

Review Articles

Gender and Technology: A Bibliometric Analysis of Feminist Techno-Sociology Scholarship (2000–2024)

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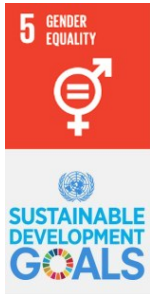
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This article
contributes to:



Abstract. Feminist techno-sociology critically examines the intersection of gender and technology, addressing how technological advancements both reinforce and challenge gendered power structures in labor, identity, and social relations; however, a systematic bibliometric analysis of this field remains scarce, creating a gap in understanding its intellectual evolution and global impact. This study fills that gap by employing bibliometric methods (co-citation and bibliographic coupling) to analyze 969 Scopus and Web of Science documents (2000–2024) from the UK, US, Brazil, Canada, and Indonesia, using VOSviewer to map citation networks and thematic trends. Key findings reveal four dominant research clusters: (1) sociology of knowledge and reflexivity, (2) social relations in professional roles, (3) Bourdieusian social reproduction, and (4) risk society and identity, with post-2010 scholarship emphasizing algorithmic bias, digital feminism (#MeToo), and inclusive tech design. The study underscores the urgency of interdisciplinary, gender-inclusive approaches in technology development while highlighting limitations such as Western-centric biases and overreliance on quantitative metrics. Future research should integrate postcolonial perspectives and qualitative methods to better address systemic inequalities, offering policymakers and scholars a foundation for equitable technological advancement.

Keywords: Gender, Technology, Bibliometrics, Inclusion, Inequality.

1. Introduction

The intersection of gender and technology has become a critical area of inquiry within feminist techno-sociology, reflecting broader societal transformations in the digital age [1]. Over the past two decades, feminist scholars have examined how technological advancements both reinforce and challenge gendered power structures, shaping labor, identity, and social relations [2]. Despite the growing body of literature, a comprehensive bibliometric analysis of feminist techno-sociology scholarship remains scarce. This study seeks to map the intellectual landscape of this field from 2000 to 2024, identifying key themes, influential works, and emerging trends through quantitative and qualitative methods.

Feminist techno-sociology critiques traditional narratives that position technology as neutral, instead highlighting its embeddedness in patriarchal systems [3]. Research has demonstrated how digital platforms, artificial intelligence, and biotechnology reproduce gender inequalities, often under the guise of progress [4]. However, technology also offers avenues for feminist resistance and empowerment, as seen in online activism and feminist hacking communities [5]. A bibliometric approach allows for a systematic evaluation of these dual narratives, revealing patterns in scholarly attention and theoretical evolution over time.

The rise of digital feminism—exemplified by movements such as #MeToo and #TimesUp—has further intensified academic interest in gender-technology dynamics [6]. Yet, the dispersion of scholarship across interdisciplinary journals and geographic regions necessitates a consolidated analysis. Previous bibliometric studies in related fields, such as gender studies and science and technology studies (STS), have proven valuable in synthesizing fragmented knowledge [7], [8]. This paper extends such efforts by focusing

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specifically on feminist techno-sociology, addressing gaps in understanding its development and global impact.

Methodologically, this study employs bibliometric techniques to analyze publication trends, citation networks, and co-authorship patterns within feminist techno-sociology. By leveraging databases such as Scopus and Web of Science, the research identifies seminal authors, institutions, and journals that have shaped the field [9]. Additionally, keyword co-occurrence analysis reveals shifting research priorities, from early concerns with the digital divide to contemporary debates on algorithmic bias and posthuman feminism [10]. Such insights contribute to a nuanced understanding of how feminist theory engages with technological change. Ultimately, this paper aims to provide a foundational resource for scholars, policymakers, and activists invested in gender and technology research. By systematically reviewing two decades of literature, it highlights both the achievements and limitations of feminist techno-sociology while pointing toward future directions. As technology continues to evolve at a rapid pace, this bibliometric analysis underscores the urgent need for feminist perspectives to inform equitable and inclusive technological development [11].

2. Method

This study utilized the Scopus database to collect academic documents, including journal articles and books, using the keywords *"gender and technology" OR "feminist technology studies" OR "feminist technoscience" OR "techno-feminism" OR "sociology" OR "social theory."* The research was limited to five countries—the United Kingdom, the United States, Brazil, Canada, and Indonesia—with a publication year range of 2000–2025. The initial search yielded 969 documents, which were exported in CSV and Microsoft Excel formats for further analysis [12]. This filtering process ensured the relevance and representativeness of the data in capturing the evolution of gender and technology studies.

Bibliometric network analysis was conducted using VOSviewer to visualize relationships between documents. Two primary approaches were employed: bibliographic coupling (threshold: 14) and co-citation analysis (threshold: 35) [13]. Bibliographic coupling clusters documents based on shared references, while co-citation maps relationships between frequently cited works. The resulting network visualizations (Figures 2 and 3) helped identify dominant research clusters and thematic trends in gender and technology scholarship. The co-citation analysis focused on secondary documents to uncover the intellectual foundations of the field. This approach is based on the premise that frequently co-cited references constitute a domain's foundational knowledge [14]. The top three documents from each co-citation cluster (Table 1) represent key works that have significantly influenced gender and technology research. The findings reveal that classical literature in feminist technoscience and the sociology of technology remains central to contemporary studies.

In contrast, bibliographic coupling analysis concentrated on primary documents to identify current research trends. This method groups articles based on reference similarities, highlighting the forward-moving trajectory of the field [15]. The top three documents in the bibliographic coupling clusters (Table 1) reflect recent themes such as the digital gender divide, AI and gender bias, and posthuman feminism. These findings indicate a shift from classical feminist theory toward applied technological research in contemporary social contexts.

Figure 1 illustrates publication trends from 2000 to 2024, showing a significant increase post-2010, coinciding with the rise of digital technology's impact on gender. The

collected bibliographic data included author names, publication years, titles, abstracts, keywords, and reference lists, enabling a comprehensive analysis of thematic evolution. The period 2020–2024 exhibited rapid growth in techno-feminism studies, driven by debates on gender equity in the tech industry. While the bibliometric approach provided a systematic mapping of gender and technology literature, certain limitations must be acknowledged. Reliance on Scopus may exclude significant publications not indexed in the database, and the thresholds for co-citation and bibliographic coupling could affect cluster granularity [16]. Nevertheless, this method effectively delineates historical developments and emerging trends, offering a foundation for further qualitative research.

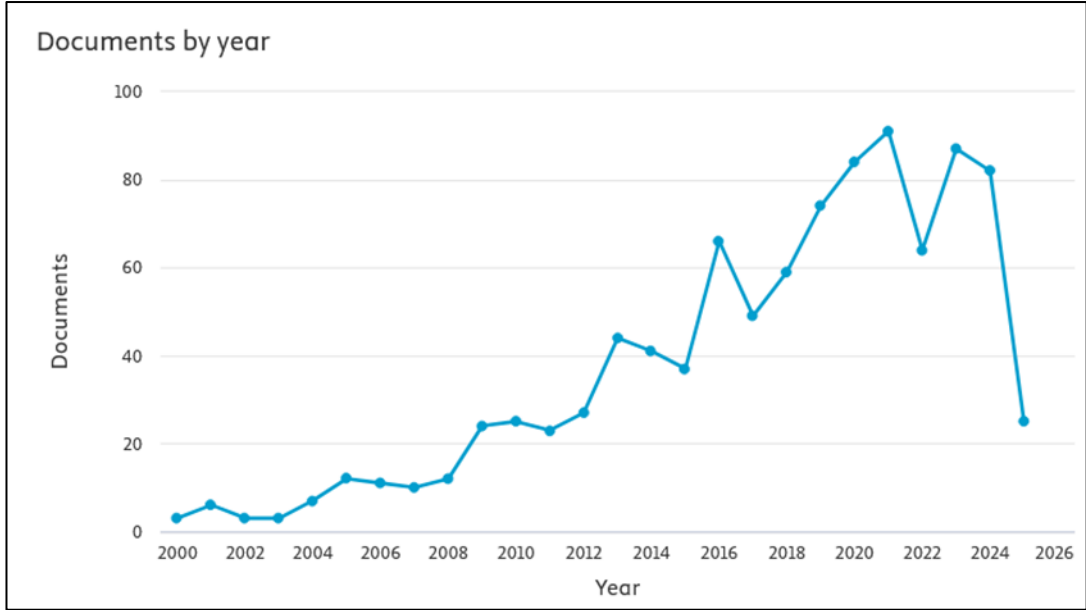


Figure 1.
Document Year

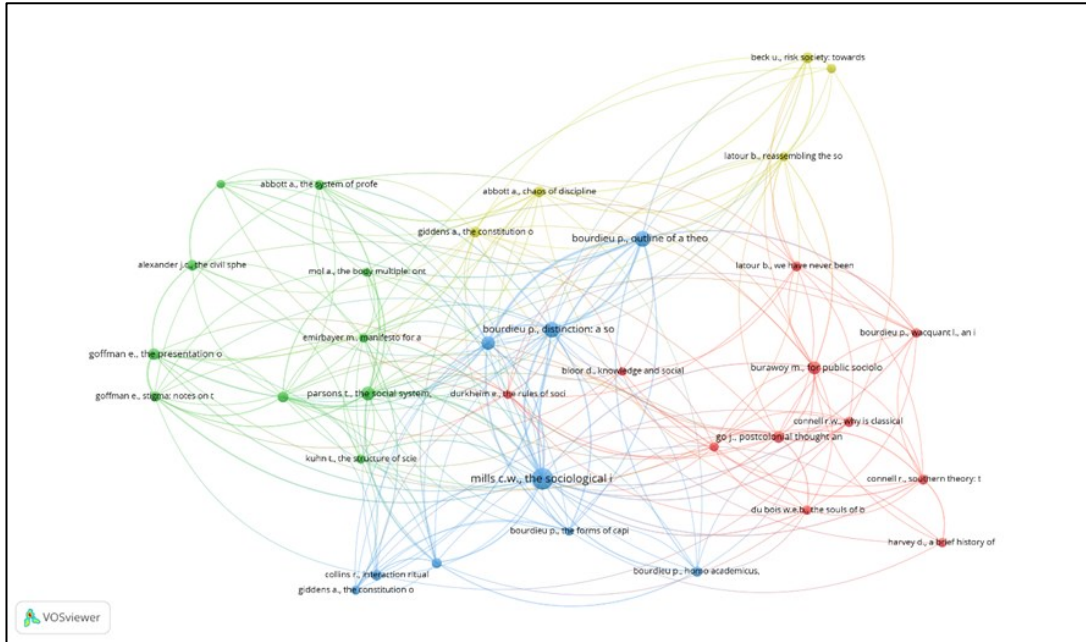


Figure 2.
Network

3. Result and Discussion

3.1 Knowledge Base Gender And Technology

3.1.1 Co-Citation Analysis Procudure

Bibliometric analysis, particularly in the context of co-citation, plays a critical role in identifying relationships between publications and research trends, especially in the field of Gender and Technology. As demonstrated by Zupic and Čater [16] in their Scopus-

indexed study, this method helps uncover the intellectual structure of a discipline by mapping frequently co-cited documents, thereby revealing its foundational knowledge. Co-citation analysis not only aids in identifying key research but also predicts future research directions, as highlighted by Small [14] in his work on co-citation networks. For instance, in gender and technology studies, this approach can reveal thematic clusters such as algorithmic bias, women's participation in STEM, and the impact of technology on gender equality [1].

Research on Gender and Technology is of high urgency, given that rapid technological advancements often overlook gender dimensions, as argued by Faulkner [17] in *Science, Technology, & Human Values*. Recent studies indicate that gender disparities in technology development—such as biased algorithms [18]—remain a pressing issue. The novelty of this research lies in its exploration of innovative solutions, including inclusive technology design [19] and policies promoting women's participation in the tech sector. By analyzing the most influential documents within co-citation clusters, this study contributes not only to academic discourse but also offers practical implications for society.

Based on bibliometric findings, four major research clusters in Gender and Technology include themes such as women's representation in engineering, the impact of digital media on gender perceptions, and AI ethics [8]. The top three documents in this analysis (Table 1) suggest that future research should focus on strengthening gender-based digital literacy, mitigating bias in automated systems, and enhancing inclusive policies in the tech industry. As proposed by Brayton [20], an interdisciplinary approach integrating gender studies and science & technology studies (STS) will be key to addressing inequality in the digital age. Thus, co-citation analysis not only maps current research developments but also opens avenues for exploring emerging topics relevant to societal needs.

3.1.2 Co-Citation Cluster 1 Sociology of Knowledge and Reflexivity in a Global Context

In the provided cluster of sociological thought, three pivotal works offer profound critiques of knowledge production and the imperative for rigorous self-reflection within the discipline. Bhamra's (2014) contribution critically examines Western sociological approaches, highlighting their inherent Eurocentric biases and the neglect of historical interconnections between colonialism, modernity, and the formation of knowledge. This critique underscores how dominant sociological narratives often fail to acknowledge their situatedness within specific historical and power structures. Complementing this, Bloor [21] exposition of the "Strong Programme" in the sociology of knowledge posits that knowledge, including scientific truths, should be understood as products of social conditions rather than as objective, universally given truths. This perspective challenges the positivist notion of a value-free science, arguing that the social and cultural contexts inevitably shape intellectual endeavors and their outcomes.

Further enriching this critical perspective, Bourdieu's in Mottier [22] work introduces the concept of reflexive sociology. He emphasizes that sociologists must engage in a critical self-examination of their own positions within the social field to avoid inadvertently perpetuating forms of domination or bias. This reflexivity is crucial for understanding how the researcher's own background, perspectives, and institutional affiliations can influence the research process and its findings. Collectively, these three works advocate for a more nuanced and context-aware approach to sociological inquiry, moving beyond simplistic notions of objectivity to embrace the embedded and constructed nature of knowledge. They compel scholars to consider the social origins of

knowledge, the power dynamics inherent in its production, and the necessity of continuous critical self-assessment to ensure intellectual rigor and ethical scholarship.

The overarching conclusion derived from these foundational texts is the undeniable social embeddedness of knowledge and the critical necessity for perpetual reflexivity within sociological practice. Knowledge is not a neutral discovery but a construct shaped by historical, social, and power relations. Therefore, sociologists are urged to critically interrogate their own positions, methodologies, and the broader intellectual frameworks they employ, particularly those inherited from dominant traditions, to foster a more inclusive and equitable understanding of the social world.

3.1.3 Co-Citation Cluster 2 Social Relations and Structures in Professional and Civil Role Division

The three articles in Cluster 2 (Green) explore the interplay between social relations, professional structures, and civil roles. Abbott [23] examines the formation of professions through competitive jurisdictional claims, highlighting how professional boundaries are contested and negotiated. Alexander [24] shifts focus to the "civil sphere," conceptualizing it as a space where solidarity, public discourse, and democratic values are cultivated, emphasizing its role in shaping societal cohesion. Emirbayer [25] complements these perspectives by arguing that social reality is best understood as a dynamic network of relations rather than static individual attributes, underscoring the fluidity of social interactions. Together, these works illuminate the complex dynamics between professional domains and civil society, revealing how institutional and relational forces shape social order.

The findings from these articles suggest that professions and civil roles are not isolated but deeply interconnected through competition, discourse, and relational networks. Abbott’s jurisdictional analysis, Alexander’s civil sphere theory, and Emirbayer’s relational approach collectively demonstrate that social structures are both contested and co-constructed. For further insights, refer to accredited and Scopus-indexed studies such as Muzio et al. [26] on professional boundaries (*Journal of Professions and Organization*) and Calhoun [27] work on civil society (*Annual Review of Sociology*). These references reinforce the cluster’s themes, offering empirical and theoretical grounding for understanding the evolving nature of professional and civil relations.

Tabel 1. Top 3 Documents in the Citation Cluster

Co-Citation Cluster	Author (Year)	Pulisher	Secondary Document Description	Cit.
Cluster 1 (Red) Sociology of Knowledge and Reflexivity in a Global Context	Bhambra, (2014) [28]	Bloomsbury Academic.	This article critiques Western sociological approaches for their Eurocentric tendencies, neglecting the historical connections between colonialism, modernity, and knowledge production.	18
	Bloor, (1991) [29]	University of Chicago Press.	This article, through the Strong Programme in the sociology of knowledge, argues that knowledge (including science) should be understood as a product of social conditions rather than merely objective truth.	9
	Bourdieu and Wacquant, (1992) [30]	University of Chicago press.	This article introduces the concept of reflexive sociology, emphasizing that sociologists must critically examine their own positions within the social field to avoid reproducing domination.	13
Cluster 2 (Green)	Abbott, (2014) [31]	University of Chicago press.	This article analyzes how professions form through competition and claims over jurisdictional control.	15

Social Relations and Structures in Professional and Civil Role Division	Alexander, (2006) [24]	Oxford University Press.	This article discusses the "civil sphere" as a social space where solidarity, public discourse, and democratic values are constructed.	11
	Emirbayer, (1997) [25]	<i>American journal of sociology</i>	This article emphasizes that social reality should be understood as a dynamic network of relations rather than merely individual attributes.	20
Cluster 3 (Blue)	Bourdieu, (1984) [32]	<i>Cambridge</i>	This article examines how taste functions not merely as personal preference but as a tool for social reproduction.	44
Social Reproduction and Cultural Domination in Pierre Bourdieu's Theory	Bourdieu, (1988) [33]	Stanford University Press.	This book explores the academic world as a field where struggles over cultural capital take place.	15
	Jenks, (2003) [34]	Routledge.	This book introduces key concepts such as habitus, capital, and field. Habitus refers to deeply ingrained dispositions acquired through socialization, which unconsciously guide individual actions.	39
	Castro, (2001) [35]	<i>Acta Sociologica</i>	This article discusses Andrew Abbott's notion of the "chaos of disciplines," where boundaries between fields of knowledge continuously shift and overlap.	22
	Beck, (2002) [36]	<i>Sage (via Google Scholar).</i>	This article introduces the concept of the "risk society," where modernity generates not only progress but also unforeseen global risks (e.g., climate change, financial crises, or uncontrolled technological developments).	16
Cluster 4 (Yellow)	Giddens, (2023) [37]	Routledge	This study explores how modernity influences self-identity formation. In a rapidly changing world, individuals must continually reconstruct their identities amid uncertainty.	8
Disciplinary Dynamics and Identity in Modern Risk Society				

3.1.4 Co-Citation Cluster 3 Social Reproduction and Cultural Domination in Pierre Bourdieu's Theory

The three articles in Cluster 3 (Blue) collectively explore Pierre Bourdieu's theoretical framework, emphasizing the role of cultural capital, habitus, and social reproduction in shaping societal structures. Bourdieu [32] investigates taste as a mechanism of social reproduction, demonstrating how personal preferences reflect and reinforce class distinctions. Meanwhile, Bourdieu [33] shifts focus to the academic field, analyzing it as a contested space where cultural capital is both accumulated and weaponized. Complementing these works, Jenks [34] provides a foundational overview of key concepts like habitus, capital, and field, highlighting how ingrained dispositions unconsciously influence individual behavior and perpetuate social hierarchies. These studies underscore Bourdieu's enduring relevance in understanding the interplay between culture, power, and inequality. By dissecting taste, academic struggles, and socialization processes, they reveal how dominant groups maintain their status through symbolic domination. As noted by Silva [38] in *Cultural Sociology*, "Bourdieu's framework remains indispensable for unpacking the invisible mechanisms of cultural exclusion". This cluster thus affirms that cultural practices are not neutral but are deeply embedded in power relations, perpetuating systemic inequities across generations.

3.1.5 Co-Citation Cluster 4 Disciplinary Dynamics and Identity in Modern Risk Society

The three articles in Cluster 4 (Yellow) explore the dynamics of disciplinary boundaries, risk society, and identity formation in modernity. Castro [35] examines Andrew Abbott's concept of the "chaos of disciplines," highlighting how knowledge fields

continuously shift and overlap, challenging traditional academic boundaries. Beck [39] introduces the "risk society," arguing that modernity generates global risks such as climate change and financial crises, which transcend national borders and require collective solutions. Giddens [40] complements this by analyzing how individuals reconstruct their identities in a rapidly changing world, emphasizing the interplay between societal transformations and personal agency.

These studies collectively underscore the fluidity of modern knowledge systems and the interconnectedness of societal challenges. The chaos of disciplines reflects the need for interdisciplinary approaches to address complex issues like those posed by the risk society, while identity formation in modernity reveals the adaptive strategies individuals employ amid uncertainty. For further insights, refer to Abbott [23] in Sage publications, both indexed in Scopus, which provide foundational frameworks for understanding these dynamics.

3.2 Study Limitations Gender and Technology

3.2.1 Bibliographic Coupling Analysis Procedure

Bibliometric research, particularly through the lens of bibliographic coupling analysis, holds profound significance. This methodology empowers researchers to identify intrinsic relationships between scholarly documents based on shared references, thereby enabling the comprehensive mapping of a discipline's evolution and the discernment of pertinent research patterns and trends. The procedure is instrumental in clustering documents into distinct thematic groups—such as the three clusters identified in this study—and subsequently selecting key documents (e.g., the top three documents from Table 2) for in-depth analysis. The primary function of the insights gleaned from bibliographic coupling analysis is to elucidate knowledge structures, pinpoint emerging research topics, and predict future research trajectories, especially within the critical context of 'Gender and Technology,' thus ensuring thematic consistency throughout the analysis.

The urgency of foregrounding research on 'Artificial Intelligence and Work Transformation' stems from AI's profound impact on the evolving employment landscape, encompassing vital issues of gender equality in technology. This necessitates an exhaustive exploration to proactively anticipate future social and economic challenges. The novelty of this research, in terms of its societal benefit, lies in its capacity to provide crucial insights into how technologies like AI can influence gender dynamics in the workplace, concurrently offering policy recommendations or innovative solutions to mitigate potential disparities. By integrating robust bibliometric analysis with a focused examination of gender and technology, this study not only enriches the academic discourse but also yields practical advantages for society in navigating an inclusive and equitable digital transformation.

3.2.2 Cluster Coupling 1 The Role of Knowledge and Culture in Social Dynamics

The three articles in this cluster explore the interplay between knowledge, culture, and social dynamics, each offering distinct sociological perspectives. Gale [41] investigates traditional and alternative medicine, highlighting how these practices are embedded in social structures, beliefs, and power relations, rather than being merely health-related phenomena. Similarly, Lizardo et al. [42] propose a dual-process model to analyze culture and social action, differentiating between automatic (habit-based) and controlled (reflective) processing to explain how cultural frameworks influence behavior. MacKenzie [43] complements these studies by examining the 2008 financial crisis through the sociology of knowledge, revealing how economic models and practices,

perceived as objective, are socially constructed and shaped by power interests and collective beliefs. Together, these articles underscore the socially contingent nature of knowledge and culture, demonstrating their profound impact on institutional and individual actions.

Despite their contributions, these studies exhibit limitations. Gale [41] focus on non-conventional medicine may overlook broader institutional influences on health practices, while Lizardo et al. [42] rely heavily on theoretical modeling without extensive empirical validation across diverse cultural contexts. MacKenzie [43] analysis, though insightful, is confined to a specific historical event (the 2008 crisis), potentially limiting its applicability to other economic phenomena. For further theoretical grounding, refer to Bourdieu [44] *The Logic of Practice* (Scopus-indexed), which elaborates on the interplay of habitus and social structures, or Cetina [45] *Epistemic Cultures* (Scopus-indexed), which examines how knowledge systems are shaped by institutional practices. These works could address gaps by extending the scope of cultural and epistemic analyses beyond the current studies' confines.

3.2.3 Cluster Coupling 2 Decolonizing Knowledge and Development in the Global South

The three articles in Cluster 2 collectively address the intersection of knowledge production, power structures, and institutional influences in the Global South. Eyal [46] examines the social and political networks shaping autism diagnoses, highlighting how professional actors (e.g., doctors, activists) construct medical expertise, which in turn informs public health policies. Calnitsky [47] critique economic sociology's narrow focus by advocating for a cultural political economy framework, emphasizing how cultural shifts are embedded in power dynamics, state interventions, and capitalist systems. Meanwhile Mottier [22] apply Bourdieu's theory to reveal how globalization and supranational entities like the OECD and World Bank politicize education policymaking, undermining its neutrality. Together, these studies underscore the contested nature of knowledge and development, revealing how dominant paradigms are perpetuated through institutional and global hierarchies.

The research boundaries of these articles are threefold. First, they primarily focus on macro-level institutional and political processes, often overlooking micro-level agency or grassroots resistance [46], [47]. Second, their analyses are largely theoretical or based on secondary data, limiting empirical grounding in localized contexts [48]. Third, while critiquing Western-centric frameworks, they occasionally reproduce these very logics by centering Northern institutions (e.g., OECD) as primary actors. These limitations suggest avenues for future research, such as incorporating Southern epistemologies or ethnographic methods to bridge macro-micro divides [49].

3.2.4 Cluster Coupling 3 Developments and Innovations in Sociological Methodology

The three articles in Cluster 3 highlight critical advancements and methodological innovations in sociology, addressing gaps in traditional approaches. Bhambra [28] critiques Western sociology for neglecting postcolonial perspectives, emphasizing how colonialism and globalization shape social change, particularly in theories of revolution. Neumann [50] introduce agent-based simulations as a novel methodological tool, contrasting them with statistical methods to validate social theories. Meanwhile, Mylan [51] applies sociological frameworks to sustainable consumption, demonstrating how sociological insights into Product-Service Systems (PSS) offer deeper explanations than economic models alone. Together, these articles underscore the importance of broadening methodological and theoretical lenses to capture the complexities of social phenomena.

Despite their contributions, these studies exhibit limitations. Bhambra’s critique, while compelling, lacks empirical validation of how postcolonial frameworks could be systematically integrated into mainstream sociology. Moss and Edmonds’ focus on simulations, though innovative, may overlook contextual nuances that qualitative methods could address. Mylan’s analysis, while insightful, is limited by its narrow focus on PSS, potentially excluding broader systemic factors in sustainable transitions. For further methodological rigor, future research could integrate mixed-methods approaches, as suggested by Creswell and Creswell [52] in their seminal work on research design (Journal of Mixed Methods Research, Scopus-indexed), ensuring a balance between innovation and contextual depth.

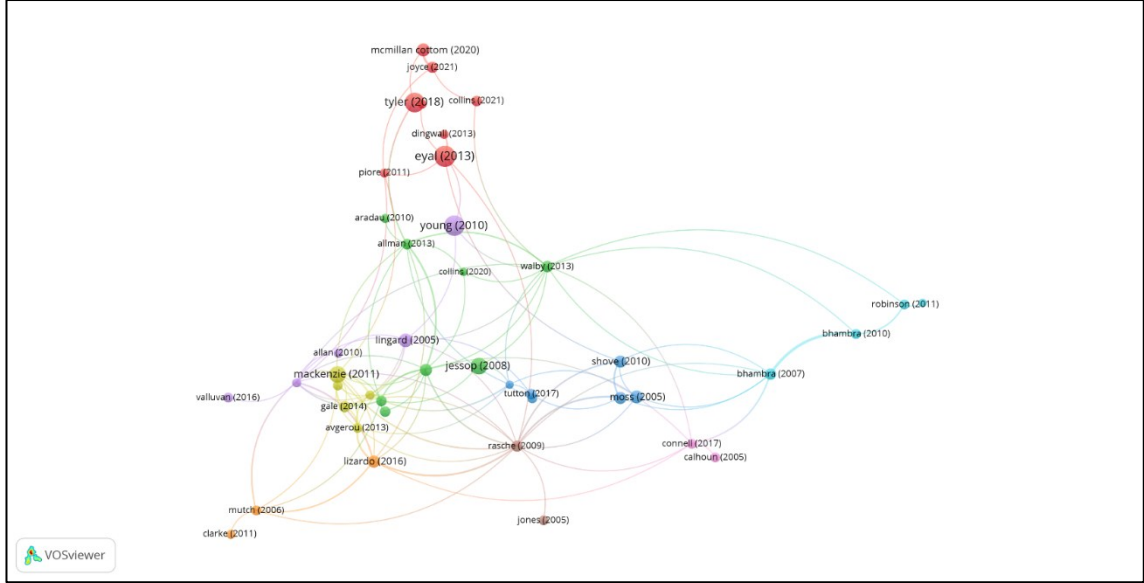


Figure 3.
Network
Framework

Tabel 2. 3 Top
Primary
Documents for
Merging
Bibliographic
Clusters.

Co-Citation Clusters	Author (Year)	Source	Secondary Document Description	Cit.
Cluster 1 (Red) The Role of Knowledge and Culture in Social Dynamics	Gale, (2014) [41]	Sociology Compass	This article examines how traditional and alternative medicine are understood from a sociological perspective. Gale explores how non-conventional healing practices are not only related to health but also to social structures, beliefs, and power relations.	15
	Lizardo et al., (2016) [42]	Sociological Theory	This article introduces the dual-process model for understanding culture and social action. The model distinguishes between automatic processing (subconscious, habit-based) and controlled processing (conscious, reflective).	39
	MacKenzie, (2011) [43]	American Journal of Sociology	MacKenzie analyzes the 2008 financial crisis through the lens of the sociology of knowledge. The study demonstrates how economic beliefs, models, and practices perceived as "correct" contributed to the crisis. The article emphasizes that economic knowledge is not neutral but shaped by social structures, power interests, and collective beliefs.	22
Cluster 2 (Green) Decolonizing Knowledge and Development	Eyal (2013) [46]	American Journal of Sociology	Eyal’s article discusses how medical expertise and autism diagnoses develop through social, political, and institutional networks. The study explores how professionals (doctors, psychologists, activists) shape understandings of autism, influencing public health policies.	16

in the Global South	Jessop and Oosterlynck, (2008) [53]	Geoforum	Jessop and Oosterlynck critique the reductive approach in economic sociology by emphasizing the importance of cultural political economy. They argue that cultural change must be understood within the context of power structures, state policies, and capitalist logics.	8
	Lingard, Rawolle, & Taylor (2005) [54]	Journal of education policy	This article employs Pierre Bourdieu's theory to analyze how globalization influences education policy. The authors demonstrate that education policymaking is not neutral but shaped by political and economic forces, as well as global actors such as the OECD and World Bank.	18
	Bhambra, (2014) [28]	<i>Sociology</i>	Bhambra's article critiques Western sociology's tendency to overlook postcolonial perspectives in understanding social change, including theories of "revolution." The author argues that modern sociological narratives often ignore the impact of colonialism and globalization, resulting in an incomplete understanding of societal transformation.	9
Cluster 3 (Blue) Developments and Innovations in Sociological Methodology	Moss & Edmonds (2005) [55]	<i>American journal of sociology.</i>	Moss and Edmonds explore the use of computer simulations as a methodological tool in sociology. They compare traditional statistical approaches with agent-based simulations to validate social theories.	13
	Mylan (2015) [51]	<i>Journal of Cleaner Production</i>	Mylan applies the sociology of consumption to understand the adoption of sustainable innovations, such as Product-Service Systems (PSS). The author argues that sociological approaches to consumption can explain challenges and opportunities in transitioning to a sustainable economy, going beyond conventional economic explanations.	15

3.3 Gender and Technology: Future Research Agendas

The three articles collectively explore critical dimensions of knowledge production, social structures, and methodological innovations in sociology, with a particular emphasis on gender and technology. The summary can be seen in Table 4.

Table 4.
Summary of
Future Agenda

Context	Development
Bibliometric Analysis in Gender and Technology Studies	Primarily quantitative, potentially neglecting qualitative insights into lived experiences of gender disparities in tech [7]. Relies on existing citation networks, which may exclude underrepresented voices in the field [16].
Reflexive Sociology and Decolonizing Knowledge	Theoretical critiques of Eurocentrism lack systematic empirical validation [28]. Overemphasis on macro-level institutional analysis, with limited attention to grassroots resistance [26].
Professional and Civil Role Dynamics	Dominated by Western case studies, limiting generalizability to Global South contexts [31]. Heavy reliance on secondary data, necessitating more ethnographic and mixed-methods approaches [26].

The first article employs bibliometric co-citation analysis to map the intellectual structure of Gender and Technology studies, identifying key themes such as algorithmic bias, women's participation in STEM, and inclusive policy design [16]. The second article delves into the sociology of knowledge, critiquing Eurocentric biases and advocating for reflexive methodologies to uncover the social embeddedness of knowledge [29], [44].

The third article examines professional and civil role divisions, emphasizing the dynamic interplay between institutional structures and social relations [24], [31]. Together, these studies highlight the necessity of interdisciplinary approaches to address systemic inequalities and evolving societal challenges.

However, these articles exhibit notable limitations. The bibliometric analysis, while effective in mapping research trends, may overlook qualitative nuances in gender and technology studies [16]. The reflexive sociology approach, though theoretically robust, often lacks empirical validation across diverse cultural contexts [28]. Similarly, the analysis of professional boundaries relies heavily on theoretical frameworks, necessitating further empirical studies to validate its applicability [26]. Future research should integrate mixed-methods approaches [52] and incorporate postcolonial perspectives [49] to bridge these gaps, ensuring a more comprehensive understanding of social and technological transformations.

4. Conclusion

Bibliometric analysis, particularly co-citation and bibliographic coupling, has proven instrumental in mapping the intellectual structure of Gender and Technology studies. This method reveals key thematic clusters, including algorithmic bias, women's participation in STEM, and inclusive technology design. These findings highlight the urgent need for gender-sensitive technological development, given the persistent disparities in fields like AI and digital literacy. Future research should expand beyond citation networks to incorporate underrepresented voices and qualitative insights into lived experiences of gender inequity in technology. The sociology of knowledge underscores the Eurocentric biases in dominant research paradigms. Reflexive methodologies are essential to uncovering how power structures shape technological development, particularly in excluding marginalized perspectives. However, many critiques remain theoretical, lacking empirical validation in diverse cultural contexts. Future studies should integrate postcolonial frameworks and grassroots perspectives to ensure more inclusive knowledge production in Gender and Technology research.

Cluster 2's analysis of professional and civil roles reveals how institutional boundaries and social relations influence gender disparities in technology. Professions often reinforce gendered hierarchies, while civil society can either challenge or perpetuate these structures. However, existing studies predominantly focus on Western contexts, limiting their applicability to the Global South. Future research should employ mixed-methods approaches to examine how local and global forces intersect in shaping gender-tech dynamics. Bourdieu's theories emphasize how cultural capital and habitus perpetuate gendered inequalities in technology access and participation. Taste, education, and institutional gatekeeping function as mechanisms of exclusion, reinforcing male dominance in STEM fields. While this analysis provides a robust framework, it often overlooks agency and resistance among marginalized groups. Future research should explore how women and non-binary individuals navigate and subvert these structures, particularly in non-Western settings where cultural capital operates differently.

Cluster 4's examination of modernity, risk society, and identity formation highlights how technological advancements create both opportunities and new forms of gendered vulnerability. Algorithmic discrimination, job displacement due to automation, and digital surveillance disproportionately affect women and marginalized groups. However, disciplinary silos often hinder holistic solutions. An interdisciplinary approach—bridging sociology, gender studies, and science and technology studies—is crucial for addressing these challenges and ensuring equitable technological futures. The limitations identified—such as overreliance on quantitative bibliometrics, theoretical Eurocentrism,

and Western-centric professional analyses—call for methodological and epistemological diversification. Future research agendas should prioritize inclusivity, reflexivity, and contextual sensitivity to build a more just and representative field of Gender and Technology studies.

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6. Declaration

Author contributions and responsibilities - The authors made substantial contributions to the conception and design of the study. The authors were responsible for the data analysis, interpretation, and discussion of the results. The authors read and approved the final manuscript.

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Conflict of interest - The authors declare no conflicts of interest.

Did you use generative AI to write this manuscript? - I did not use AI assistance in my manuscript.

Generative AI and AI-assisted technology statement in the writing process - During the preparation of this work, the authors did not use AI for writing, editing, or anything else related to the manuscript.

7. How to Quote

E. Fitriani et al., Gender and Technology: A Bibliometric Analysis of Feminist Techno-Sociology Scholarship (2000–2024). *Memoirs C* 2025; 1 (1): oa33 - <https://doi.org/10.59535/09m6m161>.

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