral Processing Journals in the WoS and Their Rankings When Merging SCIE<sub>x</sub> and ESCI Databases—Case Study Based on the JCR 2022 Data”. Given that Persona B’s professional interests were in the mining and extractive industries, the bold formatting in this instance was calibrated to highlight industry-specific and evaluative metrics. In both the title and the keywords, technical terms such as “WoS”, “SCIE<sub>x</sub>”, “ESCI”, and “JCR 2022 Data” were accentuated, thus foregrounding the methodological and bibliometric rigor that underpins journal indexing—a factor that is critical for assessing publication quality in technical domains. For Persona A, although similar bibliometric elements were marked, the degree of emphasis was moderated so as to balance the interdisciplinary appeal of the article while still acknowledging the significance of indexing systems in the broader context of scholarly communication.

Finally, the article “Going Open Access: The Attitudes and Actions of Scientific Journal Editors in China” was employed to illustrate how the method can be refined to cater to differing thematic priorities. For Persona A, who is highly engaged with open science, the bold formatting was concentrated on “Open Access” in the title and within the abstract, thereby accentuating the transformative potential of open access models in reshaping academic publishing practices. In contrast, for Persona B, the emphasis was realigned to underline the procedural and evaluative components of editorial practices. The bold formatting in this version accentuated “the Attitudes and Actions of Scientific Journal Editors” as well as key phrases concerning the mechanisms of academic publishing in China, which are aspects likely to be appreciated by an audience that is keenly attuned to industry trends and practical implications in scientific publishing.

Collectively, these four examples underscore that the use of prompt-driven bold formatting via a generative AI model can be effectively utilized to direct a reader’s attention toward those elements of a scientific text that are most likely to resonate with their specific academic and professional interests. The experimental results, thus, suggest that, through strategic textual emphasis, it is possible to personalize academic reading experiences in a manner that enhances both the accessibility and relevance of the scientific literature for diverse audiences.

The subsequent analysis is provided to illustrate, through four exemplary cases, how the proposed method was demonstrated to effectively capture divergent academic interests. In each instance, the generative model was prompted to evaluate the potential level of interest of two distinct personas—Persona A, a digital humanities and open science researcher, and Persona B, a mining and raw materials industry specialist—in the context of nine scientific articles. Four cases were selected that most prominently demonstrate the method’s ability to differentiate between the interests of these personas.

In the case of the “Bibliometric Overview of ChatGPT (...)”, the model’s evaluation revealed a pronounced divergence between the personas. Persona A was rated at the highest level (5-Extremely interested) due to the article’s focus on ChatGPT’s impact on social sciences and its bibliometric analysis. This directly aligned with her established interests in artificial intelligence, bibliometrics, and the digital transformation of research. In contrast, Persona B received a rating of 2 (slightly interested), as the thematic focus on social sciences and AI did not intersect significantly with his technical orientation and the priorities of the mining industry. This stark contrast demonstrates that the method is capable of aligning content relevance with the nuanced research profiles of different academic domains.

The evaluation of “FAIRness of Research Data in the European Humanities Landscape” further underscored the model’s sensitivity to disciplinary relevance. The article was rated 5 (extremely interested) for Persona A, whose research was deeply embedded in the explo-

ration of FAIR principles and the challenges associated with data sharing in the humanities. The explicit focus on open science and data accessibility was deemed highly pertinent to her academic endeavors. Conversely, Persona B was assigned a rating of 1 (not at all interested), as the paper's concentration on humanities research data and FAIR principles fell entirely outside his core technical and industry-centric interests. This case reinforces the method's capacity to distinctly recognize and prioritize domain-specific content.

A particularly illustrative example of the method's discriminative power is provided by the evaluation of the article "Mining and Mineral Processing Journals in the WoS and Their Rankings When Merging SCIE<sub>x</sub> and ESCI Databases (...)". Here, the scoring was effectively inverted relative to the previous cases: Persona A was rated 1 (not at all interested) due to the article's focus on mining and mineral processing—a field that is completely outside her realm of digital humanities and open science research—while Persona B was rated at 5 (extremely interested). The extreme divergence in ratings is indicative of the method's robust capability to detect and differentiate between subject matter that is of paramount importance to one academic profile but entirely extraneous to another.

The final example is provided by the assessment of "Going Open Access: The Attitudes and Actions of Scientific Journal Editors in China". In this instance, Persona A was once again rated 5 (extremely interested) because the article's focus on open access practices and the editorial attitudes toward scientific publishing closely aligned with her primary research interests in open science. Persona B, while still recognizing the potential value of understanding publishing trends, was rated 3 (moderately interested) as the technical and industry-specific dimensions of his work rendered the topic only partially relevant. This nuanced differentiation underscores the method's ability not only to segregate highly domain-specific content but also to capture subtleties in relative interest when the subject matter is tangentially pertinent to a persona's focus.

It is thereby concluded that the experimental application of the Large Language Model with a structured prompt was demonstrated to successfully tailor academic content recommendations in accordance with distinct scholarly profiles. The four cases discussed herein reveal that the method is capable of producing finely tuned evaluations that mirror the varying priorities of the personas. In doing so, the approach offers significant potential for enhancing the personalization of academic reading experiences, ensuring that recommendations are more closely aligned with the precise needs and interests of diverse research communities. Such capability is poised to contribute substantially to the broader endeavor of tailoring scientific knowledge in a rapidly evolving academic landscape.

The final prompt presented in this research demonstrated the LLM's capability to summarize key information and translate it into various foreign languages. Significantly, the translations into the personas' native languages (Polish for Persona A and Spanish for Persona B) were inferred by the model despite their absence in the explicit persona descriptions, showcasing the method's capacity for contextual inference.

The first example, *Bibliometric Overview of ChatGPT: New Perspectives in Social Sciences*, was chosen on the basis that it offered a dual-layered insight into both the bibliometric landscape of AI in social sciences and the ethical dimensions of digital transformation. It was observed that the generated key points were precisely aligned with the research interests of Persona A—who was engaged in digital humanities and open science—while also addressing the technical aspects pertinent to Persona B's focus on research trends and citation metrics. In this instance, the ability of the system to translate the academic nuances into Polish and Spanish was found to be particularly compelling, as it illustrated the successful adaptation of scientific language to culturally relevant communicative forms.

The second example, *Reducing the Matthew Effect on Journal Citations through an Inclusive Indexing Logic: The Brazilian Spell (Scientific Periodicals Electronic Library) Experience*, was selected because it effectively conveyed a nuanced critique of prevailing citation biases and the implications of inclusive indexing practices. It was noted that the personalized summaries managed to articulate the ethical and methodological dimensions of the study in a manner that resonated with both personas. For Persona A, the emphasis was placed on the benefits of alternative metrics and open access paradigms in enhancing scholarly transparency, while for Persona B, practical insights into citation metrics and the operational aspects of journal indexing were foregrounded. This dual-contextualization served to confirm that the generative approach is capable of addressing multifaceted academic issues by generating outputs that are simultaneously precise and adaptable.

The third example, *Mining and Mineral Processing Journals in the WoS and Their Rankings When Merging SCIE<sub>x</sub> and ESCI Databases—Case Study Based on the JCR 2022 Data*, was selected for its capacity to capture the intricate dynamics associated with evolving journal ranking systems. In this case, the personalized key points were found to be effective in highlighting the technical challenges and changes induced by database mergers—a subject that was directly relevant to the industrial and engineering concerns of Persona B. At the same time, the summaries maintained an emphasis on transparency and the broader implications for scholarly communication, which were issues of considerable interest to Persona A. The coherent delivery of these dual perspectives provided further evidence of the method's versatility and robustness.

The fourth example, *Tracing the Evolution of Reviews and Research Articles in the Biomedical Literature: A Multi-Dimensional Analysis of Abstracts*, was incorporated to demonstrate the method's proficiency in addressing longitudinal research trends. In this instance, the study's focus on the evolution of narrative structures and linguistic standardization over a span of three decades was distilled into key points that were both comprehensive and reflective of the specific informational needs of the target audiences. The generated summaries were observed to be not only faithful to the original analytical outcomes but also effectively rendered into the deduced native languages. This case thereby exemplified the method's capability to adapt complex, multidimensional analyses into succinct, persona-tailored outputs.

In summary, it was substantiated that the experimental framework is capable of delivering personalized, dual-language summaries that are attuned to the distinct scholarly and professional orientations of diverse academic audiences. The selected examples illustrate the method's capacity for contextual inference, linguistic adaptation, and domain-specific customization. It is anticipated that these findings will encourage further refinement and expansion of generative AI techniques in the realm of scientific communication, ultimately contributing to a more inclusive and accessible dissemination of academic knowledge.

The research presented herein is not without limitations, which are primarily inherent to newly proposed methodologies leveraging cutting-edge advancements in science and technology.

Firstly, it must be acknowledged that the reported findings are preliminary, with the promising initial results currently supported by the subjective analysis and evaluation of the author. Consequently, readers are encouraged to independently assess the extent to which these findings provide a foundation for future research endeavors. While the central focus of this paper lies in the clear exposition of the proposed method and the detailed presentation of results, exemplified by the inclusion of full LLM-generated texts, this approach necessitated a restriction on the number of scholarly works analyzed, representing a second limitation.

Furthermore, the scientific publications constituting the research data for this study were drawn from a single, albeit highly interdisciplinary, scientific domain. Future investigations should aim to validate the effectiveness of the proposed methodology across a broader spectrum of scientific disciplines, including those within STEM. Assessing the efficacy of this method, which fundamentally aligns with natural language processing techniques, presents a notable challenge for quantitative evaluations. Traditional text similarity metrics such as ROUGE and BLEU [Graham \(2015\)](#) may not prove particularly efficacious in this context. However, the technology underpinning the method itself, namely Large Language Models, may offer a solution. Specifically, embedding models could be employed to compute semantic vectors for individual personas, representing their interests, and for the personalized content generated by the LLM. Subsequently, the semantic distance between these vectors could be calculated for each persona. This approach would facilitate larger-scale studies and enable the automation of quality assessments for the generated content. Finally, it is pertinent to note that this study utilized state-of-the-art technology. Future research employing smaller, open-source language models could provide valuable insights into the feasibility of developing scientific content recommendation systems based on locally deployable and more cost-effective models, potentially offering enhanced privacy for processed information.

## 6. Conclusions

It can be concluded that the application of a Large Language Model for tailoring academic reading experiences was demonstrated to be effective in aligning scholarly content with the diverse interests of targeted personas. The experimental results showed that the proposed approach is capable of accentuating relevant aspects of academic articles—ranging from bibliometric analyses and ethical considerations to technical indexing practices—thereby enhancing both the accessibility and the contextual relevance of the scientific literature.

Furthermore, the ability of generative AI to personalize academic content holds significant potential for fostering and advancing interdisciplinary research. By tailoring summaries and key takeaways to the specific background and expertise of researchers from different fields, this method can help bridge the knowledge gaps that often hinders collaboration across disciplines. Researchers can more readily grasp the core concepts and relevance of work outside their primary domain, facilitating the cross-pollination of ideas and methodologies. This enhanced understanding can lead to the identification of novel connections between seemingly disparate fields, potentially sparking innovative research directions and solutions to complex, multifaceted problems that require interdisciplinary approaches. The ability to dynamically adapt scholarly content could, therefore, lower the barrier to entry for researchers seeking to explore the literature outside their immediate specialization, ultimately contributing to a more interconnected and collaborative scientific landscape.

For instance, consider a researcher in digital humanities interested in the environmental impact of technology. Using the proposed method, they could engage with a paper focused on the mining and raw materials industry. The AI could tailor the summary to highlight aspects related to resource depletion, waste management, and sustainable practices, making the technical details more accessible and relevant to their humanities perspective. Conversely, a mining engineer could use the same method to understand a paper from the field of open science that discusses data sharing and accessibility. The AI could emphasize the practical implications of open data principles for the mining industry, such as improved data analysis and collaboration. Another example could involve a scholar in bibliometrics using the method to understand a paper on ethical considerations in AI from a philosoph-

ical perspective. The AI could highlight the core ethical arguments and their potential relevance to the development and deployment of bibliometric indicators. These examples illustrate how the proposed method can act as a translator and contextualizer, enabling researchers from diverse disciplines to more effectively engage with and learn from each other's work, ultimately fostering a more integrated and dynamic research environment.

Despite these promising findings, it must be acknowledged that the underlying LLM technology remains susceptible to hallucinations Huang et al. (2025) and biases Dai et al. (2024) that originate from the training datasets. It is, therefore, recommended that, in any practical implementation, a mechanism for human feedback be incorporated into the monitoring process. Even minimal feedback tools, such as like/dislike functionalities, are deemed essential to ensure that the generated outputs are critically evaluated and continuously improved.

Furthermore, future research is suggested to focus on the refinement of personalization algorithms, the integration of advanced bias detection and mitigation strategies, and the exploration of more comprehensive human-in-the-loop feedback mechanisms. These avenues are anticipated to further enhance the reliability and applicability of generative AI in the domain of scientific communication, ultimately contributing to a more inclusive and effective dissemination of academic knowledge.

To further advance the personalization and adaptation of scientific article information, several promising research directions can be identified. One key area is the incorporation of full-text analysis into the personalization framework. Moving beyond abstracts and selected segments, integrating the complete content of scientific articles could enable a more comprehensive extraction of nuanced key points and facilitate deeper semantic understanding, ultimately leading to richer, more tailored summaries.

Another important direction is the inclusion of bibliographic references within the personalized output. References and citation lists not only provide insights into the intellectual context and impact of a work but also offer a valuable resource for mapping scholarly networks. Future studies could investigate methods to integrate citation network analysis with content personalization, thereby allowing readers to better navigate the academic discourse and identify related works of interest.

Additionally, the development of advanced multi-modal models that synergistically combine full-text processing, bibliometric data, and contextual metadata should be pursued. Such models could harness the interplay between textual content and bibliographic structures to generate more refined, context-aware academic recommendations and summaries.

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