AI-POWERED CONTENT CREATION IN MARKETING

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Abstract

AI-powered content creation is reshaping businesses' content production processes. This advanced technology facilitates content marketing activities, enabling the rapid and effective production of content such as text writing, visual design, and social media posts. This study aims to examine publications on AI-powered content creation using bibliometric analysis methods. This analysis, conducted using R Studio and the Bibliometrix package, involved reviewing the titles, keywords, and abstracts of publications in the Web of Science (WoS) database, employing search terms such as "content," "creation or generation," "marketing or market or consumer," and "AI or artificial intelligence." This bibliometric analysis aims to identify research trends, collaboration networks, and critical information sources in AI-powered content creation. The study encompasses 78 publications published between 2018 and 2024. Key findings indicate a rapid increase in interest in AI-powered content creation, particularly with publications in 2023 and 2024. Thematic analyses identified vital themes such as "social media," "artificial intelligence," and "online content," reflecting the central role of AI in social media and digital content production. Emerging themes like "consumer behavior" and "sharing economy" not only highlight potential areas for future research but also inspire and motivate further exploration in these directions. These emerging themes open up new avenues for research and innovation in the field. Topics such as "decision making," "technology," and "customer engagement" form the foundational pillars of the field. The study also emphasizes the presence of a robust global network, marked by intense international collaboration among the US, China, and leading European countries. Key sources such as IEEE Access, Journal of Business Research, and Sustainability are essential journals contributing to developing AI-powered content creation. This study theoretically maps the conceptual structure of the field and provides guiding insights for marketing strategists, content creators, and organizations seeking to integrate AI into content production. Future research directions include expanding multilingual and sector-specific studies, addressing ethical issues, and exploring the integration of AI with other emerging technologies, thereby aiming to deepen the knowledge base in the field.

Keywords: AI content creation, bibliometric analysis, content marketing, AI-powered content creation

INTRODUCTION

In recent years, artificial intelligence (AI) has begun to play a significant role in transforming marketing strategies. Innovations and automation provided by AI in various fields are also fundamentally changing content creation processes. AI-powered content creation holds great potential in the marketing world, enabling rapid and effective content production processes and facilitating the development of personalized and user-focused content (Hoffman & Budree, 2024). This allows brands to reach consumers more quickly, effectively, and cost-efficiently, capturing their attention, ensuring customer loyalty, and increasing satisfaction (Burlacu, 2023; Gogula, 2024).

Content marketing is essential to digital marketing strategies, aiming to establish a meaningful connection with the target audience by providing value (Salonen et al., 2024). This strategy includes various content types such as blog posts, articles, social media posts, videos, infographics, and e-books. However, increasing speed and quality in content production has become a crucial goal for brands today. In this context, AI technologies emerge as ideal tools to enhance efficiency in content creation processes. Through AI algorithms, brands can analyze user data to offer personalized content and improve the customer experience (Bhalla, Kaur & Zafar, 2024).

AI-powered content creation offers numerous advantages in marketing. These include rapid content production, cost savings, data-driven strategic decisions, and more consistent and higher-quality content creation, all contributing to the growing popularity of AI-assisted content creation (Gogula, 2024; Kumar et al., 2024). AI also plays an active role in social media management, providing brand benefits by enabling trend tracking, suggesting content, and producing content in multiple languages (Angelen & Siddik, 2023).

AI-powered content creation is rapidly emerging as a transformative technology in digital marketing and media industries. Its advantages, such as speed, efficiency, personalization, and cost savings, enable brands to engage more effectively with their target audiences (Nasser El Erafy, 2023). However, despite the rapid developments in this field, academic knowledge about the scope, impact, and limitations of AI-powered content creation still needs to be improved. Comprehensive analyses could be more comprehensive on how these technologies are integrated into marketing strategies, which content types are most effective, how efficiency is improved, and how they transform user experiences. This study addresses these gaps by profoundly examining the existing academic knowledge on AI-powered content creation through a bibliometric analysis, highlighting key trends and identifying future research opportunities. The goal is to provide a comprehensive resource for researchers in the field and to enhance understanding of the role of AI-powered content creation technologies in marketing.

Bibliometric analyses provide an opportunity to examine the development process of literature in a specific field, identify core themes, influential researchers, international collaborations, and widely referenced sources (Donthu et al., 2021), and guide future research directions. Such analyses are crucial for understanding the structure of a research field, identifying new trends, and guiding future research directions. Therefore, this study aims to evaluate the current state and development trends in the literature on AI-powered content creation by examining academic publications in this field.

The study seeks to answer the following research questions:

RQ1: How has the literature on AI-powered content creation evolved over time?

RQ2: What are the current research trends in AI-powered content creation?

RQ3: Who are AI-powered content creation's most contributing researchers, institutions, and countries?

RQ4: What are the citation relationships and commonly referenced sources among publications on AI-powered content creation?

RQ5: What are the under-researched topics and potential opportunities in AI-powered content creation?

This article is organized as follows: Section 2 explains the key concepts, research areas, relevant terms, and theoretical development related to AI-powered content creation. Section 3 details the bibliometric analysis methodology and data collection process used in this study. Section 4 presents the results of the analysis that address the research questions. Section 5 discusses the findings and provides suggestions for future research.

LITERATURE

AI-powered content creation is a process where AI technologies are utilized to produce or enhance digital content types such as text, visuals, videos, and audio (Vayadande et al., 2024). This type of content creation is widely used across multiple sectors, including marketing, education, media, healthcare, and customer service. Integrating AI algorithms into the content creation process accelerates production and improves content quality, enabling the delivery of personalized, consistent, and strategic content.

The AI-powered content creation process is made possible by combining various fields such as machine learning, natural language processing, deep learning, and computer vision (Reddy & Reddy, 2024). These technologies facilitate content creation and management tailored to users' needs and target audiences.

Core Components of AI-powered Content Creation

Natural Language Processing (NLP)

NLP is one of the core components of AI-powered content creation. It enables AI to understand, process, and generate human language. This technology allows for the automatic generation of text-based content through language models. NLP helps AI produce content on specific topics or styles (Vuong & Mai, 2023). For example, blog posts, social media posts, or email texts can be created for digital marketing campaigns.

Machine Learning

Machine learning enables AI to analyze user behaviors and content consumption habits. Through these analyses, content can be tailored specifically for each user (Martín et al., 2021). For instance, an e-commerce platform can

use machine learning algorithms to create product recommendations and content based on the user's interests. By gathering and analyzing user data, machine learning algorithms provide suggestions for more effective and targeted content based on users' interests, demographics, and consumption habits.

Deep Learning

Deep learning is a more complex and advanced version of AI-powered content creation. Deep learning models work with larger datasets, analyzing content in more detail and producing content that better meets users' needs. Deep learning algorithms can be used in visual content creation or analysis, voice response systems, or automatic video editing (Rashi et al., 2024). For example, a video ad campaign for a brand can be created automatically through deep learning.

2Computer Vision

Computer vision allows AI to understand and process visual data (photos, videos, graphics). This technology analyzes and creates visual content (Ettalibi, Elouadi, & Mansour, 2024). For example, images or infographics for a social media campaign can be created automatically. Computer vision is also employed in processes such as analyzing existing content, selecting appropriate visuals, and adapting visuals to users' interests.

AI-powered Content Creation Process

Data Collection and Analysis

The AI-powered content creation process begins with collecting and analyzing user data. This data may include demographic information, content consumption habits, social media interactions, and personal interests (Srivastava, 2024). Data analysis helps determine the most suitable content type, style, and format for the user, forming the basis for personalized content creation.

Content Creation and Production

After analyzing the collected data, AI algorithms proceed to the content creation phase. In this stage, personalized content is produced using NLP and machine learning techniques (Wang et al., 2023). For instance, a blog post for a fashion brand can be created in line with the target audience's interests and trends. For visual content, computer vision and deep learning techniques process visual data to create new images or videos.

Content Editing and Optimization

In AI-powered content creation, correcting language and style errors after content generation can also be automated (Abinaya & Vadivu, 2024). AI identifies and corrects spelling mistakes and non-standard language use, enhancing content quality. AI can also optimize content for SEO (search engine optimization). By performing keyword analysis, content is made more visible in search engines.

Distribution and Publishing

AI-powered content creation ensures that content reaches the right audience on the right platform at the right time. For digital channels such as social media and email marketing, content timing can be optimized by AI (Gao et al., 2023). For example, social media content can be shared automatically when users are most active, resulting in higher engagement rates.

Advantages of AI-powered Content Creation

Speed and Efficiency

AI accelerates content production, making it more efficient (Ninduwezuor-Ehiobu et al., 2023). AI can complete content production processes that take days manually in minutes.

Personalization

AI can offer content tailored to users. Creating personalized content based on users' interests, needs, and behaviors increases customer satisfaction and fosters stronger customer loyalty (Vallabhaneni et al., 2024).

Consistency and Quality

AI-powered content creation minimizes language errors and generates content consistent with a specific tone or brand voice, allowing the brand to communicate consistently with its target audience (Izadi & Forouzanfar, 2024).

Cost Savings

Automated content production reduces content creation costs. Marketing teams can focus on strategic tasks and use resources more efficiently (Burlacu, 2023).

Data-Driven Decisions

AI analyzes user data to provide strategic insights to marketing teams. These analyses allow more informed marketing decisions by offering insights into users' interests, trends, and content interactions (Lopez, 2023).

Effectiveness on Social Media and Digital Platforms

AI can provide content suggestions for social media platforms, analyze trends, and ensure that content reaches a broader audience (Sadiku et al., 2021).

2.4. Applications of AI-powered Content Creation

Marketing and Advertising

Brands use AI-powered content creation to create personalized advertising campaigns for their target audience (Kumar et al., 2024). AI produces brand-specific content by analyzing users' preferences.

Customer Service and Support

AI can generate automated responses to customer inquiries and create knowledge bases or guides, making customer service teams more efficient (Abouelyazid, 2022).

Education and E-Learning

E-learning platforms leverage AI to produce learning content. Content tailored to students' learning styles can be created to provide personalized learning experiences (Gligorea, 2023).

Media and Journalism

News sites and media organizations use AI to produce news content quickly and efficiently, particularly for data-driven news (De-Lima-Santos & Ceron, 2021). AI-powered content creation enables fast and automatic reporting, such as AI applications that analyze and report market developments in financial news.

E-Commerce and Retail

E-commerce platforms use AI to automatically create content types such as product descriptions, customer reviews, and recommendations (Krishnan & Mariappan, 2024). Personalized recommendations for each customer enhance the shopping experience, and dynamic content production makes promoting new products more effective.

Healthcare Sector

In healthcare, AI-powered content creation is used for patient education materials, health guides, and treatment recommendations. AI algorithms analyze patient data to provide personalized health information, offering significant advantages in digital health applications and patient education (Neelima et al., 2024).

AI-powered Content Creation Technologies

GPT (Generative Pre-trained Transformer) and Similar Language Models

Language models like GPT, developed by OpenAI, are widely used in text-based content creation. Trained on large datasets, these models can deliver content in natural language, enabling the generation of diverse content types, from complex articles to social media posts (Yenduri et al., 2024).

DALL-E, Midjourney, Stable Diffusion, and Visual Creation Models

AI-powered content creation is not limited to text. Visual content production uses models such as DALL-E, Midjourney, and Stable Diffusion, which can generate artistic and photographic content to visually represent specific topics or concepts (Han & Cai, 2023).

Voice Content Production and Voice Assistants

AI is also used in voice content production. Content like podcasts or audiobooks can be automatically generated through voice response systems, voice assistants, and text-to-speech technology (Deshmukh et al., 2024).

Recommendation Engines

Recommendation engines are frequently used in AI-powered content creation processes (Sorbán, 2021). These systems analyze users' content preferences and suggest content that may interest them.

Text Mining and Sentiment Analysis

Text mining and sentiment analysis help analyze users' reactions to content (Taherdoost & Madanchian, 2023). These analyses are critical in understanding how users feel about content, particularly in social media management.

Challenges of AI-powered Content Creation

Ethical Issues and Data Privacy

The intensive use of user data in AI-powered content creation raises data privacy and ethical concerns (Nassar & Kamal, 2021). Protecting users' data and preventing misuse requires compliance with specific regulations.

Control Over Content Quality

AI-generated content may only sometimes meet the expected quality. Some content may be inconsistent, inaccurate, or misleading (Tuomi, 2023). Therefore, AI-generated content should be evaluated under human supervision.

Limitations in Creativity and Originality

While AI excels at producing data-driven content, it is limited in creativity and originality (Anantrasirichai & Bull, 2022). Generating original ideas and innovative concepts requires human intelligence, as AI cannot fully replicate creativity.

Risk of Misleading or Fake Content

AI-powered content creation technologies can quickly produce misleading or fake content. Deepfake technology and fake news highlight the risk of misuse, potentially undermining trust (Yu et al., 2024).

Complex Technology and Cost

AI-powered content creation technologies are often costly and complex, posing challenges for small and medium-sized businesses (Al Balushi et al., 2024). Implementing AI requires expertise in data science and software development.

AI-powered content creation is an innovation revolutionizing marketing and digital content management with technologies like NLP, machine learning, deep learning, and computer vision; content creation processes are accelerated, costs are reduced, and more personalized content can be produced. However, challenges such as data privacy, ethical issues, content quality, and creative limitations must be carefully addressed.

METHODOLOGY

This study used bibliometric analysis to comprehensively examine the academic literature on AI-powered content creation. Bibliometric analysis is a method used to outline the scientific profile of a particular research area by examining the development process, main trends, core sources, and collaboration networks within that field. The study analyzed data to identify key themes, influential researchers, leading institutions, and prominent countries in AI-powered content creation.

Data Collection

Data was collected from the Web of Science (WoS) database in October 2024. Specific keywords were used to analyze publications on AI-powered content creation comprehensively. Academic sources, such as articles, books, and conference papers published between 2018 and 2024, were included in the study based on search terms such as "content," AND "creation or generation," "marketing or market or consumer," AND "AI or artificial intelligence."

Data Processing

During the data processing stage, bibliometric data suitable for analysis were obtained, including information such as article titles, author names, institution details, abstracts, keywords, and journals in which they were published. The dataset was processed and analyzed using R Studio software and the Bibliometrix package.

Analysis Methods

Distribution of Publications Over Time:

The distribution of studies published on AI-powered content creation over time was analyzed to assess how research trends in this field have evolved.

Keyword Analysis:

Keywords used in the research were analyzed to identify the main themes in the field. A word cloud and thematic map were utilized to visualize the critical topics in AI-powered content creation.

Collaboration Analysis Between Countries and Institutions:

Collaboration relationships between countries and institutions working in AI-powered content creation were analyzed. This analysis aimed to reveal the global scope of the research and international collaboration networks.

Citation and Co-citation Analysis:

Citation data was examined to identify the most-cited publications and frequently referenced works. Co-citation analysis was used to determine fundamental relationships among studies and the most commonly referenced sources in the literature.

Author Productivity and Impact:

The number of publications, citations received, and collaborations of authors were examined to identify the most contributing authors in the field. Author productivity analysis highlighted the most influential authors and the significance of their contributions to the field.

Thematic Map and Factorial Analysis:

Key themes in AI-powered content creation and their levels of development were visualized using factorial analysis and a thematic map. This analysis aimed to identify core topics, emerging themes, and niche research areas...

FINDINGS

This section presents the findings derived from the bibliometric analysis of research in AI-powered content creation. The results are detailed under different headings, including basic study information, annual publication and citation counts, top contributing authors, influential sources, collaboration networks, and key themes.

General Data and Publication Profile

The analysis indicates a high annual growth rate of 61.13% in AI-powered content creation, demonstrating the rapidly increasing interest in this area. 78 documents were published across 69 different sources, involving contributions from 288 authors, highlighting a broad researcher base actively engaged in the field. Additionally, an international collaboration rate of 28.21% reflects the global interest in this area and underscores the importance of cross-border collaborations.

The average number of authors per document is 3.76, indicating that most studies are conducted collaboratively, while only 14 single-author publications suggest a tendency toward teamwork in research. Further data supporting the extensive knowledge base of this field include the use of 425 keywords and 6,441 references. The average of 24.83 citations per document indicates the published works' solid academic impact. With an average publication age of 1.46 years, most research focuses on relatively recent and contemporary topics. These findings reveal that AI-powered content creation is a rapidly growing research area marked by international collaboration and a significant academic influence (See Figure 1).

Figure 10: Main Information

4.2.

The number of studies on AI-powered content creation has significantly increased, especially in 2023 and 2024. While only two articles were published in 2018, this number rose to 6 in 2019, 4 in 2020, 8 in 2021, 9 in 2022, 14 in 2023, and 35 in 2024. Compared to previous years, the sharp increase in 2024 indicates the field's rapid development and growing interest (See Figure 2).

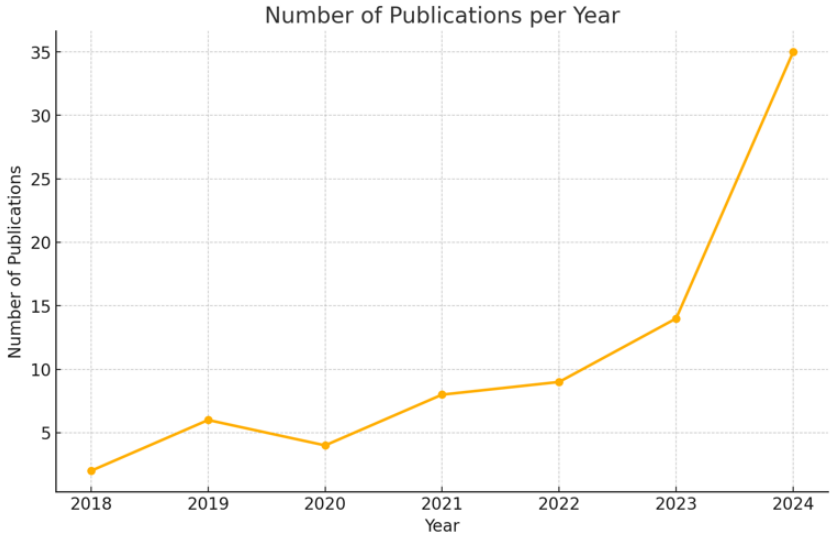

Figure 2: Number of Publications per Year

Three-Field Plot

The Three-Field Plot visualizes the connections between sources (CR), authors (AU), and keywords (DE) in AI-powered content creation. The plot highlights the broad interdisciplinary interest in this topic by bringing together famous reference works, prominent authors, and frequently used keywords.

Through CR, the plot emphasizes foundational works in the field. For instance, studies such as Kaplan AM (2010) and Dwivedi YK (2021) have become reference points, forming strong connections with other publications. Regarding AU, Krishen Anjala S stands out as the author with the most vital links, while other authors have more limited connections and are associated with diverse keywords.

With DE, "Artificial intelligence," "machine learning," and "AI" emerge as the most frequently used keywords, indicating that the research is heavily focused on AI and related technologies. Additionally, keywords like "blockchain," "social media," and "big data" reveal the study's connection to a broad range of technologies (See Figure 3)..

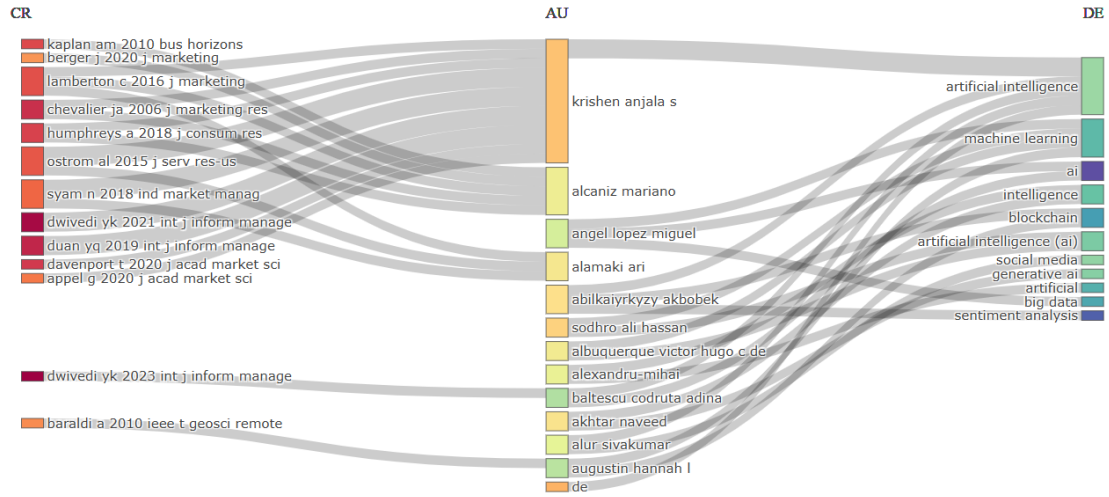

Figure 3: Three-Field Plot

Annual Average Citation Counts

Citation analysis reveals the average number of citations per article by year, providing insight into the field's impact and the academic value of studies published in different years. In 2018, the average citations per article were 20.50, with an annual average citation count of 2.93. In 2019, these numbers rose to 30.33 and 5.06, respectively; in 2020, to 56.00 and 11.20; in 2021, to 91.75 and 22.94; and in 2022, to 70.78 and 23.59. However, in 2023, the averages dropped to 4.79 and 2.40, and in 2024, to 1.49 for both measures. These results indicate that studies published in 2021 and 2022 have received significant academic attention and frequent citations, highlighting their substantial impact on the field (See Figure 4).

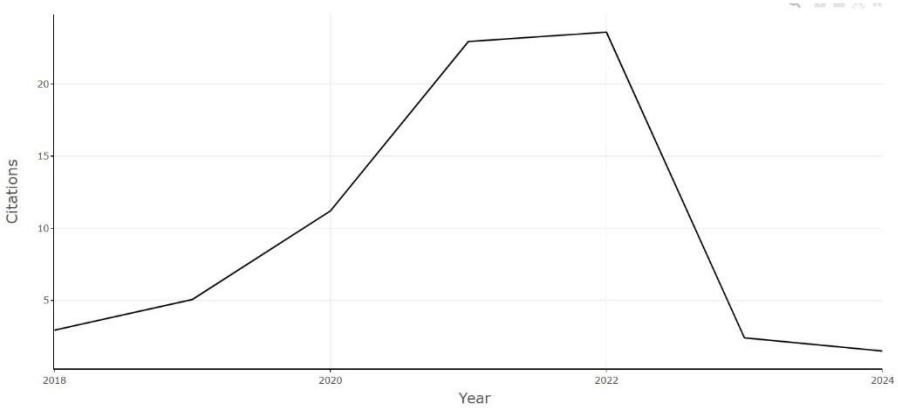

Figure 4: Annual Total Citation per Year

Top Publishing Sources

In distributing publications by source, IEEE Access stands out as the most frequently used journal. Five articles have been published in IEEE Access, while Entertainment Computing, Entrepreneurship and Sustainability Issues, Journal of Business Research, and Sustainability each contain two articles. This distribution of sources indicates that AI-powered content creation is a multidisciplinary field that attracts interest from various research communities (See Figure 5).

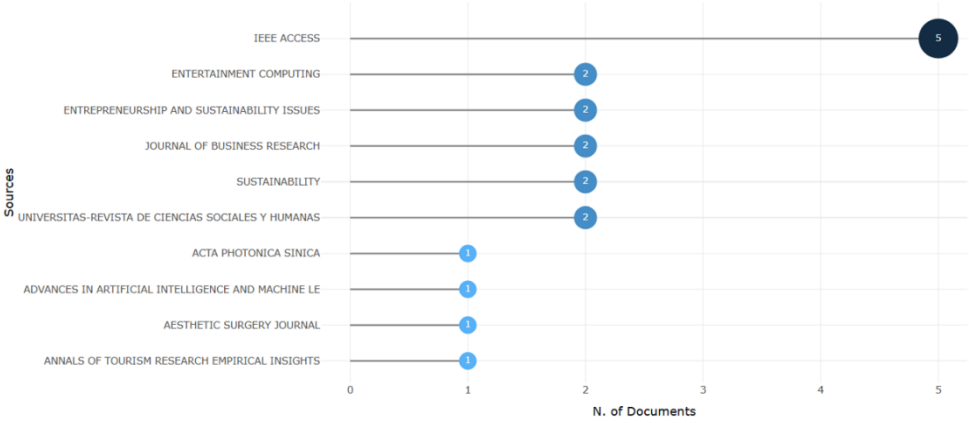

Figure 5: Most Relevant Sources

Bradford's Law

According to Bradford's Law, the core sources in AI-powered content creation have been identified. IEEE Access is the journal publishing the most articles and is recognized as one of the most essential sources in this field. Other core sources include journals such as Entertainment Computing, Entrepreneurship and Sustainability Issues, Journal of Business Research, and Sustainability. These journals provide a concentrated body of knowledge in AI-powered content creation and house a significant portion of the research in this domain (See Figure 6).

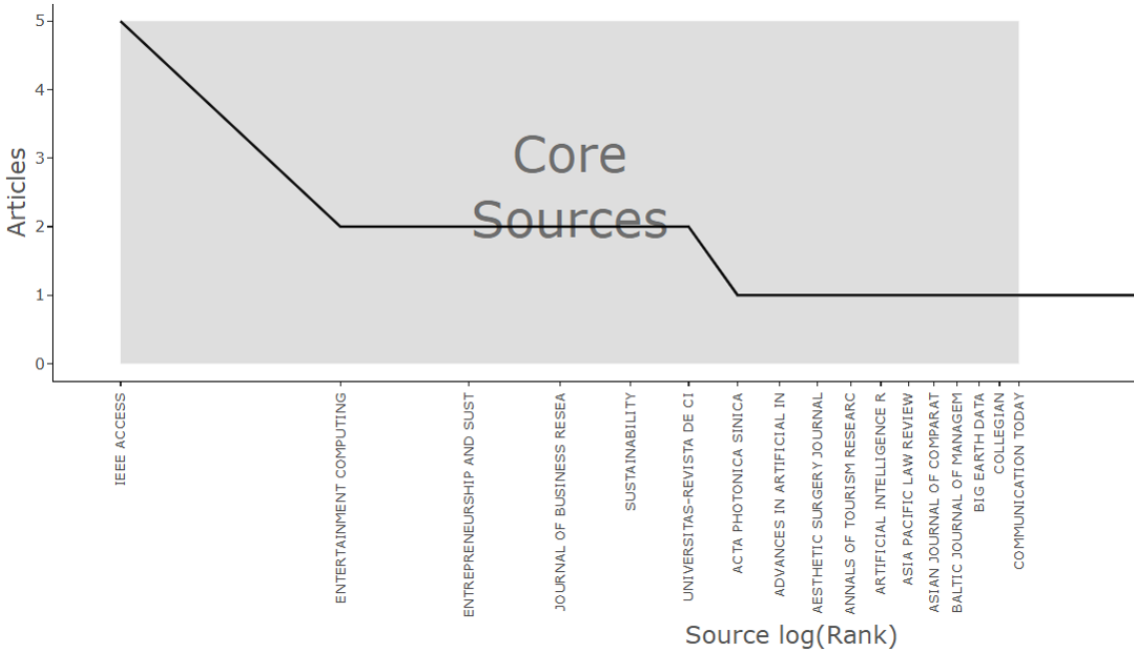

Figure 6: Bradford's Law

Most Cited Sources

Citation analysis reveals that the Journal of Business Research received 184 citations, the Journal of Retailing and Consumer Services received 86 citations, Industrial Marketing Management received 83, and Computers in Human Behavior received 68. These sources form the foundation of the AI-powered content creation literature and are highlighted as critical references that underpin research in this field (See Figure 7).

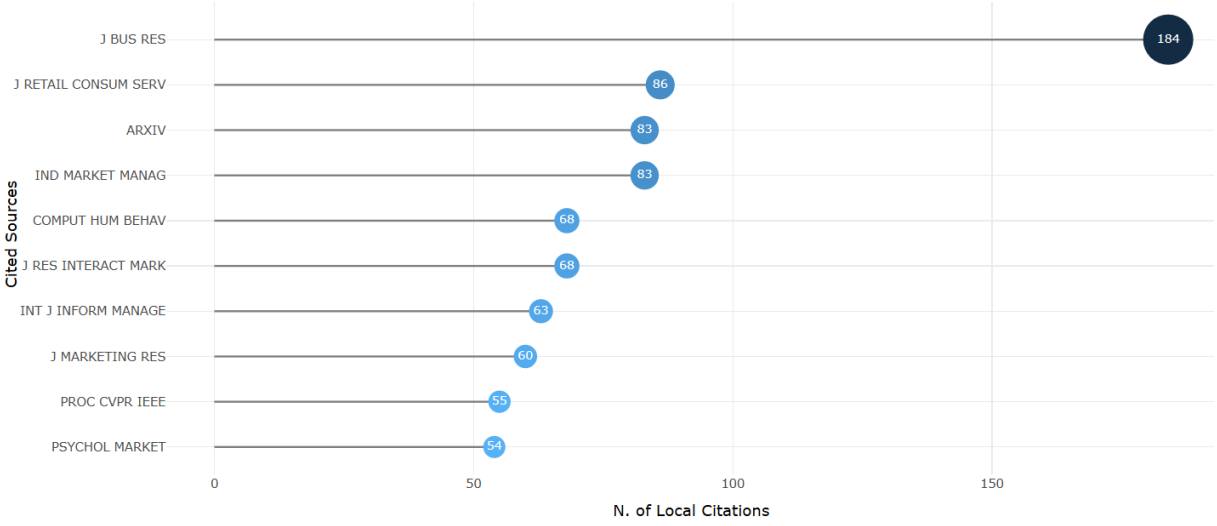

Figure 7: Most Cited Sources

Top Publishing Authors

The analysis highlights authors such as Diaz-Soloaga Paloma and Krishen Anjala S as leading contributors with the highest publication counts. Their high citation rates underscore their significant contributions and impact within the field.

Authors' Productivity and Citation Counts by Year

Based on annual productivity and citation data, Krishen Anjala S garnered substantial attention with a 2021 publication that received 616 citations, averaging 154 annually. Sodhro Ali Hassan has also made an impactful presence in the field, with works published in 2019 and 2021 that received 57 and 25 citations, respectively (See Figure 8).

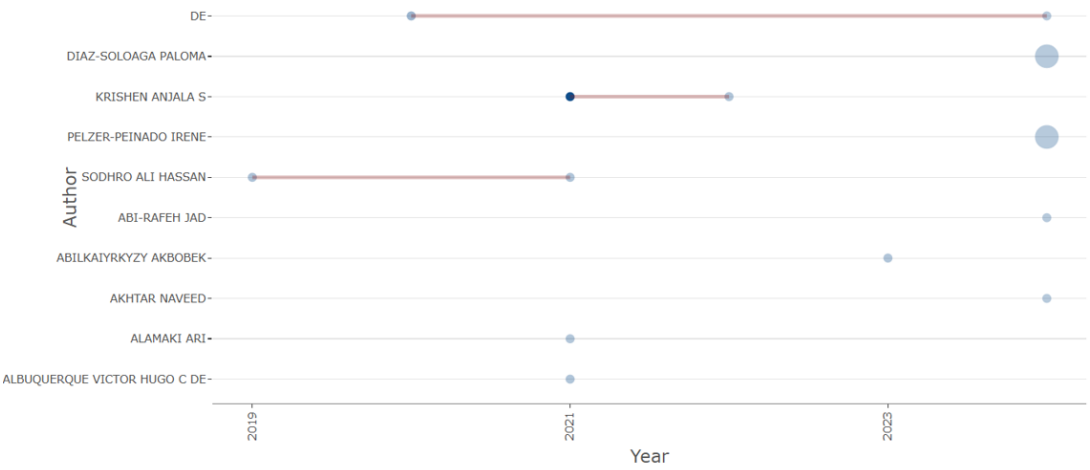

Figure 8: Author Production over Time

Top Collaborating Countries and Institutions

China, Spain, the USA, Canada, and India are the top countries for publications in this field. China is leading with a high publication count and a solid international collaboration rate (33.3%). The data indicates that China has the most publications in AI-powered content creation and actively engages in global partnerships. While Spain and the USA also have high publication counts, Canada shows a notable participation rate in collaborations, with 75% of its publications involving international co-authorship despite a relatively lower publication count. This suggests that countries like China and the USA prioritize national and international collaborations, while Canada's work primarily relies on global partnerships. Among institutions, McGill University, Shanghai International Studies University, and City University of Macau have the highest number of publications (See Figure 9).

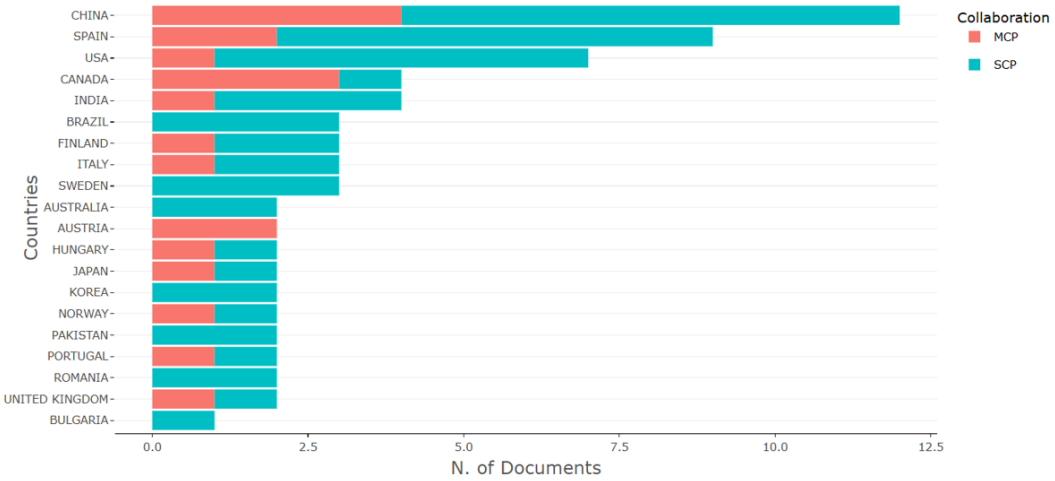

Figure 9: Country Production

Most Cited Articles

The analysis shows that specific articles have received significantly more citations, establishing a prominent place in the literature. Dwivedi YK (2021, International Journal of Information Management) stands out with 616 citations, followed by Park SM (2022, IEEE Access) with 556 citations, and Brunetti F (2020, TQM Journal) with 128 citations. These articles serve as foundational references in AI-powered content creation and are central to the literature (See Figure 10).

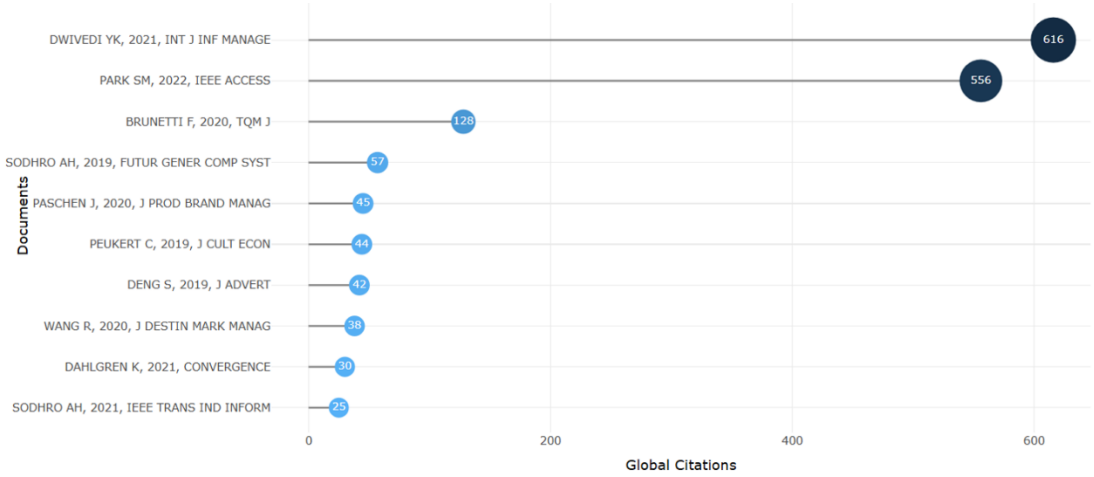

Figure 10: Most Global Cited Documents

Keyword and Thematic Map Analysis

The word cloud illustrates the most frequently used keywords in research on AI-powered content creation. "Social media" and "artificial intelligence" emerge as the most significant and central terms, highlighting the primary focus of this research area on social media and AI. Other prominent terms include "online," "co-creation," "user-generated content," and "word-of-mouth," which relate to digital marketing, user engagement, and content creation. Additionally, modern technological trends such as "big data," "technology," and "personalization" are noteworthy. These findings indicate that AI plays a significant role in personalization, content creation, and user engagement within social media and digital marketing contexts (See Figure 11).

Figure 11: Word Cloud

Thematic Map Analysis

The thematic map visualizes the development and centrality of research themes in AI-powered content creation. The map classifies themes into four main quadrants based on their relevance and development:

Motor Themes (Upper Right): Keywords such as "social media," "artificial intelligence," and "online" are located in this quadrant with high centrality and density. These represent core and actively researched topics in the field, serving as primary focal points for researchers.

Niche Themes (Upper Left): Terms like "technologies," "Facebook," "markets," and "sentiment analysis" display high development (density) but low centrality. This suggests these themes are concentrated within narrower areas, appealing to a more specialized research audience.

Emerging or Declining Themes (Lower Left): Themes such as "customers," "digitization," and "system" are positioned in this quadrant with low centrality and density. These topics represent either emerging areas with potential for future research or regions that may decline in importance.

Basic Themes (Lower Right): Keywords like "model," "technology," and "decision-making" appear here, exhibiting high centrality but lower density. While they form the foundational structure of the field, these themes may benefit from more in-depth research.

This analysis highlights that studies on social media and AI are the most central and well-developed topics, while themes like "customers" hold growth potential in the field (See Figure 12).

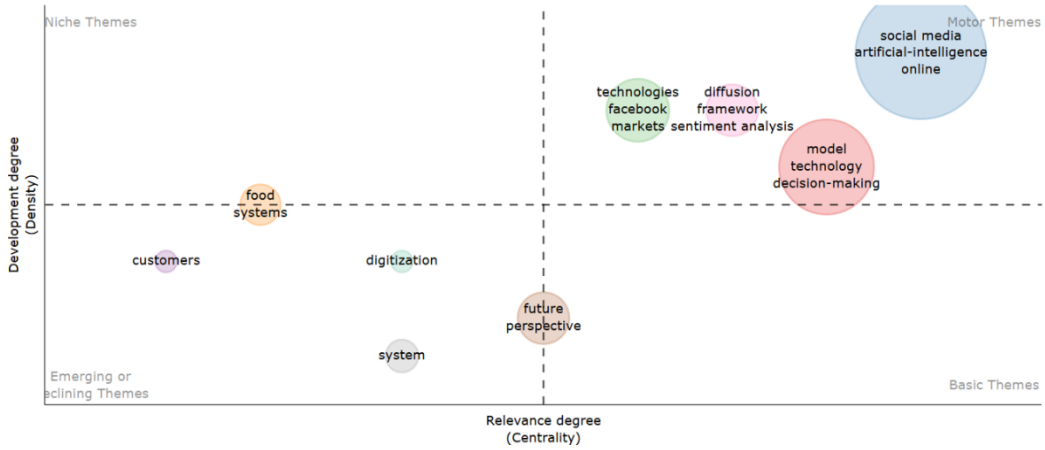

Figure 12: Tematic Map

Co-Citation and Collaboration Networks

The Co-Citation Network visualizes how frequently studies in AI-powered content creation are cited together with other research. Dark red areas on the graph indicate studies with the highest co-citations, while lighter areas show those with fewer co-citations. Studies like Dwivedi YK (2021) and Lamberton C (2016) are represented at the center with intense red, signifying their frequent co-citation and marking them as key reference points within the field. Similarly, Humphreys A (2018) and Berger J (2020) are also centrally located and highly cited, indicating their substantial influence in the field.

Studies such as Kamboj S (2018) and Kaplan AM (2010), though positioned further from the center, have received significant citations within niche areas, suggesting they have a strong impact on specialized topics. Studies located at the graph's periphery and in lighter shades, like Podsakoff PM (2003) and Anderson JC (1988), are cited less frequently than others or focus on more specific subtopics.

This Co-Citation Network highlights that certain studies have become foundational references in AI-powered content creation. The dense areas at the graph's center emphasize these works' crucial role in shaping the field and their acceptance as core resources by other researchers (See Figure 13).

Figure 13: CoCitation Network

Countries and Institutions Collaboration Networks

Collaborations between countries and institutions have concentrated primarily among China, the USA, and Europe. The map illustrates the collaboration network in the field of AI-powered content creation. The map's dark and light blue shades indicate the intensity of collaboration among countries, while the lines represent direct cooperative

connections between them. The USA, China, and several European countries (such as the UK, Germany, and France) are highlighted in dark blue, emerging as the nations with the most significant collaborative efforts.

These countries hold leading positions in AI-powered content creation and actively collaborate with others. Intensive Collaboration within Europe: The map reveals a robust collaboration network among numerous European countries. Notably, the UK, Germany, and France have established cooperative ties both within Europe and with nations like the USA and China, playing an influential role in this field.

Strong Connections between China and the USA: A clear collaboration line is evident between the USA and China, indicating that these two major powers are involved in knowledge sharing and joint ventures in the AI domain. Collaborations from Emerging Countries: Countries like Brazil, Australia, and India also play a significant role in the collaboration network. These nations contribute to global cooperation in AI-powered content creation by partnering with major economies.

This map demonstrates that the USA, China, and Europe are at the forefront of AI-powered content creation, establishing strong collaborations among themselves and other nations. Furthermore, it highlights the contributions of emerging countries to global knowledge sharing in this area (See Figure 14).

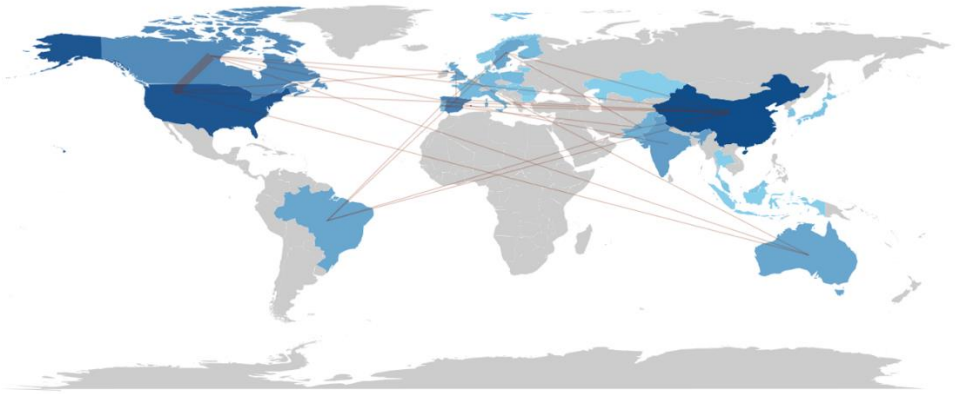

Figure 14: Collaboration Network

These findings indicate a strong academic interest in AI-powered content creation, which has rapidly increased over the years. The most cited sources, key themes, and influential researchers provide significant insights into the future development of this area and emerging research opportunities. In particular, social media, consumer engagement, and personalization constitute the main themes within AI-powered content creation.

Historiography

The historiography illustrates the citation relationships among prominent works in AI-powered content creation from a temporal perspective. Each point represents a study, while the lines between points indicate the citations made between these studies. The size of the points reflects the intensity of citation counts. The survey by Rosati E (2019) is the most significant point, highlighting its significance as an essential reference within the field. This indicates that Rosati's work is one of the foundational sources for the area and provides a robust basis for subsequent research.

More recent publications, such as those by Park SM (2022) and Yang X (2023), emerge as new and developing sources within the field. These studies continue to advance the literature by citing earlier works. The study by Vesala J (2023) cites Rosati's work, indicating its influence on his research. Additionally, studies from 2023, such as those by Abilkaiyrkyzy A and Yang X, show connections to each other and previous works. This suggests that new studies are being developed based on existing literature, demonstrating a temporal flow in research progression.

This historiography reveals how studies in AI-powered content creation are interconnected and how the body of knowledge has been constructed over time. Rosati's 2019 study has established a crucial foundation, and subsequent research has built upon this groundwork for further advancement (See Figure 15).

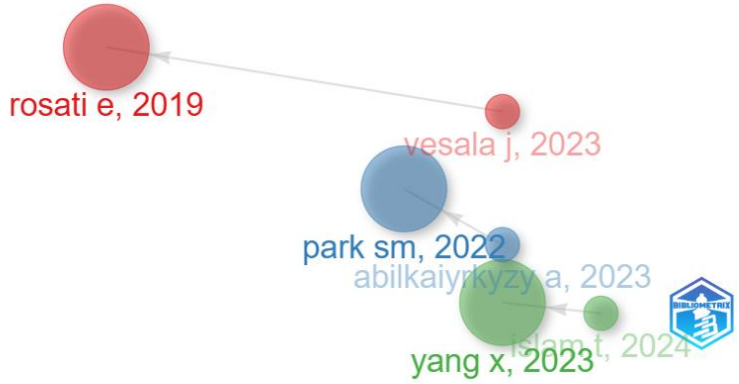

Figure 15: Historiography

CONCLUSION

This bibliometric analysis of AI-powered content creation comprehensively reveals research trends, collaboration networks, and critical information sources in the field. The findings examine various dimensions, including the field's rapid growth rate, key topics, influential researchers, international collaborations, and important reference works. Results indicate that the field is experiencing increasing interest, with research based on a broad international collaboration network.

This analysis guides researchers in understanding the main trends and collaboration opportunities in the field while offering critical insights into new research directions and thematic focal points. Notably, there has been a significant surge in publication numbers in 2023 and 2024, highlighting the growing importance of AI-supported content creation. This trend suggests that more research will be conducted and innovations in the field will accelerate.

Thematic and factorial analyses emphasize core themes such as social media, artificial intelligence, and online content. These themes indicate the widespread use of AI in social media and digital content production. Topics like decision-making, technology, customer engagement, and sentiment analysis form the field's foundational pillars, showcasing the broad application potential of these technologies. Emerging or less-developed niche topics, such as consumer behavior and the sharing economy, have been identified as areas for further research.

The analysis also highlights influential researchers and frequently cited works in the field. Works by Dwivedi YK (2021), Lamberton C (2016), and Humphreys A (2018) have become fundamental sources frequently referenced in AI-supported content creation. Similarly, authors such as Diaz-Soloaga Paloma and Krishen Anjala S play a central role in the field with extensive collaborations and high citation counts. These works and authors shape AI-supported content creation's fundamental theoretical framework and methodological approaches.

The map of international collaborations shows that the most robust networks in the field are formed by the USA, China, and several European countries, mainly the UK, Germany, and France. The intense collaboration between the USA and China indicates that these two countries are leading the development of the field. Countries like Brazil, India, and Australia contribute significantly by participating in international collaboration networks. In Europe, intra-continental collaborations are actively ongoing.

According to the analysis based on Bradford's Law, journals such as IEEE Access, Journal of Business Research, and Sustainability have been identified as important information sources in the field, frequently cited publications. These journals are significant sources that publish essential research in AI-supported content creation, contributing to the knowledge base in the field.

Theoretical Contributions

This bibliometric analysis of AI-powered content creation provides various theoretical contributions. Here are the theoretical contributions of this study:

Identification of Key Concepts and Themes: The study comprehensively identifies the key concepts, main themes, and research trends used in AI-powered content creation, offering significant contributions to the literature. It has been demonstrated that core themes such as social media, artificial intelligence, and online content are central to the field, thus presenting focal points for researchers.

Providing an Interdisciplinary Perspective: The analysis results reveal that AI-powered content creation is connected not only to technology but also to various disciplines such as business, marketing, social sciences, and sustainability. This multidisciplinary perspective provides a strong foundation for researchers to adopt interdisciplinary methods and theoretical approaches in their studies of AI-powered content creation.

Construction of Theoretical Frameworks and Structural Models: Examining the most cited works in AI-powered content creation reinforces this area's theoretical framework and methodological approaches. The high citation rates of works such as Dwivedi YK (2021) and Lamberton C (2016) indicate that these studies are significant references in the field and guide other research. This analysis contributes to developing the existing theoretical infrastructure in the field.

Conceptual Insights on Collaboration and Knowledge Sharing: The strong emphasis on collaboration networks between countries and international cooperation highlights the importance of cross-border knowledge sharing in AI-powered content creation. The strong collaborations between the USA, China, and European countries provide a theoretical framework for understanding how this field has developed internationally. In this context, the study demonstrates the contribution of conducting research within a global collaboration framework to the knowledge base.

Identification of Emerging and Potential Research Areas: The bibliometric analysis emphasizes emerging or niche areas such as consumer behavior and the sharing economy, proposing new theoretical directions and potential research topics for researchers. These themes indicate that such issues as the impact of AI on user behavior and the sharing economy may be further explored in the future. Thus, the study presents a roadmap for theoretical work in these areas.

Identification of Key Sources in the Literature: Analyses based on Bradford's Law have identified the most referenced foundational sources in AI-powered content creation, demonstrating how these sources contribute to the field's theoretical foundations. Studies published in journals like IEEE Access, Journal of Business Research, and Sustainability are defined as significant theoretical resources supporting the direction and knowledge base of research in this area.

Providing a Theoretical Framework for Citation Networks and Knowledge Dissemination: Co-citation and historiographic analyses help us theoretically understand knowledge dissemination and development processes over time in the field. For instance, works like Rosati E (2019) have frequently been cited as foundational references and stand out as studies that shape the knowledge base in the literature. These analyses illustrate how knowledge flows within the research field and which works are central to this information transfer.

These theoretical contributions lay a foundation for future studies in AI-powered content creation, facilitating a deeper understanding of critical trends, information sources, and interdisciplinary connections in the field.

Practical Implications

This This bibliometric analysis of AI-powered content creation provides various practical contributions to the field of research and application. Here are the useful contributions of this study:

Strengthening Marketing Strategies: By emphasizing the importance of social media, artificial intelligence, personalization, and user engagement, the research empowers marketing professionals to develop more effective strategies targeted at their audience. It provides practical insights on how AI-powered content creation can be effectively utilized in areas such as personalized content production, enhancing customer engagement, and making data-driven decisions, thereby boosting their confidence and capabilities.

Increasing Efficiency in Content Production: This analysis not only highlights the potential of AI tools to accelerate content production processes and reduce costs but also provides practical guidance on how to apply these insights. It equips content creators with the knowledge of how AI can enhance productivity in social media posts, blog writing, and customer interactions, making them feel more prepared and efficient in their tasks.

Enhancing International Collaboration Opportunities: The study emphasizes the strong collaborations between the USA, China, and European countries, demonstrating the importance of establishing global partnerships for researchers and practitioners. This emphasis fosters a sense of connection and belonging in the global community, facilitating strategic partnerships that promote international knowledge and technology sharing.

Guidance for Data-Driven Marketing Approaches: The research, particularly emphasizing data analytics, big data, and user behaviors, provides practical advice for practitioners developing data-driven marketing strategies. It offers insights into how AI can be effectively utilized in data analytics processes and how this technology can be integrated to improve customer experience.

Integration of New Technologies: The analysis shows that advanced technologies and methods such as blockchain, sentiment analysis, and co-creation are becoming increasingly crucial in AI-powered content creation. These findings provide a roadmap for companies and content creators looking to invest in these technologies and support the processes of technological integration in practice.

Improving Social Media Strategies: The emphasis on the role of social media and AI in content creation offers practical recommendations for social media managers and content strategists to develop strategies that enhance user engagement. For instance, valuable insights are provided on leveraging social media analytics to understand audience preferences, personalizing content with user data to increase relevance, and understanding social media trends using AI to stay ahead of the curve.

Application Opportunities for Emerging Markets: The study highlights the involvement of countries such as Brazil, India, and Australia in collaborative efforts in AI-powered content creation. This presents new opportunities for organizations operating in emerging markets to develop AI-powered content strategies and provides a guide for assessing the potential of global markets.

Expansion of the Content Creation Ecosystem: Demonstrating the connections between AI-powered content creation and various disciplines offers practical ideas for how AI applications can be disseminated across different sectors, such as business, education, and healthcare. This broad ecosystem allows content creators to utilize sector-specific AI solutions more effectively.

Recommendations for Future Studies Addressing Industry Needs: The emerging topics and niche areas identified in this study provide suggestions for improving existing practices for professionals working in AI-powered content creation. Practical research in areas such as consumer behavior and the sharing economy can enhance the field's tangible contributions to the business world.

These practical contributions enable businesses, content strategists, and AI professionals to conduct more efficient and targeted work in the AI-powered content creation process. They also assist in developing global collaboration by highlighting successful models, technological integration by providing a roadmap for adopting new technologies, and user-focused strategies by emphasizing the importance of personalization and engagement.

Limitations

The limitations of this study can be summarized as follows:

Database Limitations: The data used in this study was obtained solely from the Web of Science database. As a result, works that are included in other databases or not indexed may have yet to be included in the analysis. This

could limit the representation of the overall field in the analyzed studies and potentially overlook some significant research.

Language Limitation: The analysis includes only articles published in English. Research conducted in other languages has yet to be excluded from the evaluation, which may overlook the multilingual approaches, especially in AI-powered content creation.

Time Frame Limitations: The study analyzed publications from 2018 to 2024. Therefore, earlier but impactful works have yet to be included. This limitation may hinder the complete presentation of long-term research trends and provide incomplete information about the development process in the field.

Publication Type Scope: The analysis primarily covers specific publications, such as academic articles. Other sources, like books, technical reports, industry reports, and articles in professional journals, have yet to be included in the analysis. This may create gaps in evaluating the full scope of AI-powered content creation.

Citation-Based Bias: Bibliometric analyses are generally citation-based, emphasizing studies with a higher number of citations. This can result in focusing on more popular or mainstream topics while potentially neglecting innovative or niche studies.

Technological and Methodological Limitations: The analysis depends on the technological limitations of the bibliometric software used (e.g., Bibliometric) and the available tools. The analysis types offered by these software tools may limit the scope, preventing some advanced analyses or assessments from being conducted using different methodologies.

Although these limitations narrow the scope of the study to some extent, the findings still provide valuable insights into general trends and key sources related to AI-powered content creation. Future research can build upon these limitations to conduct more comprehensive analyses.

Future Research Directions

Future Future research directions proposed for the field of AI-powered content creation hold the potential to open up new knowledge areas and methodological approaches. This exciting prospect is based on the following suggested research directions:

Utilization of Broader Databases: Future research could significantly enhance the field by employing a variety of databases, such as Scopus and Google Scholar, in addition to Web of Science. This comprehensive approach to literature analysis is of great significance, as it allows for a more complete field mapping and the analysis of lesser-known or non-indexed studies.

Examination of Multilingual Publications: Including research published in languages other than English to study AI-powered content creation can provide insights into different cultural and regional perspectives. Such research could offer a broader view of multilingual approaches in the field.

Investigation of Sectoral Differences: AI-powered content creation is applied in various sectors, including marketing, healthcare, education, and media, in different ways. Future research could focus on these sectoral differences, providing an in-depth analysis of AI's specific applications and impacts in each sector.

Studies Focused on Ethical and Social Impacts: AI-powered content creation's ethical and social implications are of paramount importance and still need to be sufficiently addressed. Future research could focus on ethical concerns, data privacy, content manipulation, and workforce impacts, helping to fill significant knowledge gaps in the field's development and ensuring that AI-powered content creation is used responsibly and for the benefit of society.

In-Depth Research on Niche Themes: Emerging or niche areas identified in the bibliometric analysis, such as consumer behavior and sharing economy, present exciting opportunities for further research. Detailed studies on these topics can inspire new perspectives and offer new opportunities to investigate AI's social and economic impacts.

Increased Focus on Applied Studies: Conducting more applied research in AI-powered content creation can strengthen the ties between academia and the business world. This can provide insights into how theoretical findings can be applied in real-world scenarios, expanding knowledge in the field.

Establishment of a Dynamic Collaboration Network: Strong collaboration networks exist between the US, China, and European countries. Future research can examine the impact of these collaboration networks and the contributions of joint projects with other countries to collective knowledge. Additionally, it could explore how developing countries can be more integrated into this field and contribute to collaborations, potentially leading to a more diverse and inclusive research community and accelerating the pace of innovation in AI-powered content creation.

Integration of AI and Content Creation Technologies: The effects of integrating AI-powered content creation with other technologies such as blockchain, sentiment analysis, and big data analytics are important topics for future exploration. Investigating how these integration processes impact content creation can provide valuable directions for developing

These suggestions aim to create a comprehensive and innovative knowledge base on AI-powered content creation, offering new perspectives that can contribute to its advancement. Future research addressing these areas can enhance both theoretical and practical knowledge.

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