

Sustainable Development in Creative Industries: A Bibliometric Analysis

Mohamad Zein Saleh^{1*}, Edi Purwanto², Chajar Matari Fath Mala³, Cynthia Sari Dewi⁴
{zein.saleh@upj.ac.id¹, edi.purwanto@upj.ac.id², chajar.matari@upj.ac.id³}

Department of Management, Universitas Pembangunan Jaya, South Tangerang, Indonesia^{1,2,3,4}

Abstract. The intersection of sustainable development and creative industries represents a burgeoning field of research with significant potential for advancing global sustainability goals. This study aims to provide a comprehensive bibliometric analysis of this intersection to identify critical trends, thematic clusters, and research gaps. Utilizing data from the Scopus databases, the study employs co-occurrence of keywords analysis methods to uncover the thematic structure of the literature. The findings reveal four primary thematic clusters: Innovation and Entrepreneurship in Sustainable Development, Creative Ecosystems and Cultural Development, Economics and Social Impacts of Creative Industries, and Sustainability and SDGs in Cultural and Creative Industries. The results highlight a growing scholarly interest in integrating sustainability into creative sectors yet indicate that this research area is still in its early stages, with substantial room for further exploration. This study has significant implications for both researchers and practitioners. Researchers are encouraged to delve deeper into the interplay between creative industries and sustainability. At the same time, practitioners are urged to align their practices with sustainability principles to drive positive environmental and social outcomes. This study underscores the potential of the creative sector as a catalyst for sustainable development.

Keywords: Sustainable Development, Creative Industries, Bibliometric Analysis, Innovation, Sustainability.

1 Introduction

Sustainable development in the creative industries is a complex concept that intertwines local resources, cultural policies, and ecological considerations. The “territorial turn” in sustainable development highlights the significance of regional resources, relationships, and values. Cultural and creative industries (CCIs) are crucial for local development, as demonstrated in Valmiera County, where local municipalities either act as cultural operators or empower other sectors to lead [1]. However, the current economic-centric perspective on sustainability in cultural policies—focusing primarily on the potential for creative industries to drive economic growth—has become increasingly problematic given the ongoing environmental crises. This situation necessitates re-evaluating the relationship between culture

and nature, advocating for integrating ecological principles into the economy, society, and culture [2].

The COVID-19 pandemic has further underscored the need to rethink our interactions with the world, urging a shift towards more sustainable practices across all sectors, including the creative industries [3]. In China, the rapid expansion of Artist Villages has faced issues such as a lack of endogenous momentum and excessive government intervention, highlighting the need for a balanced, sustainable development model that integrates urbanization with the preservation of artistic communities [4]. Moreover, the concept of a “good life” in the context of global crises emphasizes the role of arts and culture in addressing socio-economic and environmental challenges. It also reveals the ecological costs and social inequalities inherent in the creative economy. This dual perspective points to the potential of the creative sector to drive a transformative shift from an economic growth-centered model to more sustainable practices [5]. Therefore, achieving sustainable development in the creative industries necessitates a holistic approach that addresses local dynamics, redefines cultural policies, and tackles environmental and social issues.

The creative industries, encompassing various sectors such as arts, media, and design, have emerged as a significant driver of economic growth and cultural development in recent decades. These industries contribute to the economy by generating employment and revenue and play a crucial role in fostering innovation and cultural expression. However, integrating sustainable development principles within the creative industries requires further exploration. As defined by the United Nations' Sustainable Development Goals (SDGs), sustainable development emphasizes the need for inclusive and environmentally sustainable economic growth that addresses social inequalities and ecological challenges.

Despite the growing recognition of the creative industries' potential to contribute to sustainable development, comprehensive research still needs to analyzing how these industries align with the SDGs. Previous studies have predominantly focused on the economic and cultural impacts of the creative industries, with limited attention given to their role in promoting sustainability. This research gap highlights the need for a more detailed investigation into how creative industries can integrate sustainable practices and contribute to broader sustainable development goals.

The aim of this research is to conduct a bibliometric analysis of scholarly publications related to the creative industries and sustainable development. This study seeks to identify key research themes, influential authors, and emerging trends within this interdisciplinary field by co-occurrence of keyword analysis methods. This analysis will offer insights into the current state of research, highlight significant knowledge gaps, and suggest future directions for integrating sustainability into the creative industries. The findings of this study are anticipated to provide valuable implications for policymakers, researchers, and industry practitioners who are keen on enhancing the sustainability of creative sector initiatives.

2 Methodology

This study utilizes bibliometric analysis to systematically review and evaluate the literature on the intersection of creative industries and sustainable development. Bibliometric analysis, a quantitative method for analyzing published research output, allows for identifying patterns, trends, and critical contributors within a specific field [6]. The methodology consists

of several key phases: data collection, data selection and cleaning, data analysis, and result interpretation.

The data for this bibliometric analysis was gathered from the Scopus databases, selected for their extensive coverage of high-quality academic publications [7]. A comprehensive search query was formulated using keywords such as “sustainable development” AND “creative industries.” To ensure the relevance and timeliness of the data, the search was restricted to peer-reviewed journal articles published between 2009 and July 2024.

Following data collection, the dataset was refined by removing duplicate records and irrelevant publications. Only articles directly related to the research focus were retained. The inclusion criteria required that articles addressed the creative industries and demonstrated a connection to sustainable development concepts.

The analysis employed co-occurrence of keywords to explore the relationships between terms and concepts within the literature. This method maps the thematic structure of the research field by examining how frequently specific terms appear together within the articles [8]. Co-occurrence analysis helps identify key research themes and emerging trends by highlighting usage patterns and their interconnections.

The results from the co-occurrence analysis were visualized using bibliometric software tools such as VOSviewer and Bibliometrix. These tools generate visual maps and networks that depict the relationships between research themes, influential authors, and significant publications. Interpreting these visualizations provided insights into major research areas, prominent contributors, and evolving trends within the intersection of creative industries and sustainable development.

3 Result

3.1. The Trend of Annual Publications on “Sustainable Development”

The trend of annual publications on “Sustainable Development,” as depicted in Figure 1 and summarized in the accompanying table, provides a comprehensive overview of the growing academic interest in this field over the past few decades. According to the Scopus database, the keyword “Sustainable Development” has been used in 41,258 publications, indicating a substantial body of research dedicated to this topic.

The data reveals a clear upward trend in the number of publications on sustainable development, reflecting increasing academic and societal attention to this critical issue. The growth can be divided into distinct phases. From 1974 to 1990, the initial phase showed very few publications, with only one publication recorded in 1974 and minimal activity until the late 1980s. This period marks the nascent stage of sustainable development as an academic and policy concern. From 1990 onwards, there is a noticeable, though still modest, increase in publications, corresponding with growing global awareness and dialogue around sustainable development, particularly following the 1992 Earth Summit in Rio de Janeiro.

Starting in 2006, the number of publications began to rise more rapidly. This acceleration phase can be attributed to mainstreaming sustainable development concepts and the increasing incorporation of sustainability principles into various sectors, driven by international agreements and the Millennium Development Goals (MDGs). The most striking increase occurs from 2016 onwards, with the number of publications surging significantly each year. This period aligns with adopting the Sustainable Development Goals (SDGs) in 2015, which

provided a comprehensive global framework for addressing sustainability challenges. The highest number of publications is recorded in 2023, with 5,404 articles, followed by a slight decline to 3,178 in 2024, which may reflect incomplete data for the year.

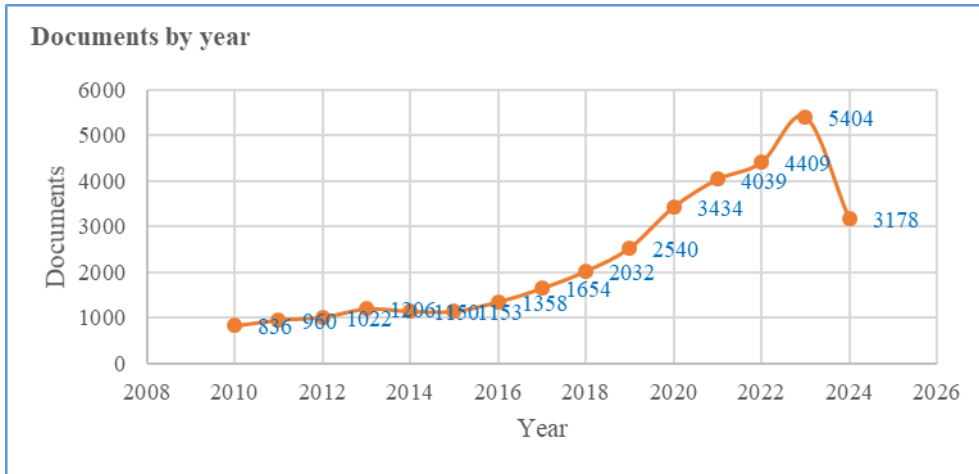


Fig. 1. The trend of annual publications on “Sustainable Development”
Source: Scopus Database

The upward trajectory in publications highlights several key points. The continuous growth indicates heightened awareness and increased funding for research in sustainable development, reflecting its priority on global agendas. The broad range of publications suggests sustainable development has become an interdisciplinary field, engaging researchers from diverse domains such as environmental science, economics, social sciences, and engineering. The substantial increase in recent years points to integrating sustainable development principles into policy-making and practice, influenced by global commitments like the SDGs. The rising number of publications also corresponds with the urgency to address global challenges such as climate change, resource depletion, and social inequalities, which require sustainable solutions.

The trend of annual publications on sustainable development demonstrates a robust and growing academic commitment to addressing sustainability issues. The significant increase in publications, especially post-2015, underscores the critical role of sustainable development in contemporary research and its relevance to global policy frameworks. This trend will likely continue as the world faces ongoing and emerging sustainability challenges, necessitating continuous research and innovation in this field.

3.2. The trend of annual publications on “Sustainable Development in Creative Industry”

The intersection of “Sustainable Development” and “Creative Industry” has garnered relatively little attention in academic research, as indicated by the limited number of publications recorded in the Scopus database. With only 21 publications, the research and publication activity on sustainable development within the creative industry remains sparse.

Figure 2, which illustrates the trend of annual publications on “Sustainable Development in the Creative Industry,” further underscores this point. The data reveals a modest and

inconsistent number of publications over the years. Notably, 2024 and 2022 each saw the highest number of publications, with four articles published each year. This is followed by 2021, with three publications, and 2023 and 2020, each with two publications. The years 2019, 2017, 2013, and 2009 each had only one publication.

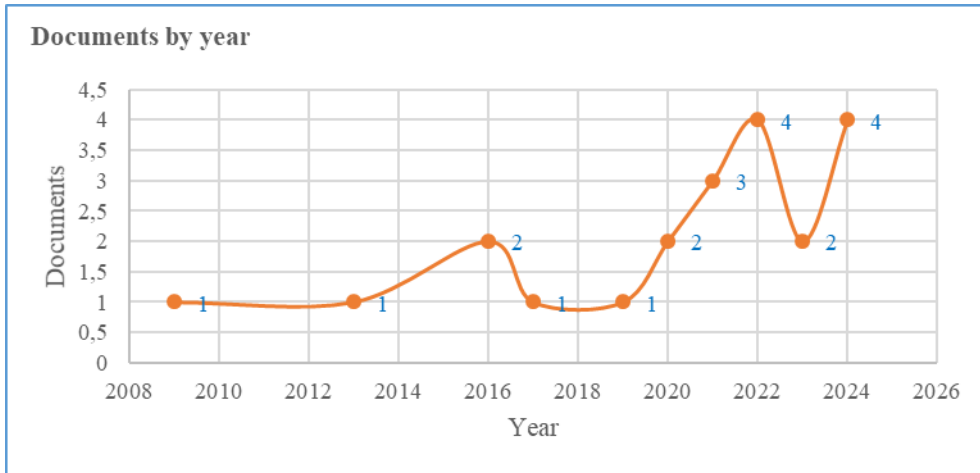


Fig. 2. The trend of annual publications on “Sustainable Development in Creative Industry”
Source: Scopus Database

This trend highlights the nascent stage of integrating sustainable development principles within the creative industry. Despite the critical role the creative industry can play in promoting sustainability through innovation and cultural influence, academic research exploring this intersection is still in its infancy. The sporadic nature of the publication data suggests that while there is some interest, it has yet to gain significant momentum or establish a robust research framework. However, the potential for innovation in the creative industry is vast, and this should excite us all about the future possibilities.

The relatively low number of publications indicates an opportunity for further exploration and research. Increasing academic focus on sustainable development in the creative industry could provide valuable insights into how creative practices can contribute to sustainability goals. It also highlights the need for more comprehensive studies and a stronger integration of sustainability principles within the creative sectors. This integration can serve as a catalyst for broader societal change towards sustainable development, inspiring and motivating us all to contribute to this important cause.

3.3. Top 10 publications on Sustainable Development with the highest citations in Scopus

Table 2 highlights the top 10 publications on Sustainable Development, ranked by citation count in the Scopus database. These publications not only significantly influence academic discourse but also guide policy interventions. The most-cited publication, by Cash et al. [9], with 2,495 citations, is a seminal paper that discusses the role of knowledge systems in supporting sustainable development. It emphasizes how information and decision-making processes can enhance sustainability efforts. The second most-cited work, by L. Liu et al. [10], with 2,282 citations, comprehensively analyzes child mortality rates and their implications for

the Sustainable Development Goals (SDGs), reflecting its critical role in addressing global health challenges and guiding policy interventions.

Elkington [11] ranks third with 2,250 citations. This influential paper introduces the concept of the Triple Bottom Line, which emphasizes the balance between economic, environmental, and social performance and has been pivotal in shaping corporate sustainability strategies. Bansal [12], with 1,798 citations, examines how corporations adapt and evolve their sustainability practices over time. This longitudinal study provides valuable insights into the dynamic nature of corporate sustainability and its evolution. Folke et al. [13] have received 1,792 citations. This work explores the concept of resilience in sustainable development, highlighting the importance of adaptive capacity in responding to environmental and societal changes.

Table 1. Top 10 publications on Sustainable Development with the highest citations in Scopus

No	Document	Author (Year)	Source	Citations	Ref.
1	Knowledge systems for sustainable development	Cash et al. (2003)	Proceedings of the National Academy of Sciences of the United States of America, 100(14), pp. 8086–8091	2,495	[9]
2	Global, regional, and national causes of under-5 mortality in 2000–15: an updated systematic analysis with implications for the Sustainable Development Goals	L. Liu et al. (2016)	The Lancet, 388(10063), pp. 3027–3035	2,282	[10]
3	Towards the Sustainable Corporation: Win-Win-Win Business Strategies for Sustainable Development	Elkington (1994)	California Management Review, 36(2), pp. 90–100	2,250	[11]
4	Evolving sustainably: A longitudinal study of corporate sustainable development	Bansal (2005)	Strategic Management Journal, 26(3), pp. 197–218	1,798	[12]
5	Resilience and sustainable development: Building adaptive capacity in a world of transformations	Folke et al. (2002)	Ambio, 31(5), pp. 437–440	1,792	[13]
6	Renewable energy and sustainable development: A crucial review	Dincer (2000)	Renewable & sustainable energy reviews, 4(2), pp. 157–175	1,768	[14]
7	Global challenges and strategies for control, conversion and utilization of CO ₂ for sustainable	Song (2006)	Catalysis Today, 115(1-4), pp. 2–32	1,586	[15]

	development involving energy, catalysis, adsorption and chemical processing				
8	Sustainable development: Mapping different approaches	Hopwood et al. (2005)	Sustainable Development, 13(1), pp. 38–52	1,366	[16]
9	Sustainable development: A critical review	Lélé (1991)	World Development, 19(6), pp. 607–621	1,212	[17]
10	Grassroots innovations for sustainable development: Towards a new research and policy agenda	Seyfang & Smith, (2007)	Environmental Politics, 16(4), pp. 584–60	1,190	[18]

Source: Scopus Analyze

The paper by Dincer [14] has 1,768 citations and offers a comprehensive review of renewable energy technologies and their role in sustainable development. This review is significant for its detailed analysis of renewable energy solutions and their impact on sustainability. Song [15] is cited 1,586 times. This publication addresses the critical issue of CO₂ management and provides strategies for its control and utilization, reflecting its importance in tackling climate change and supporting sustainable development. Hopwood, Mellor, and O'Brien [16] have 1,366 citations. This paper maps various approaches to sustainable development, offering a framework for understanding different perspectives and strategies in the field. The top-cited publications reflect sustainable development research's diverse and evolving nature, from Lélé's [17] foundational critique of sustainable development to Seyfang and Smith's [18] exploration of grassroots innovations. They encompass a range of topics, from knowledge systems and corporate strategies to energy solutions and grassroots innovations, illustrating the multifaceted approaches needed to address global sustainability challenges.

3.4. Top 10 publications on Sustainable Development in Creative Industry with the highest citations in Scopus

Table 2 highlights the top 10 publications on the intersection of "Sustainable Development" and "Creative Industries," ranked by citation count in the Scopus database. These publications represent significant contributions to the field, reflecting their impact on academic discourse and practical applications. Yang and Černevičiūtė [19] lead the list with their paper published in *Entrepreneurship and Sustainability Issues*. With 44 citations, this study explores the role of cultural industry clusters in promoting sustainable development in China, highlighting the synergy between artistic creativity and sustainability. Wu and Lin [20] follow with 17 citations for their work in the *Journal of Business Economics and Management*. Their integrated approach identifies critical elements that affect the sustainable development of cultural and creative industries, providing a comprehensive framework for understanding these dynamics.

Table 2. Top 10 publications on “Sustainable Development” AND “Creative Industry” with the highest citations in Scopus

No	Author (Year)	References	Citations
1	Yang & Černevičiūtė (2017)	[19]	44
2	Wu & Lin (2021)	[20]	17
3	Lee et al. (2022)	[21]	14
4	Kaymas (2020)	[22]	12
5	Klein et al. (2021)	[23]	9
6	Zemite et al. (2022)	[24]	8
7	Rudge (2021)	[25]	8
8	Absori et al. (2019)	[26]	8
9	Rahab et al. (2016)	[27]	4
10	Borre et al. (2023)	[28]	3

Source: Scopus Analyze

Lee et al. [21], in their paper published in *Sustainability (Switzerland)*, have 14 citations. Using Macao as a case study, they assess the sustainable development of cultural and creative industries in casino cities. This research underscores the unique sustainability challenges and opportunities in urban environments dominated by entertainment and tourism industries. Kaymas [22] contributes 12 citations for the article in the *Creative Industries Journal*. This publication questions the possibility of development without cultural policies, focusing on Turkey. It rethinks the relationship between creative industries and sustainable development, emphasizing the need for supportive cultural policies.

With nine citations, Klein et al. [23] discuss the role of cultural and creative industries in boosting innovation and sustainable development through cross-innovation processes. This paper, published in *Procedia Computer Science*, illustrates how creative industries can drive sustainable corporate innovation. Zemite et al. [24], also published in *Sustainability (Switzerland)*, have eight citations. Their research highlights the role of cultural and creative industries in the sustainable development of small cities in Latvia, showcasing the potential of creative sectors to revitalize local economies and promote sustainability. Rudge [25] explores creative industries and sustainable development in small island developing states, focusing on the “Beyond the Blue Economy” concept. With eight citations, this book emphasizes the importance of creative industries in achieving sustainable development goals in these unique contexts.

Absori et al. [26], cited eight times, examine the sustainable development licensing policy of the creative industry in Surakarta, Indonesia, within the ASEAN Economic Community era. Published in *Humanities and Social Sciences Reviews*, this study provides insights into regional policy impacts on sustainable creative industry development. Rahab et al. [27] discuss the sustainable development of Batik Banyumas as a creative industry using a community-based Triple Helix Model. With four citations, this paper in *International Business Management* highlights collaborative efforts among academia, business, and government in fostering sustainable practices in traditional crafts. Borre et al. [28] systematically review the aspects of cultural and creative industries that impact sustainable development. Published in *Procedia Computer Science*, this recent paper has three citations and offers a comprehensive overview of existing research, identifying gaps and future research directions.

These top-cited publications collectively reflect the evolving nature of research at the intersection of sustainable development and creative industries. They cover various topics, from policy analysis and regional studies to theoretical frameworks and practical assessments. However, the relatively low citation counts indicate that this is an emerging field with significant potential for further exploration and academic contribution.

3.5. Co-Occurrence of Keywords Analysis

Figure 3 provides a network visualization of clusters based on author keywords generated by VOSviewer. This visual representation highlights how various keywords related to “Sustainable Development” and “Creative Industry” are interconnected, offering insights into the thematic structure of the research field. Table 3 details the four identified clusters based on the co-occurrence of keywords in Figure 3, each with its theme and frequency of occurrence.

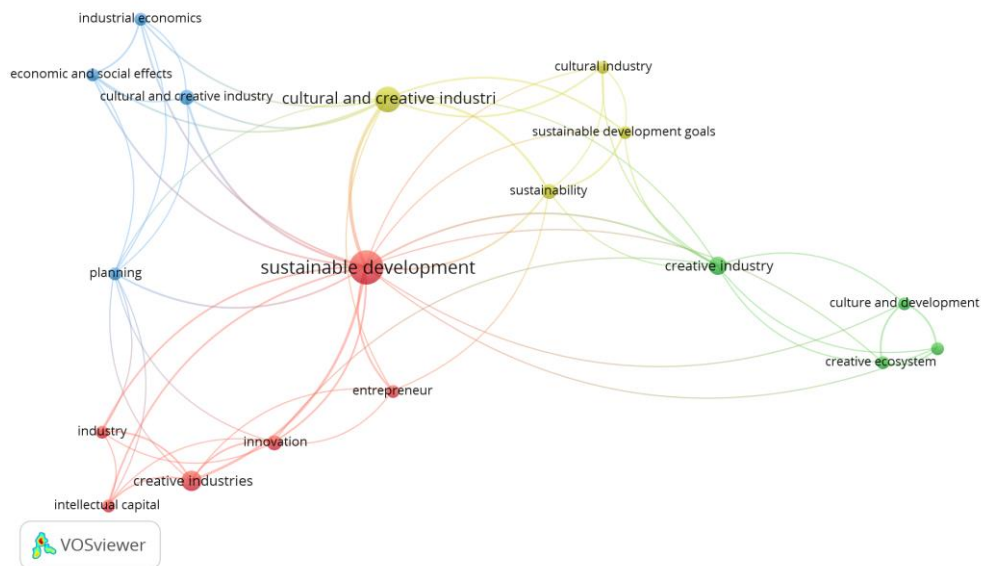


Fig 3. Network Visualization of Clusters Based on Author Keywords
Source: VOSviewer output

The Red Cluster, with its focus on keywords such as creative industries, entrepreneur, industry, innovation, intellectual capital, and sustainable development, plays a significant role in promoting sustainable development. Its theme, 'Innovation and entrepreneurship in sustainable development,' underscores the importance of innovation and entrepreneurial activities within creative industries, with six occurrences indicating a strong emphasis on this area.

The Green Cluster includes keywords like creative ecosystem, creative industry, culture, and development. It is themed "Creative Ecosystems and Cultural Development," reflecting the importance of supportive, creative ecosystems and cultural dynamics in promoting sustainability. With four occurrences, this cluster underscores the role of culture and ecosystem support in advancing sustainable development.

The Blue Cluster encompasses keywords such as cultural and creative industry, economic and social effects, industrial economics, and planning. Its theme is "Economic and social impacts of creative industries." This cluster explores cultural and creative industries' broader economic and social

implications, emphasizing strategic planning and industrial economics. It also has four occurrences, indicating its relevance in understanding the impact of these industries on economic and social structures.

The Yellow Cluster, with its keywords like cultural and creative industries, cultural industry, sustainability, and sustainable development goals (SDGs), is instrumental in integrating sustainability principles within the creative sectors. Its theme, 'Sustainability and SDGs in cultural and creative industries,' focuses on the alignment of cultural and creative industries with sustainability goals and the SDGs, with four occurrences emphasizing this integration.

The co-occurrence of keyword analysis presented in Figure 3 and Table 3 reveals a diverse range of thematic areas within the intersection of sustainable development and creative industries. Each cluster provides a different perspective on how creative sectors contribute to and are influenced by sustainability goals. The clustering of keywords into these thematic areas highlights the multifaceted nature of research in this field, offering valuable insights into how creativity and culture intersect with sustainability efforts.

Table 3. Four clusters based on all keywords

Cluster	Keywords	Theme	Occurrences
Red	Creative industries, entrepreneur, industry, innovation, intellectual capital, sustainable development	Innovation and entrepreneurship in sustainable development	6
Green	Creative ecosystem, creative industry, culture and development	Creative ecosystems and cultural development	4
Blue	Cultural and creative industry, economic and social effects, industrial economics, and planning.	Economic and social impacts of creative industries	4
Yellow	Cultural and creative industries, cultural industry, sustainability, and sustainable development goals.	Sustainability and SDGs in cultural and creative industries	4

Source: VOSviewer output

3.5.1. Innovation and Entrepreneurship in Sustainable Development

Innovation and entrepreneurship are fundamental drivers of sustainable development, particularly within creative industries. The National Sustainable Development Agenda Innovation Demonstration Zones (NSDAIDZs) in China serve as a prime example of how technological innovation can significantly boost green development, with each unit increase in technological innovation resulting in a notable 1.01% rise in green development. This beneficial impact is fully realized when R&D investments and industrial structure upgrades exceed specific thresholds, underscoring the critical role of intellectual capital in promoting sustainable practices [29].

Moreover, the influence of green entrepreneurial orientation on enhancing green performance is mediated by ambidextrous green innovation, encompassing both exploratory and exploitative. This dynamic is further strengthened by a firm's capability to orchestrate resources strategically, highlighting the necessity of effective resource management for achieving sustainable outcomes [30]. The interplay between long-term orientation,

environmental quality, and innovation is essential for achieving economic and ecological sustainability. Policies encouraging behavioral changes toward environmental protection can yield a double dividend, enhancing economic development and environmental quality through the environment-patience-innovation channel [31].

In sustainable food production, innovative food products encounter resistance from youth markets despite their recognized social and environmental benefits. This suggests that creative industries need to understand consumer biases and behaviors better to improve the acceptance and adoption of sustainable products [32]. Finally, digital transformation has emerged as a pivotal driver of green innovation, enhancing both the quantity and quality of green enterprise innovation by mitigating financing constraints, reducing information asymmetries, and boosting human capital. This effect is particularly pronounced in regions with substantial environmental investment and stringent regulations, demonstrating the positive ecological externalities of digital technology diffusion [33]. These insights underscore the indispensable role of innovation and entrepreneurship in advancing sustainable development across various sectors.

3.5.2. Creative Ecosystems and Cultural Development

Creative ecosystems play a crucial role in cultural development by fostering innovation, collaboration, and shared value among diverse stakeholders. These ecosystems, often centered around Digital Innovation Hubs (DIHs), facilitate the digitization and modernization of the creative industry, thereby enhancing its economic and societal contributions [34]. Integrating cultural ecosystem services (CESs) within these ecosystems is vital, as they provide non-material benefits like emotional and spiritual well-being, essential for holistic development [35]. Using social media data to evaluate in-situ cultural ecosystem services underscores the significance of nature and humans. It builds capital to attract visitors and engagement, which supports cultural activities and creative industries [36].

Furthermore, the role of policymakers and practitioners in managing and promoting creative ecosystems is crucial. Measuring shared value in innovation ecosystems through frameworks like the balanced scorecard (BSC) empowers them to monitor and improve the performance of these ecosystems, ensuring their effective contribution to cultural and economic development [37]. Aggregation drivers, such as physical proximity and dominant issues, also influence the creation of shared value in various types of innovation ecosystems, highlighting the need for tailored policies to support the unique requirements of each ecosystem type [38]. By understanding and leveraging these dynamics, policymakers and practitioners can better manage and promote creative ecosystems, ultimately fostering sustainable cultural development and well-being across different regions.

3.5.3. Economic and Social Impacts of Creative Industries

The cultural and creative industries (CCIs) have significant economic and social impacts driven by their inherent innovation and problem-solving capabilities. As seen in China, the synergy between culture and tourism industries underscores the potential for economic development through collaborative agglomeration, which can enhance technological advancements and regional economic growth [39]. However, spatial inequalities, such as those observed in London's cultural labor market, can reinforce social class disparities, limiting social mobility and perpetuating inequality within the sector [40].

The definition and scope of CCIs remain contested, particularly regarding the inclusion of IT sectors, which show variable cultural consumption patterns among workers, reflecting broader social class distinctions [41]. The innovative nature of creative industries is well-

documented, with higher innovation rates than other sectors, underscoring their role in driving economic productivity and problem-solving through creativity [42]. Additionally, the externality of cultural facilities, as evidenced in Ningbo, China, promotes both quantitative and qualitative growth in cultural industry agglomeration, enhancing cultural atmosphere, commercial integration, and cultural productivity [43]. These findings collectively illustrate that while CCIs can drive economic growth and innovation, they must also address underlying social inequalities to realize their potential benefits fully.

3.5.4. Sustainability and SDGs in Cultural and Creative Industries

The intersection of sustainability and the Sustainable Development Goals (SDGs) within the cultural and creative industries presents a complex landscape marked by opportunities and challenges. Current dominant views often highlight the economic potential of creative industries. Still, this focus can be problematic given the pressing need for policies that address environmental crises and reconsider the relationship between culture and nature [2]. This anthropocentric and economistic perspective may overshadow the broader contributions of cultural practices to sustainable development. For example, First Nations peoples, who help preserve a significant portion of the world's biodiversity, emphasize the need to incorporate cultural knowledge and relational thinking into sustainability frameworks, which are often misaligned with the linear goal-setting approaches of the SDGs [44].

Higher educational institutions play a crucial role in bridging the gap between sustainability and the Sustainable Development Goals (SDGs) by fostering research and education aligned with the SDGs. This alignment is evident in the frequent inclusion of SDGs related to health, economic growth, and responsible consumption in master's theses [45]. Furthermore, innovative participatory strategies in postdigital culture, such as transmedia storytelling and serious video games, can enhance community engagement and eco-digital literacy. These methods advance communal efforts toward sustainable goals in both online and offline spaces [46]. It's also important to note that analyzing SDG interlinkages in technologies like point-of-care microfluidics underscores the importance of responsible innovation. Such innovation must balance social benefits with environmental trade-offs to ensure that technological progress supports rather than compromises sustainability [47]. These insights collectively emphasize the need for a comprehensive and inclusive approach to sustainability in the cultural and creative industries. This approach should value cultural diversity, encourage responsible innovation, and integrate ecological considerations into cultural policies and practices.

4 Discussion, Research Gaps and Implications

The analysis of sustainable development within the creative industries reveals several critical insights and implications. First, the current literature indicates a growing academic interest in sustainable development, as evidenced by the substantial increase in publications over recent years. This upward trend underscores the rising global awareness of sustainability challenges and the urgent need for comprehensive solutions. The significant rise in publications post-2015, coinciding with adopting the Sustainable Development Goals (SDGs), highlights the integration of sustainability principles into various sectors and the urgent need to address global challenges such as climate change and social inequalities.

However, the intersection of sustainable development and creative industries remains relatively underexplored, with only 21 publications identified in the database. This limited research indicates that the creative industry, despite being a nascent field of study, has the potential to significantly contribute to sustainability. The sporadic nature of publications suggests that there is growing interest, but the research framework is yet to gain significant momentum. This presents an opportunity for further exploration and deeper investigation into how creative practices can be aligned with sustainability goals. By focusing on this intersection, researchers and practitioners can uncover new insights and strategies that leverage the unique attributes of creative industries to drive sustainable development.

The co-occurrence of keywords analysis reveals four primary thematic clusters: Innovation and Entrepreneurship in Sustainable Development, Creative Ecosystems and Cultural Development, Economic and Social Impacts of Creative Industries, and Sustainability and SDGs in Cultural and Creative Industries. Each cluster highlights different aspects of how creative industries intersect with sustainability. Innovation and entrepreneurship are crucial drivers, with evidence suggesting that technological advancements and green entrepreneurial orientation can significantly enhance sustainable outcomes. Supported by policies and frameworks, creative ecosystems play a vital role in fostering cultural development and shared value. Creative industries' economic and social impacts demonstrate their potential to drive regional growth and innovation while addressing social inequalities. Finally, integrating sustainability principles with the SDGs in creative industries offers opportunities and challenges, emphasizing the need for a holistic approach that considers cultural practices and environmental impacts.

The discussion underscores the importance of expanding research on sustainable development in creative industries. The field holds significant potential for contributing to broader sustainability goals and addressing pressing global challenges. Future research should focus on developing comprehensive frameworks integrating sustainability principles into creative practices and exploring how creative industries can drive transformative change toward a more sustainable future. By addressing these gaps, researchers and policymakers can better harness the potential of creative industries to contribute to global sustainability objectives.

5 Conclusion

This study provides a comprehensive bibliometric analysis of the intersection between sustainable development and the creative industries, shedding light on the current state of research and identifying key trends and gaps. The study reveals a significant increase in scholarly interest in sustainable development since adopting the Sustainable Development Goals (SDGs), highlighting a global shift towards integrating sustainability into various sectors. Despite this growth, the exploration of sustainable development within the creative industries remains relatively limited, indicating a developing field with substantial potential for further research and application.

The novelty of this study lies in its identification of critical research gaps and thematic clusters, highlighting the unique ways creative industries intersect with sustainability principles. By categorizing four primary thematic clusters—Innovation and Entrepreneurship, Creative Ecosystems and Cultural Development, Economic and Social Impacts, and Sustainability and SDGs—the study showcases a holistic approach to understanding the

contributions of the creative industries. Unlike previous research that has primarily focused on economic impacts, this study emphasizes the integration of cultural, ecological, and social dimensions into sustainability efforts within the creative sector.

Furthermore, the study identifies specific geographic and disciplinary imbalances, presenting opportunities for more inclusive and interdisciplinary research that can bridge these gaps. The focus on underexplored regions and the potential for creative industries to drive sustainable practices through innovation presents new avenues for future research. This contributes a novel perspective to the academic discourse by proposing strategies that align creative industry practices with broader sustainability frameworks. These findings offer a foundation for expanding the scope of research in the creative industries. They emphasize the need for developing comprehensive frameworks that incorporate sustainability principles into cultural practices. Future research can significantly contribute to understanding how creative industries can support and advance global sustainability objectives by addressing these gaps.

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