Specialized Research Pathway and Advanced AI-Driven Analysis

Hossein Aazami

Business Development Manager
Training Director

Avid Arvand Technology and Development Company

SCiNiTO

Outlines

Research Gaps

- Types of research gaps, methods for identifying them, and how to report them in a manuscript.

Formulating Research Questions

- Different frameworks for formulating research questions and approaches to evaluating their quality.

Peer Review

- Types of peer review, workflow and processes, roles of different editors, requirements and expectations, reviewer checklists, and the structure of reviewer reports for editors and authors.

AI Use Policies in Research

- Requirements, guidelines for responsible use, and proper disclosure of artificial intelligence tools in scholarly research.

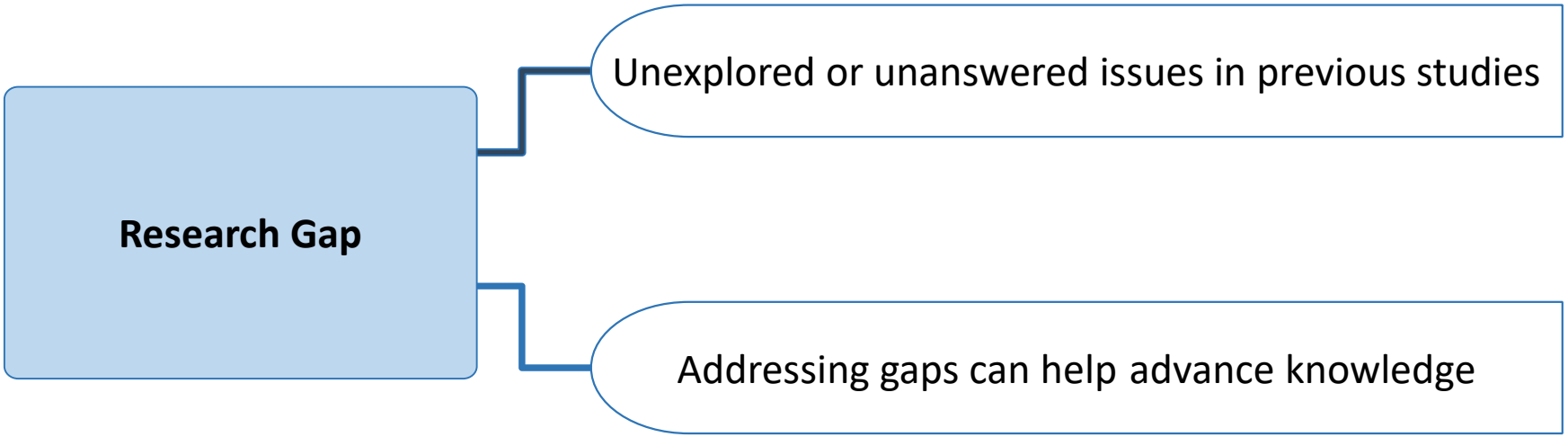
Introducing the Applications of SCiNiTO AI Throughout the Webinar

- Highlighting SCiNiTO's role across all stages covered in the webinar.

SCiNiTO

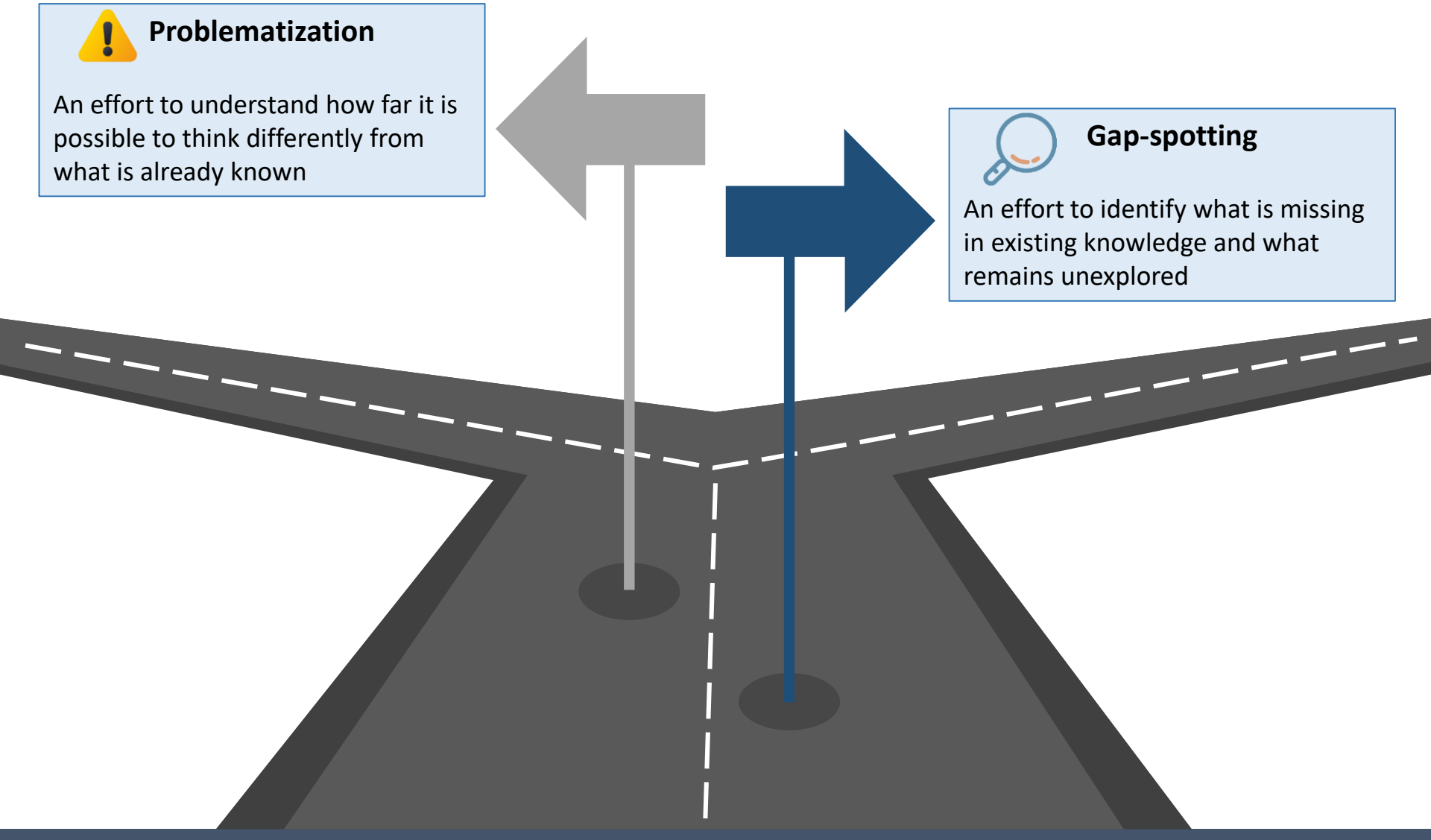
Research Gaps

- Types of research gaps
- Methods for identifying research gaps
- How to write or present research gaps in a study


Research Gap
Unexplored or unanswered issues in previous studies
Addressing gaps can help advance knowledge

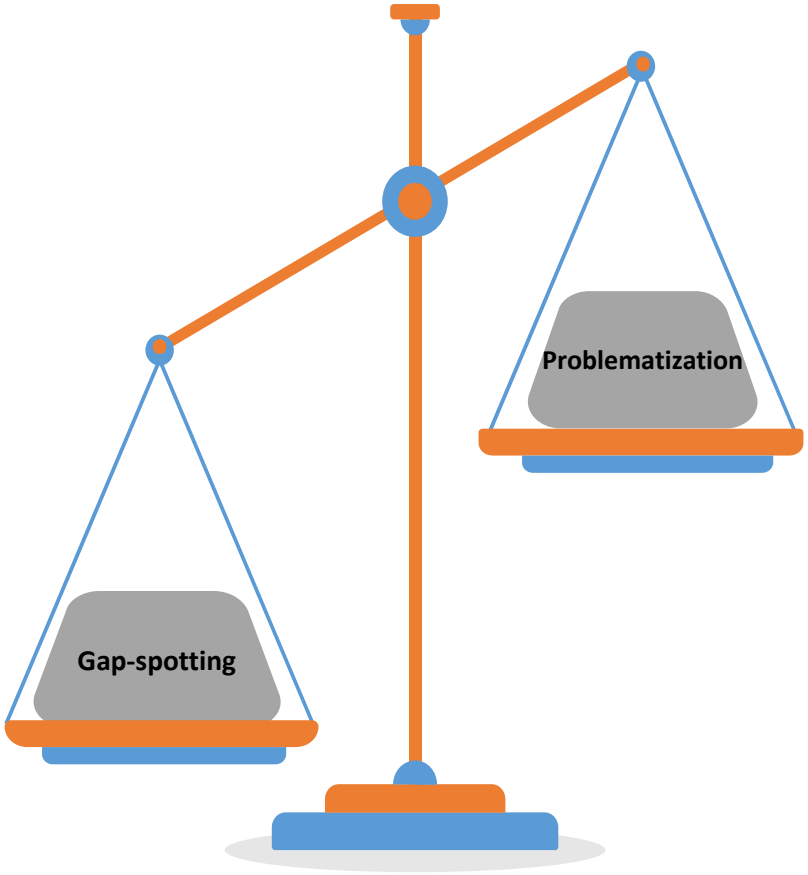
SCiNiTO

Ways of Constructing Research Questions



SCiNiTO

Why Gap Spotting is Common



1. Identifying gaps is easy
2. Uncontroversial and safe
3. Knowledge accumulation
4. Academic credit
5. Institutions encourage gap-spotting
6. Journals promote gap-spotting
7. Gap-spotting is often reasonable
8. Problematization is challenging

SCiNiTO

Population gap
Research regarding populations that are under-represented or not adequately represented in the evidence base or prior research

Knowledge gap
The desired research findings do not exist

Theoretical gap
Theories should be applied to certain research issues to generate new insights. There is a lack of theory, thus a gap exists

Empirical gap
Research findings or propositions that need to be evaluated or empirically verified

Evidence gap
Results from studies allow for conclusions in their own right, however these are contradictory when examined from a more abstract point of view

Methodological gap
A variety of of research methods is necessary to generate new insights or to avoid distorted findings

Practical-knowledge gap
Professional behavior or practices deviate from research findings or are not covered by the research

The Seven Research Gaps

Population Gap

Definition

A population gap exists when researchers have studied certain groups of people but ignored others who might be important to understand.

When Does This Gap Occur?

- When studies only focus on one age group (e.g., only young adults, while elderly are ignored)
- When research only examines one gender
- When studies only look at urban populations, while rural areas are ignored
- When research focuses on one country or culture
- When certain professions or income levels are excluded

Example

Previous research: Most studies on social media use and mental health have focused on teenagers and college students.

Population gap: We know very little about how social media affects the mental health of adults over 50.

Why it matters: Older adults are increasingly using social media, but we don't know if it affects them the same way as younger people.

Population Gap Identification Framework

- Has the existing body of research adequately examined all relevant populations within this field of study?

Yes _____ No _____

- Are there specific demographic subgroups or populations that remain underrepresented or absent in the current literature?

Yes _____ No _____

- Do any identifiable subpopulations present significant opportunities for novel research contributions hat have not yet systematically investigated?
- Yes _____ No _____

Addressing the Population Gap Through Strategy and Effective Write-Up

Based on a systematic review of existing literature, a significant population gap has been identified. Several subpopulations remain unexplored or inadequately researched within this field **[Ref].** The **[specific population/demographic group]** appears to be particularly important and worthy of investigation in the context of **[research area/phenomenon/theoretical framework]**. An investigation of this population is critically important because **[rationale: theoretical significance, practical implications, or policy relevance]**. Furthermore, previous research has predominantly focused on **[dominant population studied]**, while comparatively limited empirical attention has been devoted to **[underserved population] [Ref].**

SCiNiTO

Example Application:
Addressing the Population Gap Through Strategy and Effective Write-Up

Based on a review of existing research, there is a clear population gap. **Older adults aged 50 and above** appear particularly important to study in the context of **online learning platforms and digital education**. Investigating this population is important because **this age group is rapidly growing, many are interested in lifelong learning, and most educational technology is designed based on studies of younger students**. Furthermore, previous research has focused primarily on **college students and working-age adults**, while very limited research has examined **senior citizens' experiences with online education [Ref].**

Example only; not reflecting real-world existence

SCiNiTO

SCiNiTO AI Chatbot: Some Applications in Academic Research

- Literature Review
- Methodology Clarification
- Complex Topic Exploration
- Proposal Development
- Research Topic Guidance
- Definition Clarification

Using SCiNiTO AI to Examine Population Gaps in Social Media and Mental Health Research

ادبیات مربوط به رابطه بین استفاده از شبکه‌های اجتماعی و سلامت روان را مرور کن و مشخص کن کدام گروه‌های جمعیتی کمتر مطالعه شده‌اند. به‌ویژه نشان بده که چرا پژوهش‌ها بیشتر روی نوجوانان و جوانان متمرکز بوده و سالمندان یا کودکان کمتر بررسی شده‌اند.

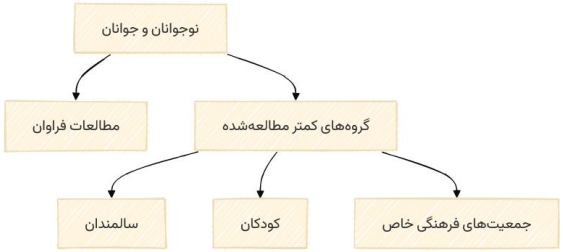


Diagram: این نمودار توزیع تمرکز پژوهشی بر گروه‌های سنی و جمعیت‌های کمتر مطالعه‌شده را نشان می‌دهد.

دلایل تمرکز بر نوجوانان و جوانان و عدم بررسی سالمندان یا کودکان

تمرکز بر نوجوانان و جوانان به دلیل شیوع بالای استفاده از SNS در این گروه‌هاست؛ برای مثال، بیش از 2.7 میلیارد کاربر ماهانه فیسبوک و اینستاگرام عمدتاً نوجوانان و جوانان هستند، که روزانه بیش از دو ساعت صرف می‌کنند . این گروه آسیب‌پذیرتر است، زیرا در مرحله توسعه روانی قرار دارند و عوامل مانند cyberbullying، مقایسه اجتماعی و اختلالات خواب (ناشی از استفاده شبانه) بر عملکرد تحصیلی و عاطفی آن‌ها تأثیر می‌گذارد . پژوهش‌ها اغلب از طراحی‌های مقطعی و نمونه‌گیری از دانشجویان استفاده می‌کنند، که دسترسی آسان‌تر و هزینه کمتر دارد . همچنین، نگرانی‌های عمومی (مانند افزایش خودکشی و افسردگی در نوجوانان) پژوهش‌ها را به این سمت سوق داده است .

در مقابل، سالمندان کمتر مطالعه شده‌اند زیرا دسترسی کمتری به فناوری دارند و اولویت پژوهش‌ها بر گروه‌های "ریسک‌پذیر" جوان است . کودکان نیز به دلیل مسائل اخلاقی (مانند رضایت والدین و اثرات بلندمدت) و کمبود داده‌های معتبر، نادیده گرفته شده‌اند؛ مرورها نشان می‌دهند که مطالعات بر کودکان عمدتاً بر دستگاه‌های بی‌سیم کلی تمرکز دارند، نه SNS خاص . علاوه بر این، در کشورهای در حال توسعه، کمبود غربالگری سلامت روان و تمرکز بر اولویت‌های اقتصادی، پژوهش بر سالمندان و کودکان را محدود می‌کند . مطالعات نظری کمتر (79% بدون تئوری) نیز بر جنبه‌های عمومی جوانان تأکید دارد، نه گروه‌های خاص .

جدول خلاصه کلیدی

جدول 2: خلاصه روابط کلیدی و تمرکز مروری

موضوع	یافته‌های اصلی	منابع	گروه‌های کمتر مطالعه‌شده و دلایل
اثرات مثبت SNS	افزایش تعلق و حمایت اجتماعی		سالمندان: دسترسی کم؛ کودکان: مسائل اخلاقی
اثرات منفی SNS	افزایش اضطراب، افسردگی و تنهایی		جمعیت‌های فرهنگی: کمبود داده در کشورهای در حال توسعه
تمرکز پژوهشی	نوجوانان/جوانان: 70% مطالعات		تمرکز به دلیل شیوع بالا و آسیب‌پذیری

SCiNiTO

Using SCiNiTO AI to Examine Population Gaps in Social Media and Mental Health Research

Conduct a systematic review of workplace burnout focusing on underrepresented populations or demographic groups. Identify which age groups, ethnicity, socioeconomic statuses, or geographic regions have been excluded from existing studies and explain why these groups warrant investigation

Gaps in Ethnicity and Racial Groups

Ethnic minority groups, such as Black, Indigenous, and People of Color (BIPOC), are underrepresented, with studies often drawing from predominantly White samples in psychology and medicine . Metadata indicates a Western-centric bias, excluding non-White ethnicities from global south contexts.

1. **Exclusion patterns**: Research in social sciences prioritizes urban, majority-ethnicity participants, sidelining immigrant or minority workers due to language barriers and cultural insensitivity in survey tools . For example, burnout scales validated in English-speaking, White populations may not capture culturally specific stressors like racial microaggressions .
2. **Warrant for investigation**: These groups experience compounded burnout from systemic racism and occupational segregation (e.g., essential low-wage roles during crises). Studying them could reveal tailored interventions, addressing health inequities in diverse societies .

Comparison of ethnic representation:

ETHNIC GROUP	REPRESENTATION LEVEL	KEY EXCLUSION FACTORS	INVESTIGATION RATIONALE
White/Majority	High	Easier access to research institutions	Establishes baseline but ignores diversity
BIPOC (e.g., Black, Hispanic)	Low	Sampling biases; cultural mismatches in measures	Intersection with discrimination; higher burnout in undervalued jobs
Indigenous/Non-Western Ethnicities	Negligible	Geographic and colonial research legacies	Cultural resilience factors; decolonizing occupational health

Gaps in Socioeconomic Statuses

Low-SES groups, including working-class and impoverished workers, are largely absent, with studies favoring middle-SES professionals . Sources in medicine highlight this through a focus on white-collar burnout, neglecting blue-collar realities .

1. **Exclusion reasons**: Logistical challenges in reaching low-SES populations (e.g., no access to online surveys) and a bias toward "knowledge workers" in psychology literature .
2. **Why investigate?**: Low-SES individuals face amplified burnout from financial precarity, unsafe conditions, and limited recovery resources, warranting studies to inform equitable policies like universal mental health support .

Side-by-side comparison of SES gaps:

SES LEVEL	INCLUSION IN STUDIES	BARRIERS TO INCLUSION	NEED FOR STUDY
High/Middle	Dominant	Resource-rich participants	Overemphasized; misses broader workforce
Low/Working-Class	Minimal	Mobility and literacy issues	Economic stressors compound burnout; informs labor rights

SCiNiTO

Empirical Gap

Definition

An empirical gap exists when people talk about or theorize about something, but nobody has actually tested it with real data or experiments.

When Does This Gap Occur?

- When there are only opinion pieces or theoretical discussions, with no actual studies
- When research consists only of case studies or interviews, without any quantitative data
- When concepts are discussed but never measured or tested
- When relationships between variables are assumed but never verified

Example

Example 1: Digital Privacy Behavior

Previous research: Numerous theoretical papers argue that privacy concerns should lead consumers to avoid sharing personal data online. Behavioral economics models predict rational privacy-protective actions.

Empirical gap: No large-scale quantitative study has actually measured whether people who express high privacy concerns genuinely behave differently in their actual online data-sharing practices (e.g., app permissions, social media settings, cookie acceptances) compared to those with low privacy concerns.

Why it matters: The "privacy paradox" remains theoretical speculation without systematic empirical measurement of actual behavior versus stated preferences across diverse populations.

Empirical Gap Identification Framework

- Does the existing literature demonstrate methodological homogeneity, relying predominantly on a single research approach or design (e.g., non-empirical methods)?

Yes _____ No _____

- Does most prior research rely solely on qualitative methodologies and designs, such as case studies or narrative approaches?

Yes _____ No _____

- Does the existing research predominantly employ non-empirical or descriptive approaches, rather than systematic evaluation or hypothesis-testing designs?

Yes _____ No _____

Addressing the Empirical Gap Through Strategy and Effective Write-Up

A critical examination of the existing literature reveals a substantial empirical gap. The body of prior research demonstrates insufficient methodological rigor and lacks systematic empirical investigation. **[Specific phenomena, relationships, or constructs]** appear to be particularly important and warrant rigorous empirical investigation within the context of **[research domain/theoretical framework]**.
A systematic empirical investigation of these issues is critically important because **[rationale: theoretical validation needs, practical application requirements, or policy decision support]**.
Furthermore, the majority of previous research has concentrated primarily on qualitative or theoretical explorations of **[topic/phenomenon]**. To date, no study has systematically attempted to empirically evaluate **[specific relationships, hypotheses, or effects]** using quantitative or mixed-methods approaches. Rigorous empirical research examining **[specific gap]** remains notably absent from the literature **[Ref].**

SCiNiTO

Example Application:
Addressing the Empirical Gap Through Strategy and Effective Write-Up

A review of the literature reveals a significant **empirical gap**. The relationship between stated privacy concerns and actual online data-sharing behavior appears important to investigate in the context of consumer protection and digital platform regulation.

A systematic empirical investigation is important because, while privacy advocates and policymakers assume that privacy-conscious individuals protect their data more carefully, **there is no solid quantitative evidence** showing whether people who express high privacy concerns actually behave differently in their real-world digital interactions compared to those with low privacy concerns.

Furthermore, previous research has concentrated primarily on **theoretical models** predicting rational privacy-protective behavior and **survey-based self-reports** of privacy attitudes. **To date, no study has systematically attempted to empirically evaluate** the actual correlation between measured privacy concern levels and **objectively tracked online behaviors** (such as app permission grants, social media privacy settings, cookie acceptances, and personal data disclosure patterns) using **large-scale behavioral data analysis methods** [Ref].

Example only; not reflecting real-world existence

SCiNiTO

METHODOLOGICAL GAP

Definition

A methodological gap exists when researchers have only used one way to study something, and other research methods could provide valuable and different insights.

When Does This Gap Occur?

- When all studies use surveys, but nobody conducts experiments
- When research is always short-term, but long-term studies are needed
- When studies are only done in laboratories, not in real-world settings
- When only quantitative methods are used, but qualitative insights are missing
- When comparative studies across countries or contexts are absent

Example

Previous research: All studies on restaurant customer satisfaction use surveys asking people to rate their experience after dining.

Methodological gap: No research has used observation methods to watch how customers actually behave in restaurants or to analyze their facial expressions and body language.

Why it matters: What people say on surveys might be different from how they actually behave, and observation could reveal hidden insights.

Methodological Gap Identification Framework

- Does the existing research literature demonstrate adequate diversity in research designs, or is it dominated by a singular methodological approach?

Yes _____ No _____

Methodological Gap: Strategy and Effective Write-Up

A systematic review of the existing literature reveals a significant methodological gap **[Ref].** There is a notable absence of **[specific research design/methodology]** within **[research domain/field]**.
Based on the research design we propose to implement, a comprehensive assessment reveals a paucity of studies employing **[specific methodological approach]** in this field.
The present study seeks to establish a novel methodological inquiry by implementing **[specific research design/approach]** to address **[research problem/phenomenon]**.
We aim to extend the existing body of knowledge by addressing these methodological limitations through the application of **[specific methodology]**, which offers **[unique advantages/capabilities]** not previously utilized in examining **[research context/phenomenon] [Ref].**

Example Application 1:
Addressing the Methodological Gap Through Strategy and Effective Write-Up

A systematic review of the literature reveals a significant **methodological gap. There is a notable absence of observational methods** within the field of restaurant customer satisfaction research. Based on our proposed research design, a comprehensive assessment reveals a **paucity of studies employing video-based behavioral analyses** in this field. The present study seeks to establish a **novel methodological inquiry** by implementing **systematic observation and facial expression analysis** to examine actual customer satisfaction. We aim to extend the existing body of knowledge by addressing these **methodological limitations** through the application of **video-based behavioral analysis**, which offers the ability to **identify nonverbal reactions and genuine emotions** that are not accessible through self-report questionnaires.

Example only; not reflecting real-world existence

Knowledge gap

Definition

A knowledge gap exists when a topic or phenomenon is simply not discussed or studied in research at all, or only mentioned very briefly.

When Does This Gap Occur?

- When a new phenomenon emerges that hasn't been studied yet
- When an important topic is completely overlooked in literature
- When researchers focus on one aspect of an issue but ignore related important aspects
- When certain questions have never been asked or explored

Example

Previous research: Numerous studies have examined the effects of social media on adolescent mental health. Researchers have investigated how extensive use of platforms like Instagram or TikTok can contribute to depression or anxiety.

Knowledge gap: Almost nothing is known about the effects of adolescents editing and filtering their own photos on their body image and identity. For example, when a teenager spends 20 minutes editing a selfie-applying filters, slimming their face, smoothing their skin-how does this process influence their self-perception?

Why it matters: The editing process itself may be even more harmful than merely viewing edited images of others. When adolescents alter their own images, they are creating an unrealistic version of themselves. This can have profound effects on identity formation and self-concept. Yet, this area remains largely unexplored.

Knowledge Gap Identification Framework

- 1. Has the focal topic serving as the foundation of this research been adequately addressed in the existing literature?

Yes _____ No _____

- 2. Does the existing literature provide a comprehensive theoretical and conceptual development of this topic?

Yes _____ No _____

- 3. Has the topic been explored extensively across multiple dimensions, contexts, or theoretical perspectives in prior scholarship?

Yes _____ No _____

Addressing the Knowledge Gap Through Strategy and Effective Write-Up

A comprehensive literature review reveals a substantial knowledge gap concerning **[specific topic/phenomenon/concept] [Ref].**
Additionally, the existing body of research has not adequately addressed **[specific dimension, relationship, or aspect of the topic]**. This encompasses several unexplored dimensions that have recently garnered considerable scholarly attention in related disciplines **[Ref 1, Ref 2].**
[Specific topic/phenomenon] warrants further systematic investigation to develop a comprehensive understanding of **[specific research question or theoretical puzzle]** and to explain why **[specific condition, pattern, or outcome]** has not been observed or theorized within **[specific context or domain] [Ref].**

SCiNiTO

Example Application:
Addressing the Knowledge Gap Through Strategy and Effective Write-Up

A comprehensive literature review reveals a substantial **knowledge gap** concerning the process of editing and modifying personal photos by adolescents and its psychological impacts.
Additionally, existing research has **not adequately addressed** the relationship between the active process of image editing and identity formation as well as self-concept development in adolescents. This encompasses several unexplored dimensions such as **the gap between the real self and the edited self**, and the long-term consequences of this discrepancy on mental health, which have recently garnered significant scholarly attention in media psychology and body image studies.
The process of selfie photo editing by adolescents warrants further systematic investigation to develop a comprehensive understanding of how this process influences adolescents' perceptions of themselves and to explain why **patterns of discordance between real and digital self-concept** have not been systematically observed or theorized within the context of social media psychology and adolescent mental health.

Example only; not reflecting real-world existence

THEORETICAL GAP

Definition

A theoretical gap exists when there's no framework or model to explain **why** or **how** something happens, even if we can see THAT it happens.

When Does This Gap Occur?

- When observations exist but no explanation for why they occur
- When old theories don't fit new situations or technologies
- When theories from one field are needed but haven't been applied to another field
- When existing theories are too narrow and miss important factors

Example

Previous research: Studies show that Generation Z has a distinctly different relationship with social media compared to previous generations - they use platforms differently, engage with content differently, and experience different psychological effects - but we can observe these patterns clearly.
Theoretical gap: There's no clear theory explaining why Generation Z interacts with social media so differently from Millennials or Generation X. Existing consumer behavior theories were developed before the social media era and don't explain what fundamental differences-whether developmental (growing up digital-native), psychological (different identity formation processes), or sociocultural (different values and norms)-drive these distinct patterns of engagement and impact.
Why it matters: Without understanding why these generational differences exist, marketers can't effectively target Gen Z, educators can't address their unique needs, mental health professionals can't provide appropriate interventions, and platform designers can't create age-appropriate features. Current strategies based on older generations simply don't work for this cohort.

SCiNiTO

Theoretical Gap Identification Framework

- 1. Has a formal theory or conceptual model been developed to explain the focal topic within the existing research literature?

Yes _____ No _____

- 2. Does the existing body of research demonstrate adequate theoretical or conceptual framework development regarding this topic?

Yes _____ No _____

- 3. Have prior studies established comprehensive theoretical frameworks or structural constructs that sufficiently explain this phenomenon?

Yes _____ No _____

Addressing the Theoretical Gap Through Strategy and Effective Write-Up

A systematic review of the existing literature reveals a significant theoretical gap concerning **[specific phenomenon/topic/domain]**.
The theoretical foundation addressing **[specific topic]** remains considerably underdeveloped, and contemporary studies reflect the consequences of this theoretical deficiency. While certain foundational theoretical perspectives offer valuable insights and merit recognition **[optional: briefly mention seminal work]**, substantial theoretical development regarding **[specific theoretical dimension or mechanism]** is critically needed.
Further theoretical investigation is essential because **[rationale: explain theoretical importance, practical implications, or paradigm limitations]**.
Furthermore, existing theoretical models require integration with contemporary research developments in **[related field/discipline]** and adjacent domains to establish a more robust theoretical foundation.
Previous theoretical frameworks have predominantly concentrated on **[limited focus of existing theory]**, failing to incorporate emerging paradigms in **[new theoretical perspectives, contemporary phenomena, or evolving conceptualizations]** that have fundamentally reshaped understanding in related fields **[Ref].**

SCiNiTO

Example Application 1:
Addressing the Theoretical Gap Through Strategy and Effective Write-Up

A systematic review reveals a significant theoretical gap concerning **why some people become addicted to smartphone use while others do not**.
The theoretical foundation for **understanding smartphone addiction** remains underdeveloped. While some basic psychological theories offer insights, substantial theoretical development regarding **the specific mechanisms that make smartphones uniquely addictive compared to other technologies** is needed.
Further theoretical investigation is essential because **existing addiction theories were developed for substances like drugs or activities like gambling, and smartphones combine many different addictive elements (social media, games, information) that these old theories don't adequately explain**.
Furthermore, existing theories have focused primarily on **general technology overuse**, failing to incorporate emerging understanding of **algorithmic personalization, infinite scroll design, and fear of missing out (FOMO)** all of which make smartphones uniquely problematic **[Ref].**

Example only; not reflecting real-world existence

EVIDENCE GAP

Definition

An evidence gap exists when different studies contradict each other-some say one thing, others say the opposite-leaving us uncertain about what is actually true.

When Does This Gap Occur?

- When Study A says X increases Y, but Study B says X decreases Y
- When research from different countries shows opposite results
- When some experiments show an effect, others show no effect
- When there's no consensus on what actually works or doesn't work

Example

Previous research: Some studies say that listening to music while studying improves memory and test scores, whereas other studies find that music is distracting and harms academic performance.

Evidence gap: We have conflicting evidence-we don't know if music helps or hurts studying, or under what conditions it might do either.

Why it matters: Students need to know whether they should study with music or in silence, but current research can't give a clear answer.

Evidence Gap Identification Framework

1. Do studies examining similar phenomena produce consistent and replicable results?
Yes _____ No _____
2. Are the findings across multiple studies largely concordant and mutually supportive concerning the focal phenomenon?
Yes _____ No _____
3. Does the existing research exhibit significant contradictions, inconsistencies, or conflicting results regarding key findings?
Yes _____ No _____

SCiNiTO

Addressing the Evidence Gap Through Strategy and Effective Write-Up

A critical analysis of the existing literature reveals a substantial evidence gap characterized by inconsistent and contradictory findings concerning **[specific phenomenon/relationship/outcome]**.
Previous research has examined several dimensions of **[broader topic]**: (1) **[first dimension/aspect] [Ref 1, Ref 2, Ref 3],** (2) **[second dimension/aspect] [Ref 1, Ref 2, Ref 3]**, and (3) **[third dimension/aspect] [Ref 1, Ref 2, Ref 3]**.
However, the existing body of research demonstrates significant contradictions and unresolved inconsistencies in its findings. Specifically, **[describe nature of contradiction: conflicting results, opposite effects, incompatible conclusions]**. These contradictory findings suggest **[potential explanation: methodological variations, contextual differences, measurement issues, or theoretical ambiguity]**, indicating a critical evidence gap that requires systematic investigation to establish empirical clarity and theoretical coherence **[Ref].**

SCiNiTO

Example Application:
Addressing the Evidence Gap Through Strategy and Effective Write-Up

A critical analysis of the existing literature reveals a substantial evidence gap characterized by inconsistent and contradictory findings concerning **the relationship between remote work arrangements and employee productivity**.

Previous research has examined several dimensions of **workplace flexibility and performance outcomes**: (1) **productivity metrics in telecommuting contexts [Ref1, Ref 2, Ref 3]**, (2) **the role of managerial monitoring and autonomy [Ref 1, Ref 2, Ref 3]**, and (3) **work-life balance effects on job performance [Ref 1, Ref 2, Ref 3].**

However, the existing body of research demonstrates significant contradictions and unresolved inconsistencies in its findings. Specifically, **some studies report substantial productivity increases associated with remote work (ranging from 13-35%), while others document significant productivity declines (10-25%) or find no significant effects**. These contradictory findings suggest **potential moderating effects of industry context, measurement approaches (self-reported versus objective metrics), temporal dynamics (short-term versus sustained remote work), or individual differences in work styles and home environments**, indicating a critical evidence gap that requires systematic investigation to establish empirical clarity and theoretical coherence **[Ref]**.

Example only; not reflecting real-world existence

PRACTICAL-KNOWLEDGE GAP

Definition

A practical-knowledge gap exists when research and real-world practice are disconnected-what researchers study doesn't match what professionals actually face in their daily work.

When Does This Gap Occur?

- When research is done in ideal laboratory conditions, ignoring messy real-world constraints?
- When studies focus on what should work theoretically, not what actually works in practice?
- When researchers do not talk to practitioners about their actual problems?
- When research findings can not be applied because they require resources most practitioners do not have?

Example

Previous research: Studies on treating depression with cognitive-behavioral therapy (CBT) are usually conducted with highly motivated volunteers in well-equipped university clinics, with expert therapists and weekly sessions over 12–16 weeks, and without co-occurring problems.
Practical-knowledge gap: Clinical psychologists in public clinics face patients with low motivation, irregular attendance, multiple problems, and limited resources-conditions not reflected in prior studies.
Why it matters: Research that ignores real-world clinical settings does not help the therapists who need effective strategies the most

Practical-knowledge Gap Identification Framework

1. Does the existing body of research demonstrate strong alignment and congruence with the actual practices of field professionals in the topic of interest?
Yes _____ No _____
2. Is there moderate correspondence between research findings and the practical realities experienced by practitioners in the field?
Yes _____ No _____
3. Does the existing research exhibit substantial disconnection or misalignment with established professional practices and practical knowledge in the field?
Yes _____ No _____

SCiNiTO

Addressing the Practical-Knowledge Gap Through Strategy and Effective Write-Up

A comprehensive literature review reveals a substantial practical-knowledge gap in the existing research. The body of scholarship demonstrates insufficient engagement with the applied realities and practical challenges facing professionals in **[specific field/domain]**.

Several critical dimensions of **[practical aspect/challenge]** remain inadequately addressed in the research literature, despite their prominence in **[professional practice/field application]**. The field of **[specific discipline or professional domain]** presents significant opportunities for practice-focused investigation concerning **[specific practical problem or challenge]**.

The majority of existing studies concentrate predominantly on theoretical conceptualization and abstract modeling within **[field/domain]**. However, there is a notable paucity of applied research, practice-based inquiry, or action research addressing **[specific practical context/challenge]**.

This represents an important area worthy of systematic investigation within the context of **[practical setting, professional environment, or applied domain]**. Investigation of these practical dimensions is critically important because **[rationale: practitioner needs, implementation challenges, real-world impact, or professional development requirements]**.

Furthermore, previous research has focused primarily on **[theoretical or conceptual focus of prior work]**, while practice-oriented research examining **[specific practical application or professional context]** remains markedly underdeveloped [Miles, 2017].

SCiNiTO

Example Application:
Addressing the Practical-Knowledge Gap Through Strategy and Effective Write-Up

A comprehensive literature review reveals a substantial practical-knowledge gap in the existing research. The body of scholarship demonstrates insufficient engagement with the applied realities and practical challenges faced by professionals involved in **educational technology implementation in resource-constrained schools**. Several critical dimensions of **technology integration under conditions of limited infrastructure, technical support, and professional development resources** remain inadequately addressed in the research literature, despite their prominence in **the daily experiences of educators in underfunded school districts**. The field of **educational technology** presents significant opportunities for practice-focused investigation concerning **the adaptive strategies teachers employ when implementing digital learning tools without adequate institutional support**.

The majority of existing studies concentrate predominantly on theoretical conceptualization and abstract modeling within **technology adoption frameworks and learning theory**. However, there is a notable paucity of applied research, practice-based inquiry, or action research addressing **the specific workarounds, informal support networks, and improvised solutions that characterize technology use in under-resourced educational settings**.

This represents an important area for systematic investigation within the context of **K-12 public schools serving economically disadvantaged communities**. Investigation of these practical dimensions is critically important because **the existing research-practice divide leaves educators without evidence-based guidance for the actual conditions they face, resulting in implementation failures, teacher frustration, and inequitable learning outcomes for vulnerable student populations**.

Furthermore, previous research has focused primarily on **ideal implementation conditions, well-resourced pilot programs, and theoretical models of technology integration**, while practice-oriented research examining **the messy realities of underfunded school technology initiatives and the practical wisdom teachers develop through experience** remains markedly underdeveloped [Ref].

Example only; not reflecting real-world existence

SCiNiTO

Research Question Formulation

- Frameworks for formulating research questions
- Criteria for evaluating research questions

SCiNiTO

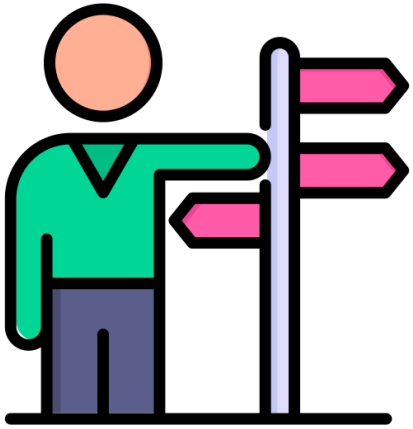
Research Question

A research question is a clear and focused inquiry that identifies the central issue of a study and guides its direction, scope, methodology, and interpretation of findings.

What effect do social media have on adolescents?

What is the effect of one hour of daily Instagram use on popularity related social comparison among adolescents aged 13–18?

What is the effect of one hour of daily Instagram use, including browsing feeds and stories, on popularity related social comparison among adolescents aged 13–18 over a one-month period?



Research question frameworks, also called search frameworks, provide a structured way to formulate focused research questions from a topic of interest, helping researchers identify a manageable set of relevant literature.

SCiNiTO

Frameworks for constructing strong research questions

Type of research question	Framework	Disciplines
Clinical questions	PICO (variants: PIO, PICOT, PICOS)	Health
Qualitative	PEO, PICo, CLIP, ECLIPSE, PCC, SPICE, SPIDER,	Social Sciences; Management; Health
Quantitative	PEO, PICO (variants: PIO, PICOT, PICOS), PCC	Health; Social Sciences; Business and Policy; Environment
Mixed methods	PCC, SPICE, SPIDER	Health; Social Sciences
Methodological or theoretical	BeHEMoTH	Health

SCiNiTO

A framework used for formulating a clinical research question, i.e. questions covering the effectiveness of an intervention, treatment, etc.

PICO element	Definition	Scenario
P (Patient / Population / Problem)	Describe your patient, population or problem	Adults with chronic low back pain
I (Intervention / Indicator)	What intervention is being considered?	Yoga-based exercise programs
C (Comparison / Control)	What is your comparison or control?	Conventional physiotherapy
O (Outcome)	What outcome are you looking for?	Reducing pain intensity

Example: Are yoga-based exercise programs more effective than conventional physiotherapy in reducing pain intensity among adults with chronic low back pain?

Extensions to PICO

Extensions to PICO

If your topic has additional concepts, there are extensions to the PICO framework that you can use:

PICOS - S stands for **study design.** Use this framework if you are only interested in examining specific designs of study.

PICOT - T stands for **timeframe.** Use this framework if your outcomes need to be measured in a certain amount of time, e.g. 24 hours after surgery.

PICOC - **C** stands for **context.** Use this framework if you are focusing on a particular organization or circumstances or scenario.

Diverse Applications of Research Question Frameworks in the SCiNiTO AI Chatbot

What common mistakes should be avoided when developing a research question within the PICO framework?

Common Mistakes to Avoid

1. Making the Question Too Broad or Vague

A frequent error is defining components too generally, which dilutes the question's focus and makes it difficult to search for or apply evidence. For example, specifying "patients with diabetes" as the Population without narrowing to age, severity, or comorbidities can yield overwhelming, irrelevant results.

1. **Why avoid it?** Broad questions hinder precise literature reviews and may lead to inconclusive findings.
2. **Best practice:** Use specific descriptors (e.g., "adults aged 40-60 with type 2 diabetes in urban settings") to refine each PICO element .

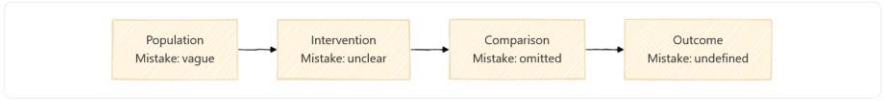


Diagram: Visual summary of PICO components and typical mistakes to avoid.

2. Omitting Key Components, Especially Comparison or Outcome

Developers often skip the Comparison (e.g., no alternative to the Intervention) or fail to clearly define the Outcome, resulting in incomplete questions like "Does exercise help heart disease patients?" without specifying what it's compared to or how success is measured.

1. **Why avoid it?** Without these, the question lacks a testable hypothesis, complicating study design and interpretation in health research.
2. **Best practice:** Ensure all four elements are explicit; for instance, reframe to "In elderly heart disease patients (P), does aerobic exercise (I) versus standard care (C) improve ejection fraction (O)?" .

Quick Visual Summary: PICO Components and Pitfalls

PICO ELEMENT	COMMON MISTAKE	EXAMPLE OF FIX
Population	Too vague (e.g., "all patients")	Specify demographics (e.g., "post-stroke adults over 65")
Intervention	Unclear mechanism (e.g., "treatment")	Detail action (e.g., "10mg daily statin therapy")
Comparison	Omitted entirely	Add control (e.g., "vs. lifestyle modification alone")
Outcome	Subjective or undefined (e.g., "better health")	Quantify (e.g., "reduction in HbA1c by >1%")

SCiNiTO

Diverse Applications of Research Question Frameworks in the SCiNiTO AI Chatbot

Summary of Relevant Studies on Aerobic Exercise and Metabolic Inflammation Markers in Obese Adults

The following table summarizes 8 relevant studies from the provided sources that align with the PICO framework: obese adults (P), aerobic exercise (I), no exercise or control (C), and metabolic inflammation markers such as C-reactive protein (CRP), interleukin-6 (IL-6), tumor necrosis factor-alpha (TNF-α), adiponectin, leptin, and related cytokines (O). Studies were selected based on primary focus on aerobic exercise interventions in obese populations, with outcomes emphasizing inflammatory changes. Non-aerobic-only studies (e.g., combined training or diet-focused) were excluded to maintain specificity.

STUDY TITLE	YEAR	STUDY TYPE / DESIGN	SAMPLE / POPULATION	INTERVENTION	COMPARISON	OUTCOME RESULTS	KEY FINDINGS
Sixteen Weeks of Exercise Reduces C-Reactive Protein Levels in Young Women	2010	Randomized controlled trial	319 sedentary women, aged 18-30 years, BMI 18-40 kg/m^2 (focus on obese subgroup)	16 weeks of aerobic exercise (moderate intensity, ~16 weeks)	No exercise control	CRP decreased by -1.41 mg/L in exercise vs. -0.005 mg/L in control (P=0.040); no changes in SAA, adiponectin, or leptin.	Aerobic exercise significantly reduced CRP levels, particularly in obese women, without mediation by body fat changes or fitness improvements, suggesting early-life exercise may lower chronic disease risk .
Aerobic exercise elevates markers of angiogenesis and macrophage IL-6 gene	2017	Cross-sectional	20 overweight-to-obese adults (BMI 27-29 kg/m^2), aged	Acute aerobic exercise (60 min at ~65%	Sedentary no-	Acute exercise increased SAT VEGFA mRNA; habitual	Habitual aerobic exercise promotes angiogenesis (VEGFA, CD31) and alters macrophage IL-6 expression in adipose

The ECLIPSE framework is useful for qualitative research topics investigating the outcomes of a policy or service. ECLIPSE questions identify six concepts: expectation, client group, location, impact, professionals, and service.

Element	Definition	Example
Expectation	What are you looking to improve or change? What is the information going to be used for?	to increase access to wireless internet in the hospital
Client group	Who is the service or policy aimed at?	patients and families
Location	Where is the service or policy located?	hospitals
Impact	What is the change in service or policy that the researcher is investigating?	clients have easy access to free internet
Professionals	Who is involved in providing or improving the service or policy?	IT, hospital administration
Service	What kind of service or policy is this?	provision of free wireless internet to patients

Example: How can we improve the accessibility and user experience of a digital appointment system for outpatient clinics?

Used for questions relating to cost effectiveness, economic evaluations and service improvements.

CLIP element	Definition	Scenario
C (Client)	Who is the service aimed at?	Elderly
L (Location)	Where is the service located?	Rural communities
I (Improvement)	What do you want to find out?	How the services can be improved
P (Professional)	Who is involved in providing the service?	Health visiting

Example: Ways of improving health visiting services to elderly in rural communities.

SCiNiTO

Used for qualitative questions evaluating experiences and meaningfulness.

SPICE element	Definition	Scenario
S (Setting)	Where is the study set?	United Kingdom? Care homes?
P (Population / Perspective)	From which population / perspective is the study done?	Carers
I (Intervention)	Describe the intervention being studied	Reminiscence therapy
C (Comparison)	Is the intervention being compared with another?	Not available
E (Evaluation)	How well did the intervention work?	Attitudes

Example: What are the attitudes of family caregivers of people with dementia towards the use of digital reminiscence therapy tools, compared with traditional reminiscence methods, in home care settings?

SCiNiTO

Framework used for qualitative questions evaluating experiences and meaningfulness.

SPIDER element	Definition	Scenario
S (Sample)	Describe the group you are focussing on	Young parents
PI (Phenomenon of interest)	The behaviour or experience your research is examining	Ante-natal education classes
D (Design)	How was the research carried out?	Interview, questionnaire, phenomenology
E (Evaluation)	Which outcome are you measuring?	Experiences
R (Research type)	Qualitative? Quantitative? Or mixed methods?	Qualitative

Example: What are young parents experiences of attending ante-natal education?

SCiNiTO

For quantitative and qualitative questions evaluating experiences, and meaningfulness.

PEO element	Definition	Scenario
P (Patient / Population / Problem)	Describe your patient, population or problem	Carers
E (Exposure)	What is the issue you are interested in?	Dementia
O (Outcomes or themes)	What (in relation to the issue) do you want to examine?	Quality of life

How does providing long-term care for people with dementia affect the quality of life of family carers?

SCiNiTO

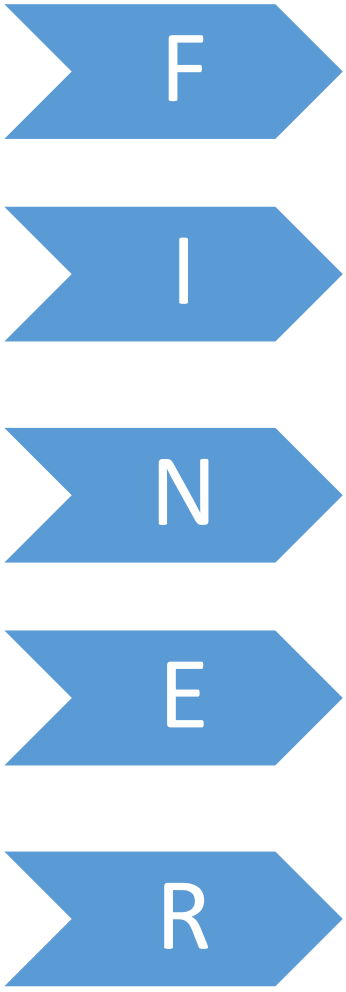
A framework used for questions relating to the prevalence / incidence of a condition.

CoCoPop element	Definition	Scenario
Co (Condition)	What condition / problem are you examining?	Claustrophobia
Co (Context)	In which context is your question set?	MRI
Pop (Population)	Describe your population	Adults

Example: What is the prevalence of claustrophobia in adult patients undergoing MRI?

SCiNiTO

Evaluating research questions using the FINER criteria



Feasible: Research questions should be answered under objective aspects like time, scope, resources, expertise, or funding.

Interesting: Regardless of your own personal motivation about a subject, it is important to check if your question corresponds to more practical and broader interests.

Novel: Answer to an existing gap in knowledge. Filling one of these gaps is important.

Ethical: In empirical research, ethics is an absolute MUST.

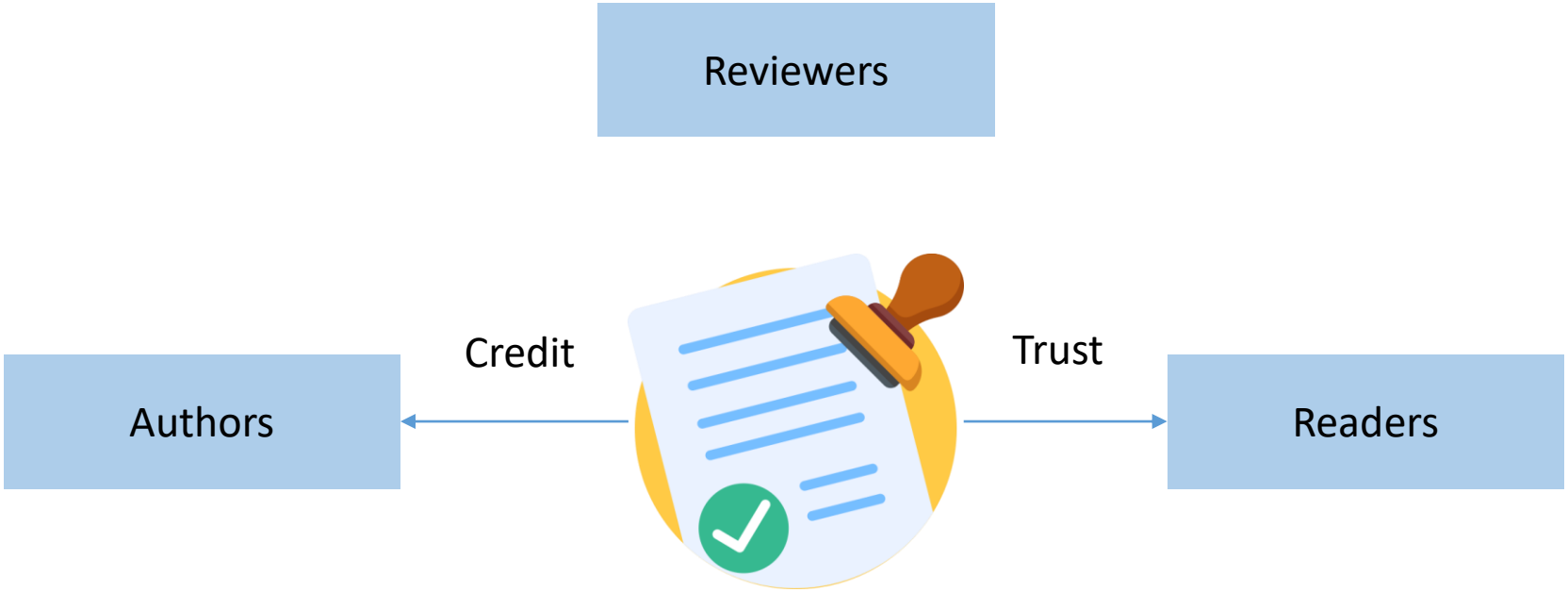
Relevant: Relevance can lead to real, visible changes in society.

Peer Review

SCiNiTO

Purpose of Peer Review

- Enhances scientific quality and research reliability
- Ensures proper recognition and citation of prior work
- Identifies plagiarism, misconduct, or improper duplication
- Assesses originality, contribution, and scientific value
- Detects methodological issues, analytical flaws, and unsupported conclusions
- Evaluates ethical considerations and compliance with standards


Reviewers
Credit
Trust
Authors
Readers

Editor

Why Do Reviewers Review?

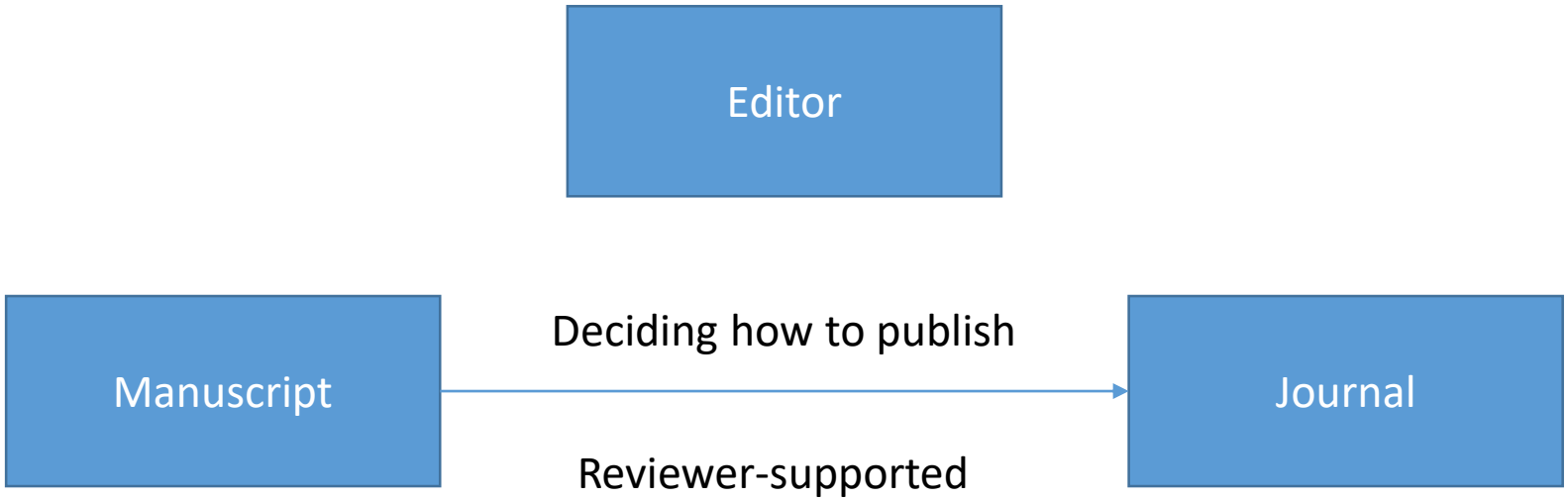
- A sense of duty to give back to the research community.
- Enjoyment and personal satisfaction from reviewing.
- Mentoring younger researchers and contributing to their development.
- Early access to new research and developments.
- Career development and enhancement of academic reputation.

SCiNiTO

Types of peer review

Single-blind	Reviews anonymous
Double-blind	Both authors and reviewers anonymous
Open	Reviewer identity disclosed • Always or only after acceptance of the manuscript
Post-publication peer review	Community-driven assessment of a study once it is publicly available.

Each approach has advantages and limitations, and journal/editor preference usually determines the model.


Editor
Manuscript
Deciding how to publish
Reviewer-supported
Journal

SCiNiTO

Types of Editors

Essential Details for the Editor at Submission

- Is the submission complete?
- Have the authors ensured accuracy throughout the manuscript?
- Is the manuscript within the scope of the journal?

Cover Letter

- Why was this manuscript submitted to this specific journal? (No need to summarize the manuscript or repeat the abstract.)
- Have suitable, independent reviewers been suggested?
- Are there any special requirements or declared conflicts of interest

Rejection Without External Review & Resubmission

- Editors first decide **whether to send the manuscript for external review**.
- Manuscripts clearly **unlikely to succeed** may be rejected immediately to avoid wasting reviewers' time.
- Common reasons for immediate rejection:
  - Topic **outside the journal's scope**
  - **Insufficient novelty** or conceptual contribution
  - **Poor scientific quality**
  - **Language so poor it cannot be understood**
  - **Ethical concerns** (e.g., plagiarism, conflicts of interest)
- Upon revision, the **editor usually makes the decision**, with second-round reviews being **less common**.

Peer Review Process

- Articles are reviewed by at least two reviewers; only the abstract is sent with the invitation.
- Editors usually request reviews within 2–4 weeks.
- Manuscripts are revised until reviewer concerns are resolved or the Editor is satisfied.
- Reviewer reports inform the Editor’s final decision.
- Reviewers must not contact authors directly.

Peer Review Process

- All manuscripts and materials are kept confidential.
- Journals aim for a first decision within 4–6 weeks.
- Meeting timelines requires coordination from all parties.
- Reviewers should treat authors respectfully.
- If no review is received within 4 weeks, the editorial office follows up.
- A third reviewer may be invited if major disagreement exists.
- Reviewer anonymity is protected unless they choose to disclose their identity

SCiNiTO

What Editors Ask reviewers to do

Issues editors ask reviewers to look into

Key Points :

- Assess the **novelty and originality** of the work.
- Evaluate whether the study presents a **clear research hypothesis**.
- Identify **strengths and weaknesses** in all sections of the manuscript.
- Check for **internal consistency** throughout the paper.
- Assess **writing quality** and clarity.
- Highlight any **ethical concerns**.
- Review the **references** for completeness, relevance, and balance.
- Ensure that **titles, abstracts, and conclusions** are appropriate and accurate.

SCiNiTO

What Editors Do Not Ask Reviewers To Do

Reviewers are not responsible for:

- Acting as copy editors for the manuscript. (Editors still assess whether the language quality is sufficient.)
- Detecting plagiarism, fraud, or other ethical issues.

- These responsibilities remain with the authors.
- Failure to address them may lead to manuscript rejection or more serious consequences

A Systematic Approach for Reviewing

Article Section	Description
Writing	Clear and concise English
Title	Specific and reflecting the content of the manuscript
Abstract	Brief and describing the purpose of the work
Methodology	Full explained and relevant to the study
Figures	Justified and clear with fonts proportionate to the size of the figure
Tables	Can they be simplified or condensed? Should any be omitted?
Discussion	Discussion of the findings relating back to the study aims
Conclusions	Implication of the results obtained, and their place in a broader research context; not a summary of findings
Trade Names/Abbreviations/Symbols	Properly used where indicated
References	Are all previously published sources properly referenced?

Reviewer reports

SCiNiTO

Reviewer Report-for the Authors

Key Points :

General Impression

- Reviewers should begin with a brief summary and their overall impression of the manuscript.
- Include comments on its significance, language/style/grammar, and the reviewer's general level of enthusiasm.

Major Comments

- Highlight critical issues that must be addressed by the authors before the manuscript is suitable for publication.

Minor Comments

- Note any additional points worth mentioning, such as minor suggestions, clarifications, or stylistic improvements.

SCiNiTO

Reviewer Report – For the Editor

- On novelty and significance of the manuscript.
- Recommend suitability for publication, typically using one of the following:

  Accept/Minor Revision/Major Revision/Reject
- Recommendations must be consistent with the “Comments for Authors”.
- These comments are confidential and will not be shared with the authors.

Reviewer Checklist-For the Editor

- Reviewers provide a **recommendation**:

Accept / Minor Revision / Major Revision / Reject

Give an **overall manuscript rating**: 1 → 100 (poor → excellent)

- **Assess the manuscript on the following:**

1.Suitability for the journal (Yes/No)
2.Acceptability in its current form (Yes/No)
3.Better suited for another journal? (Yes/No → specify)
4.Presence of material that could be omitted (Yes/No)
5.Adequacy of references (Yes/No)
6.Quality of English (Yes/No)
7.Organization and presentation (Yes/No)
8. Rate key aspects using a scale (1 = Poor → 4 = Very Good):

- Originality
- Scientific quality
- Significance of findings

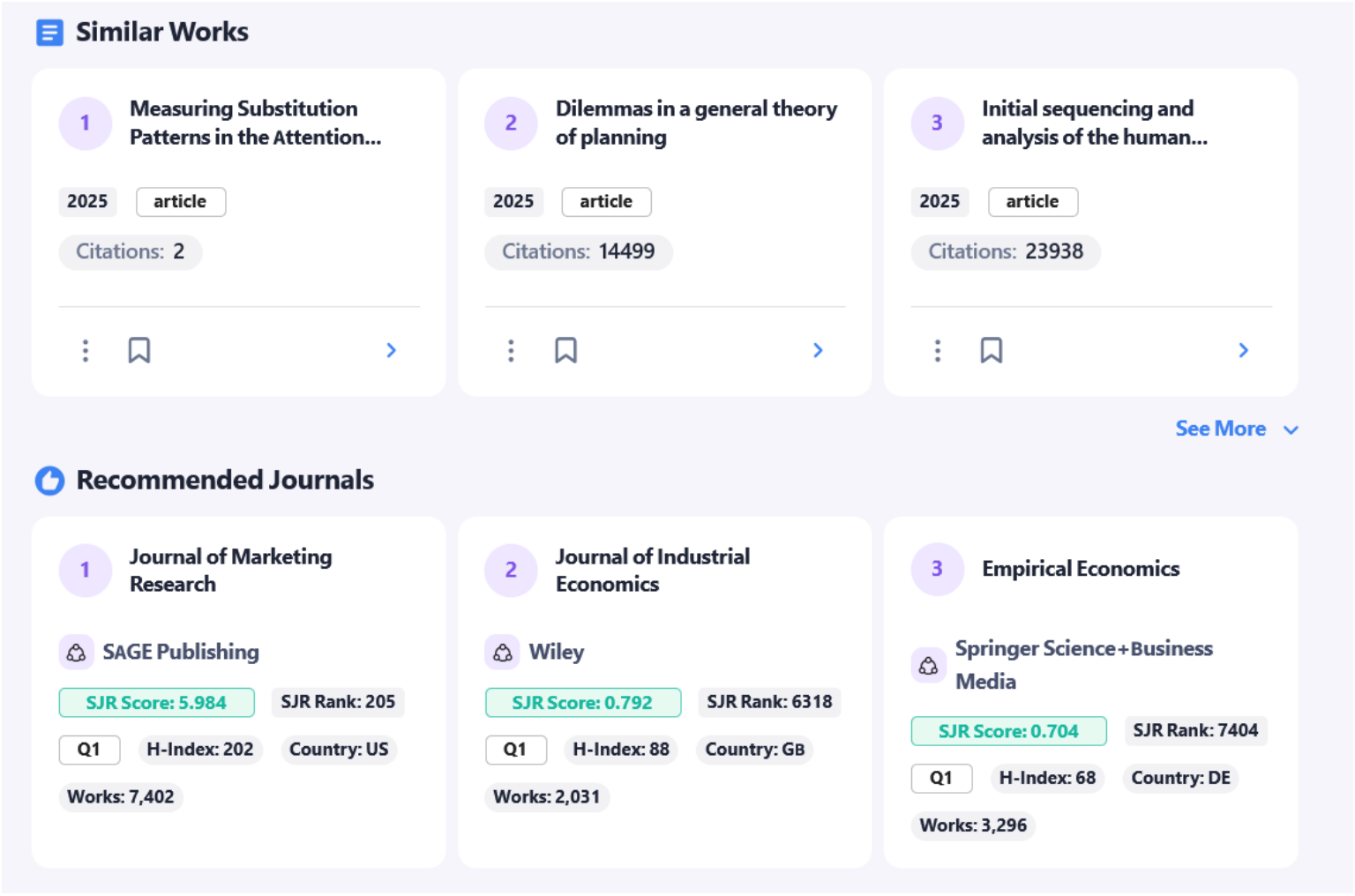
SCiNiTO

SCiNiTO AI Reviewer: Key Features

Abstract	Assesses clarity, focus, and conciseness, ensuring a well-structured summary of your research.
Introduction	Evaluates the problem statement, literature review, and proposed solution, ensuring a strong foundation with relevant background information.
Methods	Examines experimental procedures, documentation of equipment and materials, chronological flow, and clarity regarding agents involved, while also providing final recommendations for improvements.
Results	Reviews the overall description, data representation, reasoning behind statistical analysis, and redundancy check to ensure accuracy and coherence.
Discussion	Analyzes the summary of key findings, theoretical and practical implications, and reinforces the conclusion and significance of your research.
References	Ensures proper inclusion and ordering of references, correct formatting of authors' names, capitalization and punctuation in titles, and completeness of publication details for consistency and accuracy.

SCiNiTO

SCiNiTO AI Reviewer: Key Features



SCiNiTO

SCiNiTO AI Reviewer: Key Features

Introduction

Review of the Scientific Paper's Introduction

The introduction of the paper adheres well to the best practices for a scientific introduction. Below is an evaluation of its key components:

1. Presentation of the Problem and Proposed Solution

- **Problem Presentation:**
  The introduction clearly identifies the core challenge of measuring substitution patterns in the attention economy. It explains the difficulties inherent in studying free digital products where price variation is absent, thereby framing the importance of this issue in the context of antitrust analysis and market definition.

- **Proposed Solution:**
  The paper proposes an innovative experimental method—generating variation by restricting access to popular platforms like Instagram or YouTube on participants' Android devices. This approach is well-articulated, indicating a creative way to overcome the methodological challenges posed by zero-price goods.

SCiNiTO

SCiNiTO AI Reviewer: Key Features

Strengths

- **Clear Problem Definition:**
  The introduction effectively articulates the challenge of measuring substitution patterns for free digital products, emphasizing its importance in the context of antitrust investigations.

- **Innovative Approach:**
  By detailing a creative experimental design that overcomes the limitations of studying zero-priced goods, the paper stands out in its methodological innovation.

- **Comprehensive Background and Context:**
  The review of pertinent literature and regulatory challenges provides the reader with a strong contextual framework and underscores the study's relevance.

- **Explicit Hypotheses and Research Questions:**
  The research questions and hypotheses are clearly stated, ensuring that the reader understands both what is being tested and why it matters.

- **Feasible Experimental Setup:**
  The detailed description of the experimental method—covering participant selection, data collection, and duration—demonstrates that the study is well-planned and executable.

Weaknesses

- **Depth of Literature Review:**
  While the background information is sufficient, the literature review could be expanded further to include a broader range of studies or counterpoints to enhance the theoretical framework.

SCiNiTO

SCiNiTO AI Journal Recommender

01

Entering Article Information

Title & Abstract

02

Selecting Filters (Optional)

Choosing Quartile (Q1, Q2, Q3, Q4) and Open Access Options

03

Processing and Searching for Relevant Journals

04

Displaying Recommended Journals

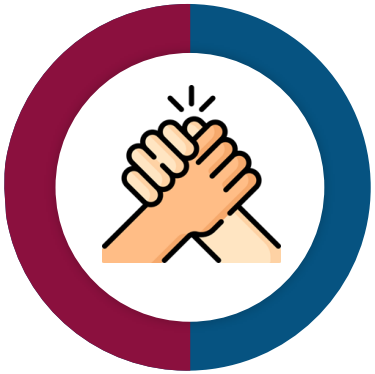
Ranking of Relevant Journals Based on Similarity!

Rules for the Use of Artificial Intelligence in Research and How to Disclose It

SCiNiTO

AI Humanizer

Continuous Improvement

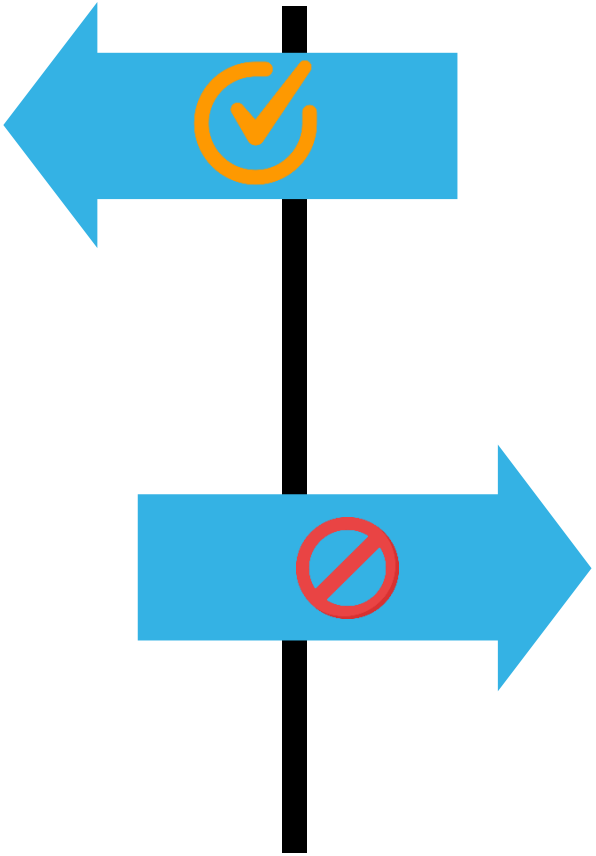


AI Detector Tools

Continuous Improvement

SCiNiTO

Using AI Humanizer to improve readability, adjust tone, and make writing more natural in academic papers is appropriate



Using AI Humanizer to conceal AI assistance or produce a paper without transparency is unethical and should be avoided

SCiNiTO

Key Considerations for Responsible AI Use in Research Before Submission

- Publishers may differ in specific rules regarding the use of AI, so do not generalize one publisher's policies to others.
- Always check each journal's AI guidelines before submitting your manuscript.
- Disclosure is mandatory whenever AI Tools are used for content creation, text generation, rewriting, or conceptual support.

SCiNiTO

Key Considerations for Responsible AI Use in Language Editing Before Submission

Basic grammar, spelling, and punctuation checks usually do not require disclosure.

However, caution is advised: many authors use AI to enhance or rewrite text, which is effectively AI-generated content and may cause issues later.

If AI is used even for language editing, it is better to disclose it

Example:
Generative AI and AI-assisted technologies in the writing process: In preparing this manuscript, the authors used artificial intelligence tools solely to improve language clarity and readability. After careful review and revision, the authors assume full responsibility for the final content. All scientific aspects of the work, including the study design, data collection, analysis, interpretation, and conclusions, were developed independently by the research team. The use of AI did not affect the intellectual integrity or scientific substance of the study.

SCiNiTO

Examples of Elsevier's AI Usage Guidelines

Listing AI as an author	✗
Citing AI as an author	✗
Images/Figures/Artworks: AI-generated / altered / enhanced / manipulated	✗
Produce manuscripts without transparency	✗
Literature synthesis (with proper human control)	✓
Language & readability	✓
Research gap identification	✓

CRediT's 14 Contributor Roles

- Conceptualization
- Data curation
- Formal analysis
- Funding acquisition
- Investigation
- Methodology
- Project administration
- Resources
- Software
- Supervision
- Validation
- Visualization
- Writing – original draft
- Writing – review & editing

SCiNiTO

GAIDeT:
A Taxonomy for Human-to-AI Task Delegation in Scientific Research and Publication

- https://panbibliotekar.github.io/gaidet-declaration/

GAIDeT is a supportive tool for guiding researchers on how to appropriately disclose the use of artificial intelligence in scientific research and publication. It is intended as a guide and does not serve as a mandatory or prescriptive instruction.

SCiNiTO

A Taxonomy for the Delegation of Tasks from Humans to Generative AI systems in Scientific Research and Publishing

CONCEPTUALIZATION • Idea generation • Defining the research objective • Formulating research questions and hypotheses • Feasibility assessment and risk evaluation • Preliminary hypothesis testing	**DATA MANAGEMENT** • Data collection • Validation • Data cleaning Data curation and organization • Data analysis • Visualization • Reproducibility testing
LITERATURE REVIEW • Literature search and systematization • Writing the literature review • Analysis of market trends and/or patent environment • Evaluation of the novelty of the research and identification of gaps based on the literature review	**Writing and editing** • Text generation • Proofreading and editing • Summarizing text • Formulation of conclusions • Adapting and adjusting emotional tone • Translation • Reformatting • Preparation of press releases and outreach materials
Methodology • Research design • Development of experimental or research protocols • Selection of research methods	**Ethics review** • Bias analysis and potential discrimination assessment • Ethical risk analysis • Monitoring compliance with ethical standards • Data confidentiality monitoring
SOFTWARE DEVELOPMENT AND AUTOMATION • Code generation • Code optimization • Process automation • Creation of algorithms for data analysis	**SUPERVISION** • Quality assessment • Trend identification • Identification of limitations • Recommendations • Publication support

SCiNiTO

Thank You

Email	aazami@avidarvand.com
Telegram Channel	@scinitoai_iran
Training Videos	https://www.aparat.com/scinitoai_iran/videos