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# Contemporary Challenges in Social Science Research: A Systematic Literature Review and Future Research Agenda

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**Abstract:** *Social science research has changed significantly in the twenty-first century due to rapid technological advances, diverse methods, complex ethical issues, and growing societal demands for evidence-based policy. Even with major scholarly progress, the field still struggles with ongoing challenges. These include debates about knowledge, method limitations, digitalization, artificial intelligence, data ethics, and collaboration across disciplines. This study provides a thorough review of the literature on the current challenges facing social science research, using the PRISMA framework. It also outlines a future research agenda through the TCCM (Theory, Context, Characteristics, and Methodology) model. The review draws on studies published between 2015 and 2025 in sources indexed by Scopus and Web of Science. It synthesizes key thematic developments and points out emerging research gaps. The findings show that social science research is increasingly influenced by digital data environments, ethical concerns, diverse methods, and global inequalities in knowledge production. This study contributes by offering a clearer understanding of present challenges and suggesting paths for future research that is theoretically strong, contextually relevant, and methodologically innovative.*

**Keywords***:* Social Science Research; Systematic Literature Review; PRISMA; TCCM Framework; Research Challenges; Future Research Agenda

## Introduction

Social science research plays a key role in understanding human behaviour, institutions, social systems, and development processes. Fields like sociology, political science, economics, anthropology, psychology, and public administration help shape policies, drive social change, and generate knowledge. However, the current research environment has become more complicated due to technological changes, shifting societal conditions, and growing expectations about methods. As a result, social science researchers encounter a variety of challenges that affect the credibility, relevance, and application of their findings.

The twenty-first century has seen major changes in how knowledge is produced. Globalization, digital communication, and artificial intelligence have significantly changed how information is collected, analysed, and shared. Traditional research methods are still important, but researchers increasingly rely on digital databases, social media analysis, computational tools, and interdisciplinary methods. While these changes create new chances for innovation, they also bring about methodological and ethical uncertainties.

A key debate revolves around the diverse methods and theories within social science research. Unlike the natural sciences, social sciences include several theoretical frameworks and competing ideas about objectivity, causality, and interpretation. Positivist, interpretivist, and critical approaches can lead to different methods and results. This variety enriches academic work, but it may also make it harder to develop theories and compare different studies.

Another major challenge is related to digitalization and artificial intelligence. Big data analysis, machine learning, and algorithmic decision-making are having increased impacts on social science research. Researchers now examine online behaviour, digital footprints, and large datasets to study social issues. However, reliance

on algorithmic tools raises concerns about transparency, reliability, data ownership, and ethical responsibility. Issues like algorithmic bias and digital exclusion further complicate the research landscape.

Ethical challenges remain vital in today's social science research. Digital data collection, online surveys, and social media studies often raise privacy issues and unclear consent processes. Researchers need to balance scientific progress with protecting human participants, especially those in vulnerable groups. Institutional review boards and ethical guidelines have evolved to tackle these problems, but rapid technological changes often outpace the development of regulations.

Moreover, interdisciplinary research brings both advantages and limitations. Current social issues such as climate change, migration, public health challenges, and digital inequality cross disciplinary lines. As a result, social scientists are increasingly working with experts from natural sciences, engineering, and information technology. Although interdisciplinary collaboration expands analytical capabilities, it can also create confusion over concepts and inconsistencies in methods. The unequal distribution of knowledge production presents another significant challenge. Much of the social science literature comes from institutions and publication systems in the Global North. This often leaves out perspectives from developing countries, which limits diversity and inclusiveness in theory. Researchers from emerging economies frequently face obstacles like funding issues, language barriers, and access to publications, and visibility in academia.

These trends show that contemporary social science research exists in an environment filled with both unique opportunities and significant uncertainties. While some studies have looked into specific methodological, ethical, and digital issues, comprehensive reviews of these interconnected challenges are rare. Most existing reviews focus on particular disciplines or debates rather than the overall landscape of social science research.

To address this gap, the current study aims to conduct a systematic literature review using the PRISMA framework and synthesized through the TCCM model. The review intends to identify key

challenges, analyse theoretical and methodological trends, and develop a structured agenda for future research.

The study addresses the following research questions:

**RQ1:** What are the major contemporary challenges confronting social science research?

**RQ2:** How have these challenges evolved within recent scholarly literature?

**RQ3:** What future research directions emerge through TCCM-based analysis?

By integrating PRISMA methodology with the TCCM framework, the study contributes to contemporary debates on the future of social science research and offers a structured roadmap for scholars and policymakers.

## Literature Review

Contemporary social science research has changed a lot due to different methods, new technologies, and complex social issues. Foundational scholars like Weber (1949), Guba and Lincoln (1994), and Habermas (1984) laid the groundwork for social inquiry. They emphasized interpretive, positivist, and critical approaches. Later, researchers such as Bryman (2016), Creswell and Creswell (2018), and Teddlie and Tashakkori (2015) pointed out the growing importance of mixed methods and a variety of approaches to tackle complex social issues.

Recent studies look more at how digitalization and artificial intelligence affect social science research. Kitchin (2017) and van Dijck (2014) argued that datafication and algorithmic systems are changing how knowledge is produced and how research is done. Zuboff (2019) also discussed surveillance capitalism and the ethical issues of digital data extraction. Concerns about privacy, consent, and data governance have become more important. Stahl et al. (2017) highlighted the need for responsible governance of technology.

Additionally, researchers from UNESCO (2021) and the World Bank (2021) pointed out ongoing inequalities in global knowledge

production and research resources. Even with improvements in methods and technology, literature shows that challenges still exist related to theoretical fragmentation, institutional pressures, and exclusion based on context.

**Table: Literature Review**

| Sl no | Author(s) & Year | Objective | Theory/ Concept | Methodology | Key Findings | Research Gap | TCCM Relevance |
|---|---|---|---|---|---|---|---|
| 1 | Weber (1949) | Explain methodology in social sciences | Interpretive sociology | Conceptual | Social action requires interpretive understanding | Limited empirical application | Theory |
| 2 | Guba & Lincoln (1994) | Compare research paradigms | Positivist ,interpretivist, critical paradigms | Conceptual | Multiple paradigms shape inquiry | Lack of paradigm integration | Theory |
| 3 | Habermas (1984) | Examine communicative rationality | Critical theory | Philosophical | Knowledge linked to communication and power | Limited methodological guidance | Theory |
| 4 | Polanyi (1966) | Explain tacit knowledge | Tacit knowledge theory | Conceptual | Knowledge includes implicit dimensions | Empirical validation limited | Theory |
| 5 | Wallerstein (2004) | Analyse knowledge systems | World-systems theory | Historical analysis | Social science shaped by global systems | Limited digital context | Context |
| 6 | Webster & Watson (2002) | Improve literature reviews | Review methodology | Conceptual | Structured reviews improve rigour | No PRISMA integration | Methodology |
| 7 | Boell & Cecez-Kecmanovic (2015) | Evaluate systematic reviews | Review theory | Conceptual review | SLR requires flexibility and reflexivity | Limited empirical illustration | Methodology |
| 8 | Snyder (2019) | Explain literature review methods | Review methodology | Conceptual | Different review types serve different purposes | Limited TCCM linkage | Methodology |
| 9 | Moher et al. (2009) | Develop PRISMA | Review reporting | Guideline development | PRISMA improves transparency | Earlier reporting limitations | Methodology |
| 10 | Page et al. (2021) | Update PRISMA | PRISMA 2020 | Guideline revision | Enhanced review reporting standards | Application variation | Methodology |

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|---|---|---|---|---|---|---|---|
| 11 | Bryman (2016) | Explain social research methods | Methodological pluralism | Textual synthesis | Mixed methods increasingly relevant | Integration challenges | Methodology |
| 12 | Creswell & Creswell (2018) | Compare research designs | Mixed-methods theory | Methodological | Research design shapes validity | Design integration complexity | Methodology |
| 13 | Punch (2016) | Introduce research approaches | Research methodology | Textbook synthesis | Quantitative and qualitative methods complementary | Limited digital methods | Methodology |
| 14 | Patton (2015) | Explain qualitative inquiry | Qualitative evaluation | Conceptual | Context and meaning central | Replication challenges | Methodology |
| 15 | Teddlie & Tashakkori (2015) | Develop mixed methods | Mixed-method paradigm | Conceptual | Integration improves evidence | Epistemological tension | Methodology |
| 16 | Denzin & Lincoln (2018) | Discuss qualitative traditions | Interpretive inquiry | Handbook review | Multiple qualitative traditions exist | Standardisation difficult | Characteristics |
| 17 | Lincoln, Lynham & Guba (2018) | Examine paradigm controversies | Research paradigms | Conceptual | Paradigm diversity continues | Limited convergence | Theory |
| 18 | Nassaji (2015) | Clarify qualitative research | Descriptive research | Methodological | Data type differs from analysis | Conceptual confusion persists | Methodology |
| 19 | Kumar (2020) | Guide research methodology | Research process | Textual | Rigorous design essential | Limited AI discussion | Methodology |
| 20 | Babbie (2021) | Explain social research practice | Empirical inquiry | Methodological text | Scientific procedures support rigour | Rapid technological shifts underexplored | Methodology |
| 21 | van Dijck (2014) | Examine datafication and surveillance | Datafication | Conceptual | Digital platforms shape social behaviour and data control | Limited empirical validation | Characteristics |
| 22 | Kitchin (2017) | Critically analyse algorithms | Algorithm studies | Conceptual | Algorithms influence knowledge production and decision- making | Limited social policy linkage | Characteristics |
| 23 | Zuboff (2019) | Analyse surveillance capitalism | Digital capitalism | Critical analysis | Data extraction creates new power structures | Empirical diversity limited | Theory |
| 24 | van Dijk (2020) | Explain digital divide | Digital inequality | Conceptual | Unequal digital access reinforces social inequality | Limited AI integration | Context |

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|---|---|---|---|---|---|---|---|
| 25 | Schwab (2017) | Discuss technological transformation | Fourth Industrial Revolution | Conceptual | AI and automation reshape society and institutions | Limited social science methodology discussion | Context |
| 26 | World Bank (2021) | Examine data and development | Data governance | Policy report | Data can support development but requires governance | Limited theoretical depth | Context |
| 27 | UNESCO (2021) | Assess global science systems | Knowledge systems | Policy analysis | Scientific inequality persists globally | Regional analysis limited | Context |
| 28 | Stahl, Timmermans & Flick (2017) | Explore ICT ethics | Information ethics | Conceptual | Emerging technologies require ethical governance | Limited empirical testing | Characteristics |
| 29 | Scott (2017) | Explain network analysis | Social network theory | Methodological | Network methods enhance social analysis | Limited ethical discussion | Methodology |
| 30 | Aria & Cuccurullo (2017) | Develop science mapping tools | Bibliometric analysis | Software development | Bibliometrix improves systematic review analysis | Limited social theory integration | Methodology |
| 31 | Aguinis, Ramani & Alabduljader (2018) | Improve transparency in research | Transparenc | Review analysis | Methodological openness enhances rigour | Implementation challenges | Methodology |
| 32 | Elsevier (2023) | Examine responsible metrics | Research evaluation | Policy analysis | Metrics shape publication behaviour | Overdependence on indicators | Characteristics |
| 33 | Fraser (2022) | Critique contemporary capitalism | Critical social theory | Conceptual | Social systems intensify inequality | Limited empirical testing | Theory |
| 34 | Harari (2018) | Analyse future social transformation | Technology and society | Conceptual | AI and digital systems reshape human interaction | Limited methodological guidance | Characteristics |
| 35 | Small & Calarco (2022) | Improve qualitative literacy | Qualitative inquiry | Methodological | Strong evaluation standards improve qualitative rigour | Digital contexts underexplored | Methodology |
| 36 | Morgan (2019) | Develop focus group methodology | Qualitative methods | Methodological | Group interaction enriches social understanding | Online focus groups less examined | Methodology |
| 37 | Murray (2017) | Examine academic publishing | Scholarly communication | Practical analysis | Publication systems shape researcher behaviour | Limited Global South discussion | Characteristics |
| | Podsakoff, | Improve | | | Concep | Operationalisatio | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 38 | MacKenzie & Podsakoff (2016) | concept definition s | Concept development | Review study | t clarity strengt hens researc h validity | n challenges | Theory |
| 39 | Vargo, Wieland & Akaka (2015) | Analyse instituti on al innovatio n | Institutional theory | Conceptual | Innovation shaped by institutions | Limited social inequality analysis | Theory |
| 40 | Latour (2005) | Explain actor-network relation s | Actor-network theory | Conceptual | Humans and technology interact in networks | Limited AI-specific analysis | Theory |
| 41 | Sen (1999) | Examine developme nt and freedom | Capability approach | Conceptual | Developme nt linked with human freedom And opportunity | Limited digital perspective | Theory |
| 42 | Foucault (1980) | Analyse power and knowledge | Power/ knowledg e | Philosophical | Knowle dge systems embedd ed in power relation s | Limited empirical operationalisatio n | Theory |
| 43 | Giddens (1991) | Examine modern identity | Structura tion theory | Conceptual | Social structures and agency interact dynamical l y | Digital society underexplored | Theory |
| 44 | Bhaskar (2016) | Develop realist philosophy | Critical realism | Philosophical | Reality exists beyond observable events | Limited methodological guidance | Theory |
| 45 | Saunders, Lewis & Thornhill (2019) | Explain research design | Research onion | Methodologic al | Design choices affect validity and rigour | Limited computational methods | Methodology |
| 46 | Flick (2022) | Examine qualitative research | Interpreti ve inquiry | Methodologic al | Contextual analysis enriches social understandi ng | Digital ethnograph y limited | Methodology |
| 47 | Higgins et al. (2022) | Strengthen systematic reviews | Evidence synthesis | Methodologic al | Rigorous review standards improve reliability | Primarily health-oriented application | Methodology |
| 48 | Bazeley (2018) | Integrate mixed methods | Mixed-method integration | Methodologic al | Combining datasets enhances explanation | Complex integration remains difficult | Methodology |

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|---|---|---|---|---|---|---|---|
| 49 | Kumar (2020) | Explain research process | Research methodology | Methodological | Systematic procedures enhance rigour | Limited AI discussion | Methodology |
| 50 | Yin (2018) | Develop case study methods | Case study research | Methodological | Case studies useful for complex contexts | Generalization challenge s | Methodology |
| 51 | Fraser (2022) | Analyse structural inequality | Critical political economy | Conceptual | Capitalist systems reproduce social inequality | Limited empirical social science cases | Characteristics |
| 52 | UNESCO (2021) | Assess scientific disparities | Knowledge inequality | Policy review | Global scientific capacity unevenly distributed | Limited micro- level analysis | Context |
| 53 | World Bank (2021) | Examine data and development | Data governanc e | Policy analysis | Data access critical for inclusive development | Governance variation underexplore d | Context |
| 54 | Elsevier (2023) | Study responsible metrics | Research assessment | Policy analysis | Publication metrics influence academic behaviour | Overrelianc e on citations persists | Characteristics |
| 55 | Murray (2017) | Explore academic publishing | Scholarly commun ication | Practical review | Publication systems affect career progression | Global South barriers limited | Characteristics |
| 56 | Aria & Cuccurullo (2017) | Improve bibliometric reviews | Science mapping | Software-based methodology | Bibliometric s useful for trend identificatio n | Theory integration limited | Methodology |
| 57 | Snyder (2019) | Review literature review approaches | SLR methodology | Conceptual review | Structured reviews enhance rigour | Limite d TCCM application | Methodology |
| 58 | Aguinis et al. (2018) | Promote transparenc y | Open science | Review analysis | Transparent reporting improves reliability | Adoption uneven | Methodology |
| 59 | Small & Calarco (2022) | Strengthen qualitative literacy | Qualitative evaluation | Methodological | Better evaluation improves credibility | Digital research less explored | Methodology |
| 60 | Page et al. (2021) | Update review reporting | PRISMA 2020 | Guideline revision | Reporting transparenc y essential for SLRs | Discipline -specific adaptation needed | Methodology |

## Methodology: PRISMA-Based Review Design

This study uses a Systematic Literature Review (SLR) approach, following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework. PRISMA has become a widely accepted guideline for maintaining transparency, rigor, and replicability in review studies. Unlike traditional narrative reviews, systematic reviews use clear search strategies and set selection criteria to reduce bias and improve reliability.

### • Review Protocol

The review protocol was created to find peer-reviewed studies that explore challenges and changes in modern social science research. The review focused on literature published between 2015 and 2025 to ensure it is relevant and reflects recent developments in methods and technology.

### • Data Sources and Search Strategy

Two major academic databases were selected:

✓ Scopus

✓ Web of Science

These databases were chosen due to their extensive multidisciplinary coverage and indexing of high-quality peer-reviewed literature.

The search strategy incorporated Boolean operators and keyword combinations including:

- "social science research"
- "research challenges"
- "methodological challenges"
- "digitalisation"
- "artificial intelligence"
- "ethics"

- "interdisciplinary research"
- "future research agenda"

The search process yielded an initial pool of studies from both databases.

- **Inclusion and Exclusion Criteria**

The review applied specific inclusion and exclusion criteria to maintain methodological rigour.

### Inclusion Criteria

- Peer-reviewed journal articles
- English-language publications
- Published between 2015–2025
- Studies addressing challenges in social science research
- Conceptual, empirical and review studies

### Exclusion Criteria

- Editorials and conference abstracts
- Non-peer-reviewed publications
- Duplicate records
- Studies unrelated to social science research challenges
- Incomplete or inaccessible documents

### Screening and Selection Process

The PRISMA screening process involved four stages:

- Identification
- Screening
- Eligibility

Final inclusion

The initial search generated a substantial body of literature. After removing duplicates and screening titles and abstracts, only studies directly relevant to the review objectives were retained. Full-text assessment ensured conceptual relevance and methodological quality.

The final dataset comprised studies representing diverse disciplines and methodological approaches, providing a robust basis for thematic synthesis and TCCM analysis.

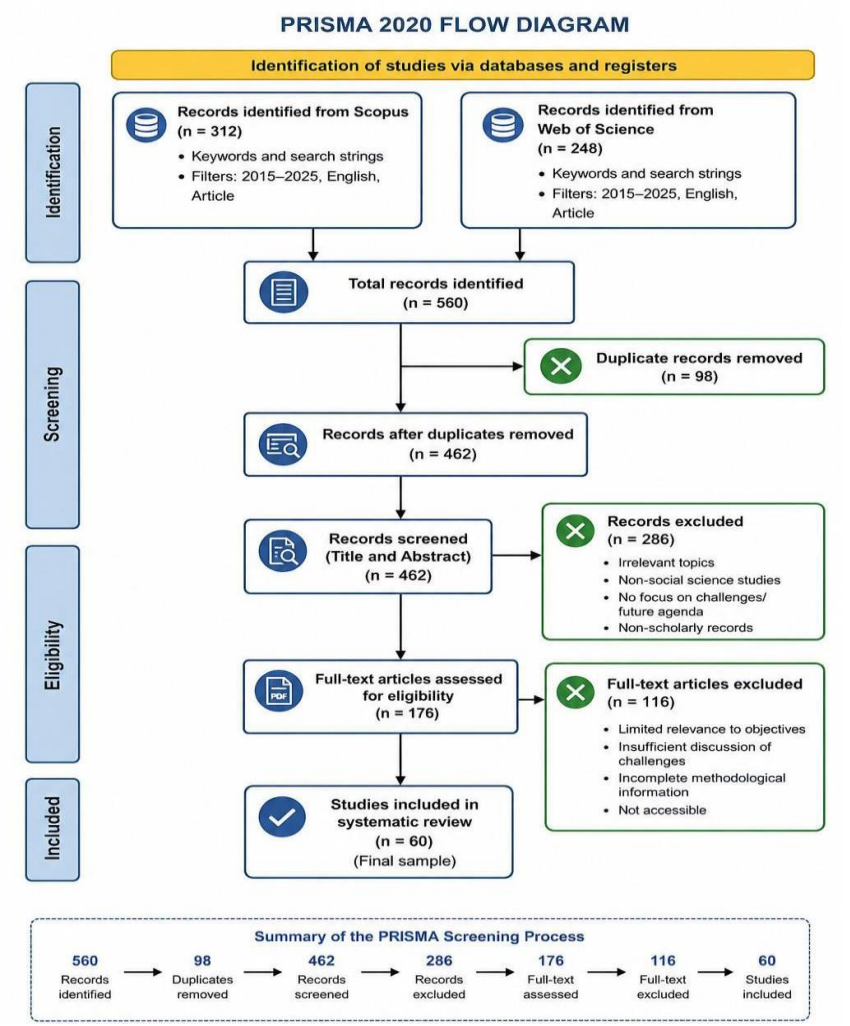
## Data Extraction and Analysis

Data extraction focused on:

- Study objectives
- Theoretical orientation
- Research context
- Methodological approach
- Key findings
- Identified challenges
- Suggested future directions

Thematic analysis was employed to identify recurring patterns and conceptual relationships. Subsequently, findings were synthesised using the TCCM framework to generate an integrated future research agenda.

The following sections present the thematic findings and analytical synthesis of contemporary challenges in social science research.




## Results And Thematic Synthesis

The systematic review identified several interconnected challenges shaping contemporary social science research. Thematic synthesis of the selected studies revealed six dominant themes: methodological

complexity, digitalisation and artificial intelligence, ethical concerns, interdisciplinary challenges, publication and funding pressures, and inequalities in global knowledge production. These themes demonstrate that social science research is undergoing profound transformation while simultaneously confronting structural and epistemological constraints.

- **Methodological Challenges in Social Science Research**

Methodology remains one of the most debated and challenging aspects of social science inquiry. Unlike disciplines with uniform methodological conventions, social science embraces diverse paradigms and competing epistemological traditions. This plurality enriches research but often complicates consensus on research validity, replicability, and generalizability.

One of the most prominent methodological debates concerns the tension between quantitative and qualitative approaches. Quantitative research, grounded largely in positivist assumptions, prioritises measurement, statistical analysis and causal inference. It is frequently employed to identify patterns and relationships within large populations. However, critics argue that excessive dependence on numerical data may oversimplify complex social realities and overlook contextual meanings.

Conversely, qualitative approaches emphasise lived experiences, interpretation and contextual understanding. Methods such as ethnography, narrative analysis and in-depth interviews provide nuanced insights into social processes. Yet qualitative studies often face criticism regarding subjectivity, limited generalizability and researcher bias. Consequently, contemporary social science researchers frequently confront methodological dilemmas regarding appropriate research design and analytical strategy.

The growing popularity of mixed-methods research represents an attempt to bridge these methodological divides. Mixed-methods designs integrate quantitative and qualitative evidence to provide more comprehensive analysis. While such approaches enhance analytical depth, they also require sophisticated methodological

expertise and significant research resources. Researchers must address challenges relating to methodological integration, data triangulation and epistemological compatibility.

Replicability constitutes another methodological concern. Replication crises, particularly visible in psychology and behavioural sciences, have intensified scrutiny of research practices. Difficulties in reproducing findings raise questions regarding statistical validity, sampling procedures and analytical transparency. Small sample sizes, publication bias and inadequate reporting practices further contribute to concerns regarding research reliability.

Measurement challenges also persist across social science disciplines. Many concepts—including trust, social capital, empowerment and wellbeing—are multidimensional and difficult to operationalize. Researchers often rely on proxy indicators and self-reported data, which may introduce measurement error and interpretive ambiguity. Consequently, ensuring construct validity remains a persistent methodological challenge.

These methodological debates highlight the evolving nature of social science inquiry. Rather than reflecting disciplinary weakness, methodological diversity may be understood as a response to the complexity of social reality. Nevertheless, the absence of methodological consensus requires researchers to justify analytical choices carefully and adopt transparent research practices.

## Digitalisation and Artificial Intelligence

Digitalisation represents one of the most transformative developments in contemporary social science research. The proliferation of digital technologies, social media platforms and computational tools has fundamentally altered how researchers collect, analyse and disseminate data. Digital environments generate vast quantities of behavioural and social information, creating unprecedented opportunities for empirical investigation.

Big data has emerged as a central feature of modern social research. Digital traces generated through online interactions, mobile technologies and platform engagement provide extensive datasets

capable of revealing social trends and behavioural patterns. Researchers increasingly utilise computational techniques such as text mining, network analysis and predictive modelling to analyse these complex data environments.

Artificial intelligence (AI) further extends these possibilities. Machine learning algorithms enable pattern recognition and automated analysis across large datasets that would be difficult to process manually. AI-assisted methods have been applied to public opinion analysis, sentiment analysis, policy evaluation and behavioural prediction.

Despite these innovations, digitalisation introduces substantial methodological and conceptual challenges. One concern involves algorithmic opacity. AI systems frequently operate through complex computational processes that remain difficult to interpret. Consequently, researchers may rely upon analytical procedures whose underlying assumptions are insufficiently transparent.

Algorithmic bias constitutes another significant challenge. AI systems are shaped by training datasets and embedded assumptions that may reproduce social inequalities and discriminatory patterns. Bias within digital platforms and datasets can distort findings and generate misleading conclusions. Researchers must therefore critically examine the social and political implications of algorithmic analysis.

Digital inequality further complicates social science research. While digital data may appear comprehensive, access to technology remains uneven across regions, socio-economic groups and populations. Consequently, online datasets may disproportionately represent digitally connected communities while marginalising others. Overreliance on digital evidence risks reinforcing existing inequalities in research representation.

The rapid growth of digital methods has also produced methodological skill gaps. Traditional social science training often emphasises theoretical and conventional methodological competence rather than computational literacy. Researchers increasingly require expertise in programming, data analytics and digital ethics. This shift

necessitates substantial investment in interdisciplinary training and methodological innovation.

Digitalisation therefore presents a paradox. While computational tools expand analytical possibilities and enhance research efficiency, they simultaneously challenge conventional assumptions regarding evidence, interpretation and methodological accountability.

## Ethical Challenges and Data Privacy

Ethics remains a foundational concern in social science research, yet contemporary technological environments have introduced new ethical dilemmas that extend beyond traditional research governance frameworks.

Historically, ethical concerns centred upon informed consent, confidentiality and participant protection. These principles continue to guide responsible research practice. However, digital environments complicate established ethical norms. Online research frequently involves publicly available yet personally identifiable information, raising uncertainty regarding privacy expectations and informed consent.

Social media research illustrates these challenges clearly. Researchers analysing digital interactions may collect publicly accessible data without direct participant engagement. While such practices may satisfy legal requirements, ethical questions persist regarding user awareness and contextual integrity. Individuals may not anticipate that personal online communication will be incorporated into academic research.

Data security constitutes another important concern. Large-scale digital datasets often contain sensitive information capable of exposing participants to privacy risks. Data breaches, cyber vulnerabilities and unauthorised access can undermine trust and compromise research integrity. Consequently, robust data management protocols have become essential components of ethical practice.

Research involving vulnerable populations presents additional ethical complexity. Studies involving children, displaced populations, economically disadvantaged communities or politically marginalised groups require heightened sensitivity. Researchers must balance the pursuit of knowledge with avoidance of exploitation and harm.

The expansion of AI and automated decision systems has introduced further ethical uncertainty. Algorithmic analyses may generate socially consequential classifications and predictions without adequate accountability mechanisms. Questions regarding fairness, transparency and human oversight increasingly shape ethical debates in social science research.

Institutional ethics review systems have attempted to respond to these developments. Nevertheless, regulatory frameworks frequently struggle to keep pace with rapidly evolving technological contexts. Ethical governance therefore requires ongoing adaptation and reflexive engagement rather than reliance upon static procedural rules.

## Interdisciplinary Complexity and Knowledge Integration

Contemporary social challenges increasingly transcend disciplinary boundaries. Climate change, pandemics, migration, digital governance and sustainable development involve interconnected social, economic and technological dimensions that cannot be adequately addressed through isolated disciplinary perspectives.

As a result, interdisciplinary research has gained prominence across social science scholarship. Collaboration between social scientists and experts from environmental science, medicine, engineering and computer science has generated innovative analytical frameworks and policy solutions.

Despite these benefits, interdisciplinary collaboration presents considerable challenges. Different disciplines often employ distinct terminologies, theoretical assumptions and methodological conventions. These differences may create communication barriers and conceptual misunderstandings.

Theoretical integration represents another challenge. Interdisciplinary projects frequently combine concepts derived from diverse traditions

without sufficient theoretical coherence. Such integration may produce conceptual ambiguity and weaken explanatory clarity.

Institutional structures may further constrain interdisciplinary research. Academic departments, funding systems and publication outlets frequently remain organised around disciplinary boundaries. Researchers engaging in interdisciplinary work may encounter difficulties regarding evaluation criteria, peer review and career progression.

Nonetheless, interdisciplinary engagement remains increasingly necessary within contemporary research environments. Addressing complex social problems requires collaborative frameworks capable of integrating multiple forms of knowledge while maintaining theoretical rigour and methodological clarity.

## Funding, Publication Pressure and Academic Performance

The contemporary academic environment increasingly shapes research behaviour through competitive funding structures and performance evaluation systems. Universities and research institutions frequently assess scholarly productivity through publication counts, citation indicators and journal rankings.

These pressures influence research agendas and methodological choices. Scholars may prioritise topics perceived as publishable rather than socially significant. Short-term funding cycles may discourage longitudinal and exploratory research that requires sustained engagement.

Publication pressure has contributed to concerns regarding academic precarity and mental wellbeing. Early-career researchers often confront intense competition for funding, employment and publication opportunities. Such pressures may undermine research creativity and encourage strategic rather than intellectually driven scholarship.

Predatory publishing and questionable editorial practices constitute additional concerns. The expansion of open-access publishing has

increased accessibility but also created opportunities for exploitative publishing models lacking rigorous peer review.

Consequently, contemporary social science research operates within institutional environments where knowledge production is shaped not only by intellectual inquiry but also by organisational incentives and performance regimes.

## Global Inequality and the Geography of Knowledge Production

One of the most significant structural challenges concerns unequal global patterns of knowledge production. Social science literature remains heavily concentrated within institutions located in North America and Western Europe. This imbalance influences research priorities, theoretical development and scholarly visibility.

Researchers from developing regions often face barriers relating to funding access, language proficiency, database subscriptions and publication costs. Consequently, locally grounded knowledge and indigenous perspectives may remain marginalised within mainstream academic discourse.

The dominance of English-language publishing further reinforces inequality. Although English facilitates global scholarly communication, it may disadvantage non-native speakers and limit representation of contextually diverse scholarship.

Theoretical dependency represents another dimension of inequality. Many studies conducted in developing contexts rely heavily on frameworks developed within Western settings, sometimes without adequate contextual adaptation. This dependence may limit theoretical innovation and obscure alternative epistemological traditions.

Recent scholarship increasingly advocates decolonising social science and promoting epistemic diversity. Such efforts seek to recognise plural forms of knowledge and expand participation within global academic networks.

These findings suggest that contemporary social science research faces challenges extending beyond methodology and technology to encompass broader issues of power, representation and institutional inequality.

## TCCM Analysis And Future Research Agenda

The thematic synthesis demonstrates that contemporary social science research faces multidimensional challenges extending beyond methodological debates to include technological disruption, ethical uncertainty, institutional pressures and structural inequalities. To organise these findings systematically and identify future directions, this study applies the TCCM framework comprising Theory, Context, Characteristics and Methodology. Originally developed as a structured analytical tool for systematic literature reviews, TCCM facilitates critical evaluation of existing scholarship and assists in identifying gaps requiring future scholarly attention.

The application of TCCM reveals important patterns and limitations within the reviewed literature.

### Theory

The theoretical dimension examines dominant conceptual frameworks and epistemological orientations employed within contemporary social science research.

The review indicates that social science scholarship remains characterised by theoretical pluralism. Positivism, interpretivism, constructivism and critical theory continue to shape research design and analytical interpretation. Such diversity enriches disciplinary inquiry and reflects the multidimensional nature of social phenomena. Nevertheless, theoretical fragmentation presents several challenges.

A significant proportion of reviewed studies relied upon established theoretical frameworks without substantial theoretical innovation. Scholars frequently applied existing models to new empirical contexts while paying limited attention to theory refinement or integration. Consequently, many studies contributed incremental findings rather than generating novel conceptual insights.

The dominance of Western theoretical traditions constitutes another important concern. Numerous studies investigating non-Western societies employed theoretical assumptions developed within Euro-American academic settings. While such frameworks offer analytical value, uncritical transfer across contexts may limit explanatory relevance and obscure locally grounded understandings of social reality.

The growing influence of digitalisation and artificial intelligence further exposes theoretical gaps. Emerging technological environments generate social behaviours and institutional arrangements that traditional theories may not fully explain. Issues such as digital citizenship, algorithmic governance and virtual identity increasingly require conceptual frameworks capable of addressing technologically mediated social life.

Moreover, interdisciplinary research frequently encounters theoretical inconsistency. Collaborative projects often combine concepts from multiple disciplines without adequately resolving epistemological differences. This theoretical eclecticism may broaden perspectives but sometimes weakens analytical coherence.

## Future Theoretical Directions

Future research should prioritise:

- Development of context-sensitive theories capable of explaining diverse social realities.
- Greater theoretical innovation rather than exclusive reliance on established frameworks.
- Integration of digital sociology, computational social science and technology studies into mainstream theory development.
- Increased attention to indigenous, Global South and non-Western theoretical perspectives.
- Stronger interdisciplinary theoretical synthesis supported by explicit epistemological dialogue.

Theoretical advancement therefore requires both pluralism and coherence. Social science must remain open to multiple perspectives while simultaneously developing more integrated and contextually relevant explanatory frameworks.

## Context

The contextual dimension explores geographical, institutional and socio-political settings within which social science research is conducted.

The review demonstrates substantial contextual imbalance. Research remains disproportionately concentrated within developed countries, particularly North America and Western Europe. Consequently, global scholarly understanding may reflect geographically uneven evidence and priorities.

Developing countries and marginalised communities often remain underrepresented despite experiencing significant social transformation. Limited institutional infrastructure, inadequate funding and restricted database access constrain research visibility in these regions.

The COVID-19 pandemic provides an important illustration of contextual complexity. The pandemic accelerated digitalisation, altered social interaction and intensified inequalities, thereby reshaping research priorities and methodological practices. Studies increasingly investigated health communication, online behaviour and institutional resilience. However, pandemic-related scholarship also highlighted disparities in digital access and research capacity.

Political contexts further influence research environments. Authoritarian governance, conflict settings and restrictive regulatory systems may limit academic freedom and access to sensitive populations. Researchers operating within such environments frequently confront challenges relating to participant protection, censorship and data reliability.

Institutional context likewise affects research production. Universities increasingly operate within market-oriented performance systems

emphasising funding acquisition and publication output. These organisational environments shape research agendas and methodological choices.

## Future Contextual Directions

Future scholarship should:

- Expand comparative and cross-cultural research.
- Increase representation of Global South contexts.
- Investigate context-specific manifestations of digitalisation and inequality.
- Examine institutional and political influences on research production.
- Promote decolonial and locally grounded scholarship.

Context-sensitive research is essential because social processes cannot be understood independently of historical, political and cultural conditions.

## Characteristics

The characteristics dimension concerns substantive themes, research focus and conceptual features of the reviewed literature.

The review reveals increasing scholarly attention to digital transformation, ethics and interdisciplinary collaboration. Social science research increasingly addresses technologically mediated societies and policy-oriented challenges. Nevertheless, several limitations remain evident.

Many studies focused narrowly upon methodological debates or technological tools without sufficiently connecting these issues to broader social structures and power relations. Consequently, research occasionally treated technological change as neutral rather than socially embedded.

Ethical discussion similarly remained fragmented. Although privacy and consent received considerable attention, broader ethical

concerns—including digital justice, algorithmic accountability and participant empowerment—were less extensively explored.

Short-term and issue-specific studies predominated across several disciplines. While such work contributes valuable insights, it may limit understanding of long-term social transformation and institutional change.

The literature also demonstrated uneven engagement with vulnerable populations and marginalised voices. Research involving digitally excluded communities, indigenous populations and economically disadvantaged groups remained comparatively limited.

## Future Research Characteristics

Future studies should emphasise:

- Longitudinal analysis of social transformation.
- Greater focus on inequality and social justice.
- Intersectional and inclusive research perspectives.
- Examination of digital and technological change within broader socio-political structures.
- Policy-relevant and socially engaged scholarship.

These directions may strengthen both scholarly relevance and societal impact.

## Methodology

The methodological dimension addresses research design, analytical techniques and evidence generation.

The review confirms continued methodological diversification across social science research. Quantitative, qualitative and mixed-method approaches remain widely employed. Increasingly, researchers utilise computational methods and digital analytics.

Despite this diversity, methodological challenges persist.

Many quantitative studies relied upon cross-sectional data, limiting causal interpretation and longitudinal understanding. Qualitative studies, although contextually rich, frequently faced criticism regarding transparency and reproducibility.

Computational methods and AI-assisted analysis represent important methodological innovations but also generate concerns regarding interpretability, algorithmic bias and technical dependency. Researchers may adopt sophisticated analytical tools without fully understanding underlying assumptions or limitations.

The review also identified limited methodological integration. Mixed-methods studies often employed parallel rather than genuinely integrated designs. Consequently, opportunities for deeper triangulation and methodological complementarity remained underutilised.

Reproducibility and research transparency continue to require attention. Open science practices, data sharing and transparent reporting have expanded, yet adoption remains uneven across disciplines.

## Future Methodological Directions

Future research should promote:

- Methodological pluralism combined with analytical rigour.
- Longitudinal and comparative research designs.
- Transparent and reproducible research practices.
- Responsible integration of AI and computational methods.
- Advanced mixed-methods and triangulation approaches.
- Training in digital literacy and computational competence.

Methodological innovation should therefore be accompanied by reflexivity, transparency and ethical responsibility.

## Conceptual Framework

The conceptual framework of the present study is developed by integrating the **PRISMA-based systematic literature review approach** with the **TCCM (Theory–Context–Characteristics–Methodology) framework** to analyse contemporary challenges in social science research and formulate a future research agenda.

The framework assumes that contemporary social science research is influenced by multiple interconnected factors operating at theoretical, methodological, technological and institutional levels. The literature suggests that challenges are not isolated but emerge through interaction among research paradigms, digital transformation, ethical considerations, interdisciplinary demands and global inequalities in knowledge production.

At the first stage, the **PRISMA framework** provides methodological rigour by systematically identifying, screening and selecting relevant literature from Scopus and Web of Science databases. This process ensures transparency, replicability and reduction of selection bias.

At the second stage, the selected literature is analysed using the **TCCM framework**. The **Theory** dimension examines dominant paradigms and conceptual foundations shaping social science inquiry. **Context** evaluates geographical, institutional and socio-political conditions influencing research production. **Characteristics** focus on emerging themes such as digitalisation, ethics and interdisciplinary collaboration. **Methodology** analyses research designs, data collection methods and analytical approaches.

The framework proposes that the interaction among these four dimensions determines the nature and quality of contemporary social science research. Persistent challenges including methodological fragmentation, algorithmic bias, ethical uncertainty, publication pressure and unequal knowledge production collectively influence scholarly outcomes.

Accordingly, the conceptual framework positions contemporary challenges as independent analytical dimensions that shape social

science research processes and ultimately inform the development of a structured **future research agenda**.

## Conceptual Framework Model

**PRISMA-Based Literature Identification**

↓

**Systematic Selection of Studies (2015–2025)**

↓

**TCCM Analysis**

Theory

Context

Characteristics
Methodology

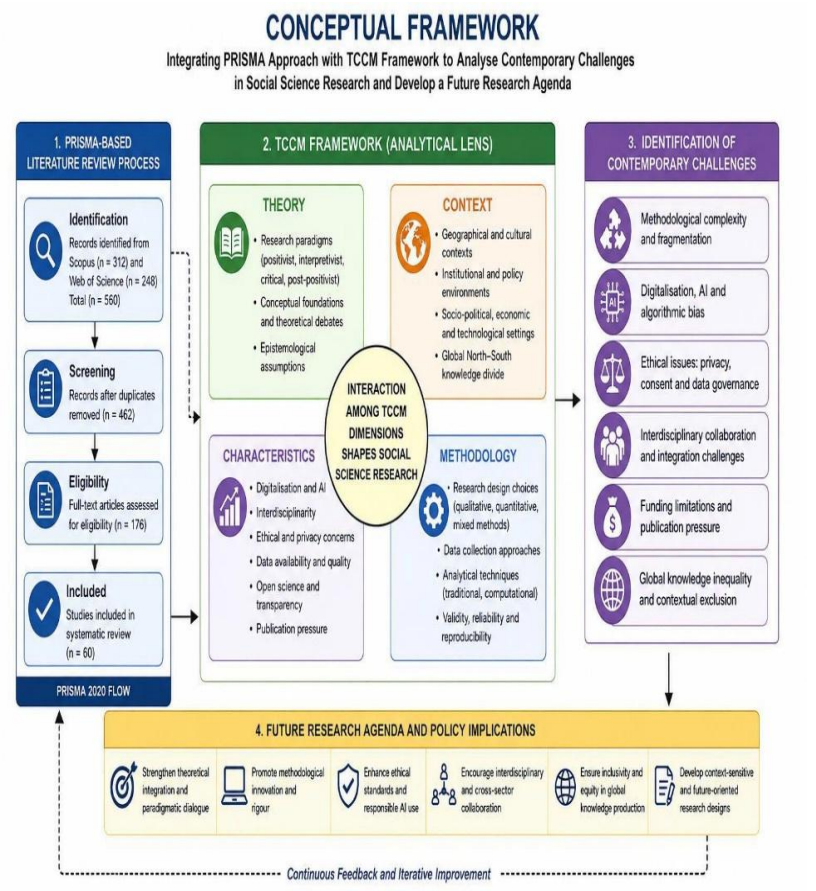
↓

**Identification of Contemporary Challenges**

Methodological complexity
Digitalisation and AI
Ethical concerns
Interdisciplinary challenges
Funding and publication pressure
Global knowledge inequality

↓

## Future Research Agenda and Policy Implications




## Conclusion and Implications

This systematic literature review examined contemporary challenges in social science research through the PRISMA framework and synthesised findings using the TCCM model. The analysis demonstrates that contemporary social science operates within a rapidly changing intellectual and institutional environment characterised by methodological complexity, technological transformation, ethical uncertainty and global inequality.

Methodological debates concerning quantitative, qualitative and mixed approaches continue to shape scholarly practice. Simultaneously, digitalisation and artificial intelligence have transformed research processes while generating new concerns regarding transparency, privacy and bias. Ethical challenges have intensified in response to digital data environments, while interdisciplinary collaboration and institutional performance pressures increasingly influence research agendas.

The review further reveals structural inequalities in global knowledge production. Research visibility, funding access and theoretical influence remain unevenly distributed, highlighting the importance of epistemic diversity and decolonial perspectives.

Application of the TCCM framework enabled systematic identification of theoretical, contextual, substantive and methodological gaps. Future research should prioritise theory development, contextual inclusivity, ethical reflexivity and methodological innovation while promoting interdisciplinary collaboration and socially engaged scholarship.

The study contributes to literature by providing an integrated synthesis of contemporary challenges and offering a structured future research agenda. Rather than viewing these challenges solely as constraints, they may also be interpreted as opportunities for renewal and transformation. Social science research remains essential for understanding complex societies and informing policy responses within an increasingly uncertain world.

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