

Bibliometric Insights into Women Entrepreneurship : A Global Perspective on Key Contributions and Challenges

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ABSTRACT

This study employs a comprehensive bibliometric analysis to explore the landscape of research on women's entrepreneurship using VOSviewer software. Through a series of visualizations, we examine the co-authorship networks, key thematic focuses, geographical distributions, and the temporal dynamics of the field from 2000 to 2022. Our findings reveal significant collaborative dynamics among scholars, with central figures acting as pivotal nodes in the academic network. Thematic analysis highlights "women empowerment," "SMEs," and "entrepreneurship" as foundational research areas, alongside emergent topics like "digital entrepreneurship" and "COVID-19," which respond to contemporary global challenges. Geographical visualization underscores the global reach and diversity of the research, with notable contributions from across various continents. The study's temporal overlays demonstrate the field's adaptability to shifting global economic and social contexts, particularly in response to the pandemic. These insights not only reflect the current state of women's entrepreneurship research but also suggest directions for future inquiry, emphasizing the need for enhanced international collaboration and adaptation to emerging global trends. This work contributes to the strategic development of women's entrepreneurship research, offering a scaffold from which to enhance academic collaborations and integrate emergent research themes effectively.

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1. INTRODUCTION

The landscape of entrepreneurship has been notably enriched by the increasing involvement of women, whose participation brings diverse perspectives and innovation to the global economy. Despite facing unique challenges, women entrepreneurs are gaining recognition for their contributions across various sectors. Research shows that businesses led by women tend to focus not

only on financial success but also on societal impact, often prioritizing sustainable and ethical business practices. This shift is transforming traditional business paradigms and contributing to more inclusive economic growth [1].

However, women entrepreneurs often encounter systemic barriers that their male counterparts seldom face. These include limited access to capital, prevailing gender

biases in the business community, and a disproportionate burden of family and domestic responsibilities [2]. Such challenges are exacerbated in less developed economies where cultural and social norms further restrict women's entrepreneurial activities. Addressing these barriers is crucial for not only empowering women but also for leveraging their potential to contribute to economic development and innovation. The contribution of women in entrepreneurship also varies significantly across different regions, influenced by local cultural, economic, and political factors. For instance, in many Western countries, there has been a significant increase in the support available for women entrepreneurs, including access to mentorship, networks, and financial resources. Conversely, in many developing countries, despite the growth in numbers, women still face severe limitations in business operations and growth prospects [3].

Bibliometric analysis offers a valuable method for systematically reviewing the existing literature and extracting insights about the core themes and evolution of research on women entrepreneurship. This approach helps identify not only the most influential studies and authors but also emerging trends and gaps in the literature. Such analysis is vital for understanding the trajectory of research on women entrepreneurs and for setting future research agendas that address persistent gaps and challenges [4].

Despite the growing body of literature on women entrepreneurship, there remains a significant gap in comprehensive bibliometric studies that consolidate global perspectives on the contributions and challenges faced by women entrepreneurs. Existing studies often focus on specific regions or aspects, lacking a holistic view that integrates findings across different contexts to offer a global perspective. This gap hinders the development of cohesive strategies that could support women entrepreneurs worldwide, especially in navigating challenges unique to their socio-economic and cultural environments. The objective of this study is to conduct a thorough bibliometric

analysis of the literature on women entrepreneurship, focusing on identifying key contributions and challenges discussed globally. This analysis aims to map the existing research landscape, highlight influential works, and uncover patterns in research themes and gaps.

2. LITERATURE REVIEW

2.1 *The Global Landscape of Women Entrepreneurship*

Women's entrepreneurship has garnered increasing scholarly attention due to its potential to contribute significantly to economic growth and social change. [5] provide an extensive review of women entrepreneurs, noting that the rates of women's entrepreneurship vary greatly across countries, influenced by national wealth, gender norms, and economic development. They argue that in countries with higher GDP per capita, women are more likely to engage in entrepreneurship due to better access to resources and more progressive gender norms. This is supported by data from the Global Entrepreneurship Monitor (GEM), which regularly highlights the correlation between economic development and women's entrepreneurial activity [6].

2.2 *Barriers to Women's Entrepreneurship*

Despite positive trends, women entrepreneurs face a myriad of challenges not as prevalent among their male counterparts. [7] discuss how structural barriers in financial markets significantly hinder women's business ventures, particularly in obtaining capital and credit. This financial gap is often attributed to traditional lending institutions' risk-aversion to sectors dominated by women or biased perceptions about women's capabilities as entrepreneurs. Furthermore, societal expectations and family responsibilities disproportionately affect women, often constraining their business growth or sector choices [2].

2.3 *Contributions of Women in Entrepreneurship*

Women entrepreneurs are often noted for their unique contributions to the

business world, including a propensity for social enterprise and sustainable business practices. The research by [8] demonstrates that women are more likely than men to blend social aims with business goals, suggesting a different definition of business success that includes social impact. This is echoed in studies that show women-led enterprises often prioritize environmental sustainability and community welfare, challenging the traditional profit-centric models of business [9].

2.4 Role of Support Systems and Policies

Effective support systems, including networks, mentorships, and targeted government policies, play critical roles in fostering women's entrepreneurship. [10] highlight the importance of "ecosystems" that support women entrepreneurs, including access to networks that provide emotional support and business advice. Government policies also significantly impact women's entrepreneurial success. For instance, policies promoting gender equality in economic participation and providing child care facilities can enhance women's participation in entrepreneurship [11].

3. METHODS

This study employs a bibliometric analysis to investigate the global landscape of women entrepreneurship research. Data for the analysis were extracted from Scopus database, focusing on articles published between 2000 and 2022. Keywords such as "women entrepreneurs," "female entrepreneurship," and "gender and entrepreneurship" were used to collect relevant publications. The retrieved dataset was then analyzed using VOSviewer software for co-citation, co-authorship, and keyword co-occurrence analysis to identify the most influential authors, documents, and research trends. The data were further processed to extract information on geographical distribution and temporal trends. This method allows for a comprehensive understanding of the evolution of research themes over time and highlights significant contributions and persisting gaps in the field of women entrepreneurship.

4. RESULTS AND DISCUSSION

4.1 Yearly Publication

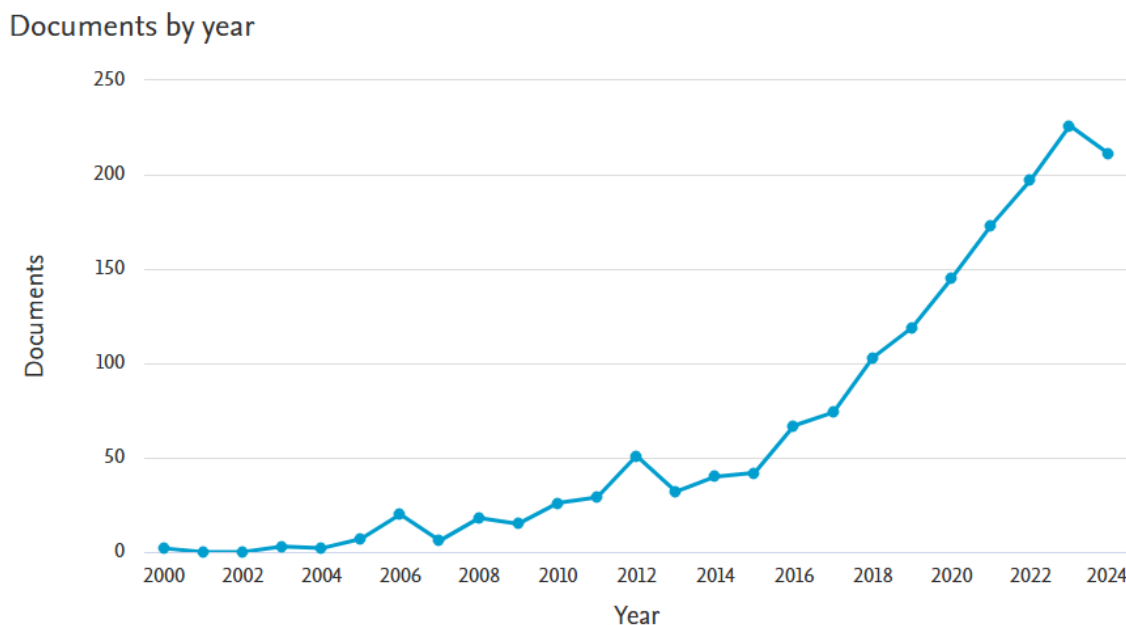


Figure 1. Yearly Publication Graphs

Source: Scopus Database, 2024

The graph illustrates the yearly trend in the number of documents published on a

specific topic from 2000 to 2024. Initially, the number of publications remained low and

Orange	“motivation”, “strategy”, “gender theory”	Examines the motivational factors and strategic planning in entrepreneurship, incorporating gender theory to analyze differences in entrepreneurial approaches.
Blue	“social media”, “entrepreneurship”	Discusses the role of social media in fostering and facilitating entrepreneurial ventures, reflecting on its integral role in modern business practices.
Light Blue	“venture capital”, “leadership”, “technology”	Highlights financing and leadership within technological sectors, focusing on the importance of venture capital and innovative leadership in tech-driven markets.
Red	“entrepreneurship policy”, “economics”	Analyzes the economic impacts of entrepreneurship policies, studying how legislative frameworks influence economic outcomes in entrepreneurship.
Pink	“empowerment”, “self employment”, “business”	Addresses individual empowerment through self-employment and the broader implications for business development and personal growth.
Light Pink	“smes”, “ecosystem”, “culture”	Investigates the influence of cultural contexts on small and medium-sized enterprises (SMEs) and their ecosystems, emphasizing cultural adaptability and resilience.
Dark Pink	“women entrepreneurship”, “covid-19”, “resilience”	Looks at the specific challenges and resilience of women entrepreneurs during the COVID-19 pandemic, focusing on adaptive strategies and crisis management.

Source: Own Interpretation, 2024

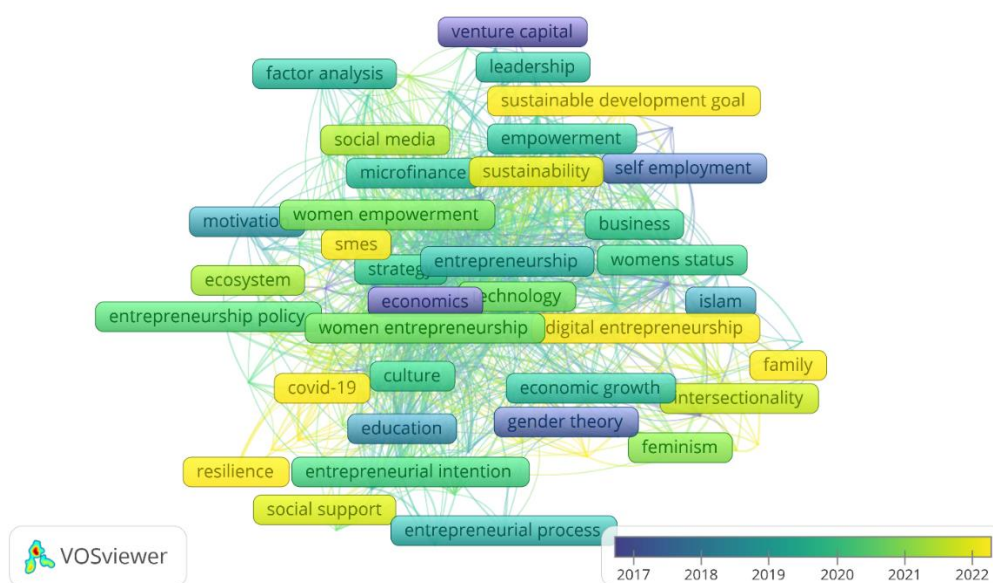


Figure 3. Overlay Visualization

Source: Scopus Database, 2024

This overlay visualization from VOSviewer maps the temporal dynamics of research topics related to women's entrepreneurship from 2017 to 2022. The colors assigned to each node, ranging from blue to yellow, indicate the more recent focus of research within these years. Topics highlighted in yellow such as "COVID-19," "resilience," and "digital entrepreneurship" suggest that these areas have garnered more attention in the later years of the provided timeline, particularly around 2021 and 2022. This shift likely reflects the global impact of the pandemic on entrepreneurship and the subsequent rise in interest in the resilience of businesses and the acceleration of digital transformation.

The central themes like "women empowerment," "SMEs," and "entrepreneurship," colored in green, denote topics that have maintained a consistent focus throughout the observed period. Their

positioning at the core of the map, surrounded by various other nodes, indicates their fundamental role in the field of women's entrepreneurship research. These topics' ongoing relevance suggests a stable academic interest and their essential nature in discussions around entrepreneurial practices and policies affecting women.

Moreover, nodes in blue, representing themes like "economic growth," and "education" which were more prevalent in the earlier years (2017-2018), indicate foundational research areas that might have set the stage for more nuanced discussions in later years. The evolution from these foundational themes to more specialized topics such as digital tools and pandemic responses shows the field's responsiveness to global economic and social changes, underlining the adaptability and evolving nature of research in women's entrepreneurship.

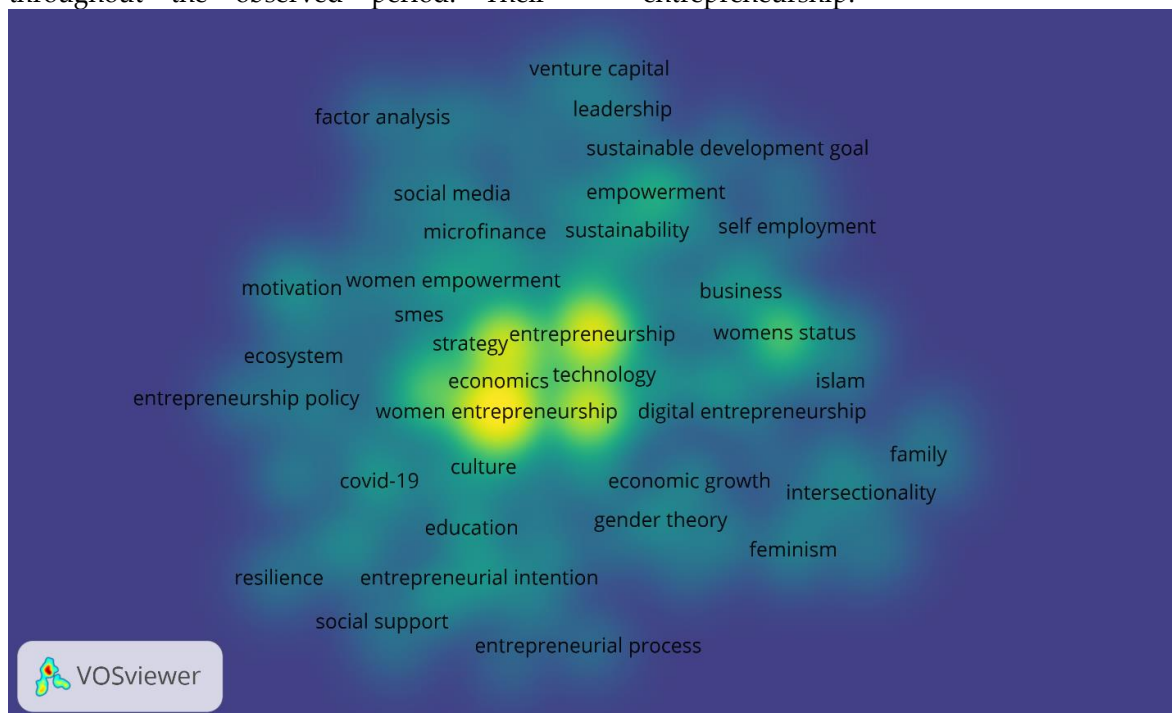


Figure 4. Density Visualization

Source: Scopus Database, 2024

The map is unified in a single color gradient, transitioning from blue at the edges to green at the center, suggesting a thematic concentration and interconnectedness among the various topics. Central and vibrant green nodes like "women empowerment,"

"entrepreneurship," and "SMEs" indicate these are core areas of focus within the field, reflecting their predominant role and frequent discussion in the literature. These terms are tightly clustered, underscoring their strong interrelations and the comprehensive nature

of research that often combines these elements to explore the nuances of women's entrepreneurial experiences. Around the periphery, terms such as "factor analysis," "venture capital," and "leadership" in cooler blue tones suggest these are specific, yet crucial aspects of the broader discussion that might receive targeted attention in certain studies. The layout indicates that while

central themes are well explored and integrated, peripheral topics contribute specialized insights that are essential for understanding specific dimensions of women entrepreneurship, such as funding, analytical approaches, and leadership dynamics within the sector.

4.3 Top Cited Literature

Table 2. Top Cited Literature

Citations	Author's	Title
1.355	[12]	Why research on women entrepreneurs needs new directions
609	[13]	A gender-aware framework for women's entrepreneurship
532	[14]	Advancing a framework for coherent research on women's entrepreneurship
439	[15]	The normative context for women's participation in entrepreneurship: A multicountry study
377	[16]	Empowering Women Through Social Entrepreneurship: Case Study of a Women's Cooperative in India
361	[3]	Extending Women's Entrepreneurship Research in New Directions
345	[8]	Constraints and opportunities facing women entrepreneurs in developing countries: A relational perspective
303	[17]	Introduction to the special issue: Towards building cumulative knowledge on women's entrepreneurship
303	[10]	Israeli women entrepreneurs: An examination of factors affecting performance
204	[18]	Socio-cultural factors and female entrepreneurship

Source: Scopus Database, 2024

4.4 Author Collaboration

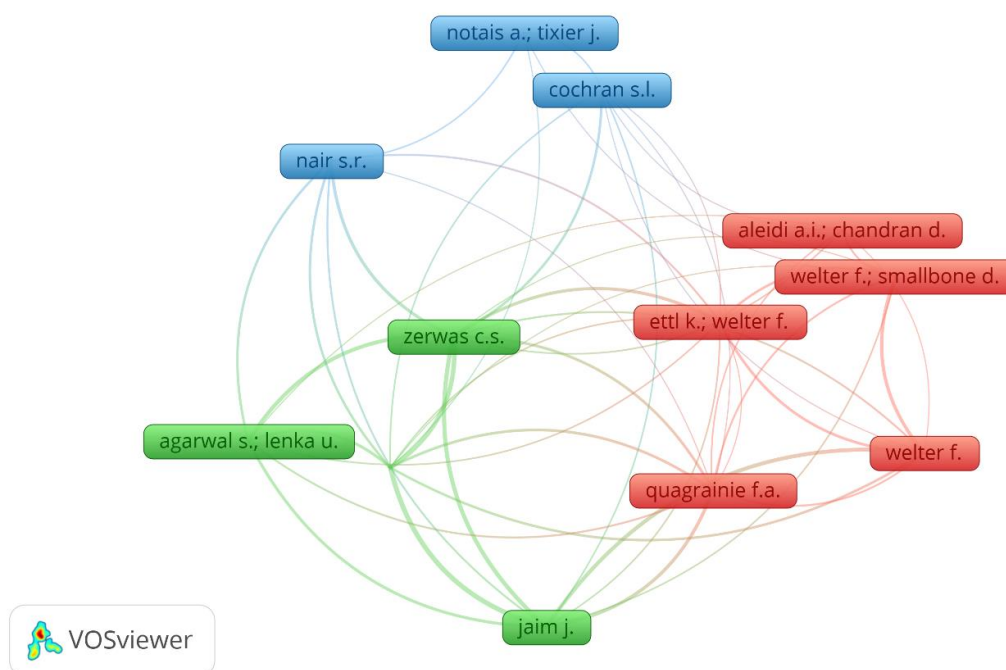


Figure 5. Author Visualization

Source: Scopus Database, 2024

This VOSviewer visualization depicts a co-authorship network among researchers in a specific academic field. The map is color-coded to represent different clusters or groups of researchers who frequently collaborate. Each node represents an individual researcher, and the size of each node suggests the volume of publications or the centrality of the researcher in the network. Lines connecting the nodes indicate co-authorship relationships. The green cluster on the left,

featuring researchers like Agarwal S. and Lenka U., suggests a closely-knit group that collaborates extensively. In the center, we see a smaller, more interconnected cluster in blue with Nair S.R. showing significant collaboration within this group. On the right, the red cluster includes Welter F., who appears as a central figure in multiple collaborations, indicated by the thickness of connecting lines, suggesting a pivotal role in this research community.

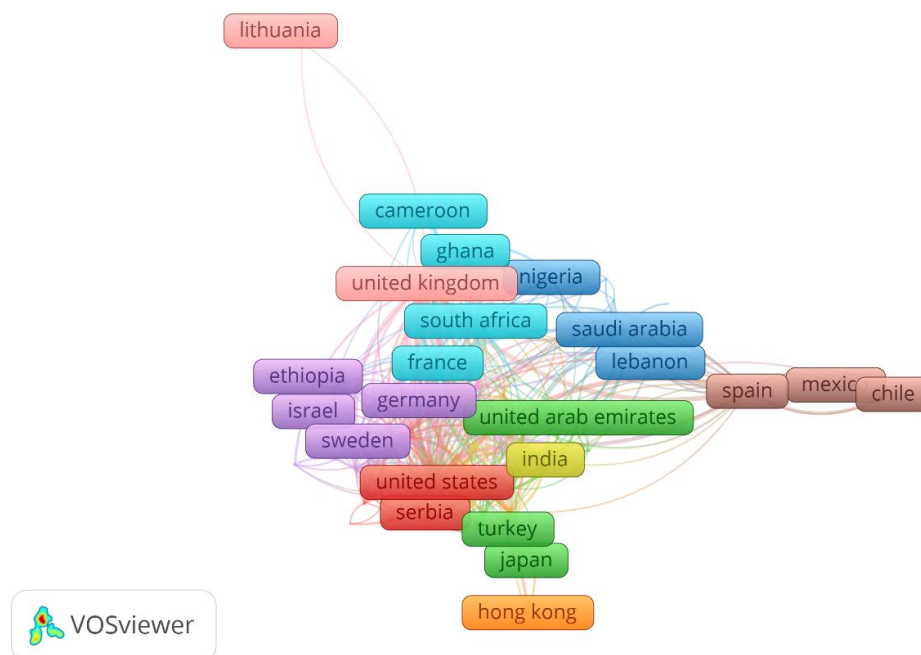


Figure 6. Country Visualization

Source: Scopus Database, 2024

This VOSviewer visualization represents a network of country collaborations based on a specific academic or research context. Each node represents a country, and the lines between them indicate collaborative relationships, possibly through co-authorship of research papers, joint projects, or other academic activities. The varying colors of the nodes might signify different continents or regions, showing how global or regional research networks are organized. For example, countries like the United States, United Kingdom, and Germany, which are larger and centrally located within the network, likely play pivotal roles in international collaborations. The network also highlights dense connectivity

among European countries and notable links between countries like India, Japan, and Turkey, suggesting active cross-regional collaborations. Smaller nodes like Lithuania and Serbia, while less central, still show significant connectivity, indicating their participation in the global research community.

DISCUSSION

Co-Authorship Networks

The co-authorship network visualization sheds light on the collaborative dynamics among scholars in women's entrepreneurship research. Central figures such as Welter F. and Agarwal S. indicate key influencers or hubs in this academic field, often contributing through prolific

partnerships and a substantial body of work. Such nodes are crucial for the dissemination of new ideas and the integration of diverse research perspectives. The visualization of these networks not only underscores the importance of collaborative research in advancing understanding but also highlights potential leaders for emerging researchers seeking mentorship or partnership opportunities.

Thematic Analysis

The thematic network mapping reveals the core subjects and emergent topics within women's entrepreneurship. Central themes such as "women empowerment," "entrepreneurship," and "SMEs" point to foundational areas of research that continue to attract academic attention. The appearance of terms like "digital entrepreneurship" and "COVID-19" in more recent contexts underscores the field's responsiveness to global economic shifts and contemporary challenges. This adaptability is crucial for the relevancy of research outputs to current real-world applications and policy-making. Emerging themes such as "sustainability" and "social media" reflect broader societal shifts towards environmental consciousness and the increasing role of digital platforms in business operations. The linkage of these themes with traditional entrepreneurship topics suggests an interdisciplinary approach to understanding women's entrepreneurship, where economic activities are increasingly viewed through lenses of sustainability and technological integration.

Geographical Distribution

The geographical network visualization highlights the diversity and scope of research collaborations across different countries. Notably, the strong presence of countries like the United States, United Kingdom, and Germany indicates a concentration of research activity in these regions. However, the involvement of countries from different continents, including those from Africa and Asia, points to a global concern with women's entrepreneurial activities and the universality of certain challenges faced by women entrepreneurs. This global perspective is essential for

understanding the various cultural, economic, and regulatory environments in which women entrepreneurs operate. It also suggests areas where international cooperation could be enhanced to support women entrepreneurs through shared knowledge and resources.

Temporal Dynamics

The overlay visualization mapping research themes over time illustrates how the focus of research has shifted and expanded, adapting to global challenges and changes in the business environment. The rapid emergence of themes related to "COVID-19" and "resilience" around 2020 highlights the field's reaction to the global pandemic's impacts on entrepreneurship. This responsiveness not only aids in immediate understanding and mitigation strategies but also prepares the ground for future crises management and resilience building in entrepreneurial ecosystems.

Implications for Future Research

The insights gleaned from these visualizations underscore several implications for future research. First, there is a clear indication of the benefits of international collaboration in enriching the research landscape. Future efforts could focus on strengthening these networks, particularly by fostering more inclusive collaborations that bring together researchers from underrepresented regions. Second, the adaptability of research themes to current global trends should continue to be a priority. As the world evolves, so too should the focus of academic inquiry, particularly in areas that directly affect economic participation and empowerment, such as technology and policy changes. Third, while existing research hubs are strong, there is potential for growth in other regions. Supporting emerging research centers and encouraging decentralization of research activities can ensure a more balanced global perspective on women's entrepreneurship.

5. CONCLUSION

The analyses presented underscore the complexity and dynamism of research in

women's entrepreneurship. By exploring co-authorship networks, thematic concentrations, geographical distributions, and temporal changes, these visualizations offer valuable insights into the current state and future directions of the field. They highlight the importance of collaboration, the integration of emerging themes, and the need

for a global perspective in understanding and supporting the endeavors of women entrepreneurs worldwide. As the field continues to evolve, these insights will be crucial in guiding research, policy-making, and practice in ways that enhance the impact and sustainability of women's contributions to global entrepreneurship.

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