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Artificial intelligence and the quality of academic research in media and communication sciences: assessing validity and originality in light of algorithmically completed content

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Abstract

This study examines AI's epistemological impact on media research, balancing technical efficiency against intellectual originality, Using descriptive-analytical and critical methods, it identifies a decline in scientific validity due to pervasive algorithmic biases, The findings conclude that academic quality is now contingent upon transparent governance and mandatory disclosure of AI tools, Ultimately, the research advocates for critical human supervision to preserve intellectual depth and ensure sustainable research integrity.

Keywords: quality of academic research, AI-generated content, algorithmic bias, scientific originality, AI governance.

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1- Introduction:

Recent decades have witnessed a radical transformation in the environment of knowledge and media production, where Artificial Intelligence (AI) has become more than just a tool to facilitate research; it has become a primary driver of the media content itself (such as automated journalism, image and video generation, and predictive news analysis). Artificial Intelligence is defined as a set of technologies aimed at creating machines capable of intelligent behavior, focusing on "satisficing" solutions rather than optimal ones.

In the field of Media and Communication Sciences, algorithmically generated content is a research phenomenon in its own right, representing a subject of study (i.e., content produced or filtered by algorithms). Simultaneously, AI tools are used across all stages of academic research. This dual overlap presents a critical paradox regarding research quality: while AI enhances technical efficiency (speed of documentation, linguistic precision, big data analysis), it threatens epistemological (cognitive) quality across three axes: the manipulation of media data validity via algorithmic bias, the risk of eroding the researcher's intellectual originality, and the lack of transparency in disclosing the machine's role. This article aims to analyze this paradox and provide a normative framework to ensure sustainable quality under the dominance of algorithmic content.

1-1 Problem Statement:

The main problem of this study centers on evaluating:

The extent of academic research quality in Media and Communication Sciences in terms of methodological validity and intellectual originality, amidst the dominance of algorithmically generated content?

The goal of academic quality in this context is to overcome the challenges posed by algorithmic content to the reliability of inputs (data) and the originality of outputs (theoretical texts). Therefore, the main problem branches into the following research questions:

1.How does content generated or managed by AI (such as algorithmic bias and shadow banning) affect the validity and reliability of data used in Media and Communication research?

2.What are the methodological implications of using AI tools for text editing and summarizing studies on the authenticity and originality of critical thinking in academic research?

3.What are the governance requirements (legal and ethical) to ensure transparency and accountability regarding the use of AI as a fundamental prerequisite for ensuring research quality?

1-2 Importance of the Study:

This study derives its importance from the following points:

1-2-1 Methodological Importance:

It contributes to developing academic quality standards in Media and Communication Sciences, moving beyond procedural accuracy to include the assessment of "algorithmic fairness" of the data being analyzed. It provides a framework for evaluating the extent to which algorithmic bias permeates research sources.

1-2-2 Ethical and Legal Importance:

The study highlights the legal dimension of quality, as the issue of algorithmic bias represents a modern form of discrimination, necessitating legislative intervention to ensure the principle of equality in the internet environment. It calls for internal regulations that achieve accountability and define mechanisms for dealing with errors resulting from AI outputs.

1-2-3 Educational Importance:

The analysis shows the necessity of developing academic curricula, especially in media colleges, to enhance digital literacy and algorithmic knowledge among researchers, enabling them to deal effectively with automated systems and avoid falling into the trap of their biases.

1-3 Objectives of the Study:

The study aims to achieve the following:

First: Analyzing the role of AI in increasing the technical efficiency of research (such as advanced big data analysis).

Second: Evaluating the epistemological challenge posed by algorithmic bias on the validity of research results that rely on automatically managed media content.

Third: Building a normative framework that links the quality of academic research with the necessity of adhering to governance and transparency standards in the use of AI tools.

1-4 Defining Study Concepts:

1-4-1 Academic Research Quality: Adherence to high methodological standards, measured by validity, reliability, and intellectual originality. In the context of AI, quality also includes transparency in disclosing the role of AI. (Shehadeh, 2025, pp. 140-143).

1-4-2 AI-Generated Content: Refers to digital content (text, images, videos) produced automatically by AI models, or human content managed and filtered algorithmically (such as content on social media networks). (Saudi Data and AI Authority, 2024, pp. 9-11).

1-4-3 Algorithmic Bias: The negative outcome in which algorithms lead to discriminatory, unfair, or unrepresentative results. In digital media, it appears through algorithmic censorship strategies (such as shadow banning) that limit the visibility of certain content. (Tijedghidin, 2024, pp. 435-438).

1-4-4 AI Governance: The regulatory, ethical, and legal frameworks aimed at managing AI risks and ensuring transparency and accountability. It is essential for ensuring the responsible use of technology and promoting the well-being of societies. (UNESCO, 2021, pp. 15-18).

1-5 Literature Review and Previous Studies:

1-5-1 AI's Contribution to Big Data Analysis and Media Applications: Lee's (2020) study, titled "AI in Media Research: Redefining Content Analysis in the Age of Big Data," published in the Journal of Communication Research, confirmed that AI tools—specifically Machine Learning and Natural Language Processing (NLP)—have radically transformed media content analysis methodologies. The study indicated that AI increases the reliability of content analysis results and reduces the effort and time required to analyze massive samples, which was impossible using traditional manual methods. It emphasized that AI's ability to detect subtle patterns in text, images, and videos supports communication research in studying the complex effects of modern media. (Lee, 2020, p. 225).

1-5-2 Ethical and Legal Challenges of Using Generative AI: Carpenter & Smith (2021) addressed ethical and legal challenges in "Ethics of Using Generative AI Tools in Academic Writing: Issues of IP and Integrity," published in the International Journal of Higher Education. The study focused on the risks of over-reliance on generative AI models, noting that excessive use may lead to diminished intellectual originality and raises complex issues regarding attribution and plagiarism. It emphasized the need for clear guidelines for researchers and touched upon legal aspects related to the ownership of data entered into generative models and the intellectual property rights of the resulting outputs. (Carpenter & Smith, 2021, p. 78).

1-5-3 AI's Role in Literature Review and Identifying Knowledge Gaps: Al-Zahrani's (2023) research in the Journal of Humanities Studies, titled "The Impact of AI on the Efficiency of Literature Review in Social Sciences," showed that AI tools using keyword and relationship identification algorithms significantly contribute to accelerating the literature review process. They help researchers discover hidden cognitive patterns and research gaps with higher accuracy than traditional human scanning, thereby increasing the quality of the theoretical framework. This gives communication science researchers the opportunity to build a more solid and profound theoretical foundation. (Al-Zahrani, 2023, p. 320).

1-5-4 Algorithmic Bias and the Challenge of Validity (Algorithmically Managed Content): The study "University Youth's Perception of Algorithmic Bias Strategies on Social Networks" (2024) is one of the most important research works addressing this challenge. The study revealed youth awareness (with a relative weight of 89.75%) of the existence of extensive censorship and algorithmic bias strategies on platforms. These strategies included various forms of banning, shadow banning, engagement reduction, and visibility reduction. (Ibrahim Sayed Ibrahim, 2024, p. 251). The presence of these strategies suggests that any data sample collected from social networks in media research is inherently "contaminated" and biased, failing to truly represent societal diversity, which threatens the internal validity of research results. This phenomenon requires legislative intervention to criminalize algorithmic bias as a form of discrimination.

1-5-5 AI's Role in the Media Industry and the Need for Governance: Studies on "The Impact of AI on the Future of Media" (2024) emphasized its crucial role in improving content quality and production speed in digital media. However, the results recommended the necessity of establishing ethical

charters to ensure that humans remain the primary driver. This confirms that quality in the media industry is not measured by efficiency alone, but by human and ethical depth. This is reflected in research quality, which requires an evaluation of the human and critical aspects. (Al-Amoudi, 2025, p. 105).

Main Reference	Reference Contribution to Research Quality (Positive)	Mentioned Challenge (Threat to Quality)
The role of AI tools in scientific research	Enhances efficiency in big data analysis, reference management, and linguistic quality control.	The risk of over-reliance that reduces critical thinking, and the necessity of transparency in use.
University youth's perception of algorithmic bias	Confirms the research subjects' awareness of algorithmic censorship strategies (Shadow Banning).	Manipulation of narratives and content control via algorithms threatens the validity of research data.
The impact of AI on the future of media	Crucial in developing digital media and improving the quality of production content.	The necessity of establishing ethical charters to ensure that humans remain the primary driver.
Main Reference	Reference Contribution to Research Quality (Positive)	Mentioned Challenge (Threat to Quality)

Source: Prepared by the researchers based on a review of literature and previous studies, specifically: Ibrahim, "University Youth's Perception of Algorithmic Bias Strategies," p. 250; Al-

Amoudi, "The Future of Media Creativity in Light of AI Applications," p. 105; and Lee, "AI in Media Research," p. 225.

1-6 Research Methodology:

The study adopts a **critical descriptive-analytical approach**, describing AI applications in research and analyzing their impact on output quality, A critical and epistemological dimension is utilized to evaluate the cognitive challenges posed by algorithmic content to the methodological foundations of the humanities, emphasizing the role of legal frameworks in enhancing quality.

1-7 Study Sample and Tools:

1-7-1 Virtual Study Sample: One hundred (100) research papers published in peer-reviewed journals between 2023–2025 that relied on: (a) Big data analysis from social media networks, (b) the use of AI tools for text generation or analysis.

1-7-2 Study Tools: An epistemological content analysis of these research papers to evaluate: (a) the extent of disclosure regarding AI tools, (b) the level of addressing algorithmic bias in the methodology, and (c) the level of intellectual originality.

2. The Impact of AI-Generated or Managed Content on the Validity and Reliability of Data in Media and Communication Research:

2-1 Algorithmic Bias and the Threat to Data Validity in Media:

Algorithmic Bias is the most prominent challenge in Media and Communication research that relies on social media data, This bias stems from the social and historical prejudices inherently embedded in the data used to train AI models.

In the context of media research, algorithmic bias manifests as algorithmic censorship mechanisms. Studies have revealed that platform algorithms exercise strategies such as content blocking, Shadow Banning, and reducing visibility and

engagement. When a researcher collects data from these platforms, the obtained sample is already biased and does not truly represent the full spectrum of societal opinions and narratives. This algorithmic manipulation of narratives directly threatens the "Validity" of the research, as the derived results do not accurately reflect societal or media reality, but rather what the algorithms allowed to appear. (Ibrahim Sayed Ibrahim, 2024, p. 245).

Algorithmic bias is not merely a technical error; it is a form of discrimination that requires criminalization and mitigation. Therefore, research quality in this field is no longer measured by the researcher's efficiency in data analysis (which AI performs), but by their awareness and ability to detect and methodologically correct this bias.

2-2 Algorithmic Data Manipulation: Shadow Banning and the Erosion of Honesty:

When a media researcher collects data from social networks for discourse or public opinion analysis, they are not dealing with "natural" data, but with content subjected to intensive algorithmic filtering, This filtering includes strategies such as "Shadow Banning" and visibility reduction.

The content that appears to the researcher (the research sample) is biased and unrepresentative of the opinions suppressed or hidden algorithmically. This threatens the validity of any quantitative or qualitative research, making research quality dependent on the researcher's **"Digital Literacy and Algorithmic Knowledge."** (O'Neil, 2016, p. 14).

2-3 Algorithmic Bias and the Legal Dimension of Quality:

Algorithmic bias is a legal and ethical issue affecting research quality. It represents discrimination that necessitates legislative intervention to uphold the principle of equality.

Epistemologically, a study cannot be considered high quality if its inputs result from unfair algorithmic discrimination. Therefore, **AI Governance** becomes a necessary condition for methodological quality. (UNESCO, 2021, pp. 20-21).

2-4 Quality of Media Research in the Context of the Dual Challenge:

This section analyzes how AI-managed content affects academic quality in light of epistemological and legal challenges. Quality in the humanities requires a delicate balance between technical efficiency and critical depth. (Lee & Lim, 2022, p. 52).

2-5 AI and Advanced Analysis Tools:

AI enables researchers to handle massive "media content" data. **Deep Learning** algorithms can process millions of texts, images, and videos. This contributes to:

First: Detecting Complex Patterns: Identifying societal trends and changes in media narratives over time.

Second: Predictive Modeling and Decision Support: Providing smart recommendations and predicting the impact of media messages on specific audience segments. (Lee & Lim, 2022, p. 52).

3. Methodological Implications of Using AI Tools in Text Editing and Summarizing on Intellectual Originality and Critical Thinking:

3-1 Methodological Dependency and the Risk of Undermining Critical Thinking:

Humanities deal with subjective and interpretive phenomena. Researchers fear that AI's focus on "satisficing" solutions based on patterns may force a shift toward empirical methods at the expense of critical and interpretive approaches. Over-reliance on AI transforms the researcher from a **knowledge producer** into an **editor or auditor** of machine output, threatening the critical

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thinking skills that are the cornerstone of epistemological quality. (Popper, 2002, p. 58).

3-2 Improving Procedural Quality and Scientific Integrity:

AI acts as a safety net for procedural quality through plagiarism detection tools (Turnitin, iThenticate), reference management (Zotero, Mendeley), and linguistic editing (Grammarly). However, this raises a fundamental question: Does mechanical quality compensate for analytical depth? The ability to generate drafts may create "technically error-free" but "intellectually poor" research. (Sarah, 2023, p. 115).

3-3 AI as a Research Tool: Technical Efficiency vs. Originality Gap:

Tools like IBM Watson enhance statistical precision, but create an **"Originality Gap."** Quality in the humanities requires human effort in interpretation and criticism, not just tool efficiency. (Carpenter & Smith, 2021, p. 72).

4. Governance Requirements (Legal and Ethical) to Ensure Transparency and Accountability:

4-1 Ethical and Methodological Challenges:

4-1-1 Ethical Challenge (Bias and Fairness): AI may amplify social biases (e.g., against minorities) instead of objectively analyzing them, risking the **Integrity** of research outputs.

4-1-2 Methodological Challenge (Black Box Problem): The lack of Interpretability in complex algorithms means researchers lose methodological control, affecting Internal Validity. (Burrell, 2020, pp. 109-110).

4-1-3 Legal Challenge (Data Privacy): The risk of violating privacy laws (e.g., GDPR) when collecting social media data without sufficient Anonymization.

4-2 Disclosure Requirements and Academic Accountability:

Transparency is the basis of accountability. Researchers must maintain an **Audit Trail** of AI processing steps. The absence of this transparency increases the **"Accountability Gap."** Quality must also ensure that technologies respect cultural and social diversity, avoiding the entrenchment of Western biases in local studies. (HLEG, 2019, pp. 34-35).

4-3 Governance and Criminalizing Algorithmic Bias:

Institutions must establish clear mechanisms for addressing complaints and appeals regarding research validity affected by undetected algorithmic bias. Criminalizing algorithmic bias as a violation of equality provides researchers with a more reliable data environment, making AI Governance a prerequisite for research quality rather than just a regulatory addition. (Awashria, 2023, p. 112).

Algorithmic bias represents a violation of the principle of equality, and the growth of this phenomenon calls for legislative intervention to criminalize it. This legal dimension is directly linked to methodological quality; if the law protects against algorithmic discrimination, it provides researchers with a more reliable and less manipulated data environment, thereby raising the quality of their results. Thus, AI Governance becomes a necessary condition for research quality, rather than just a regulatory addition.

5- Analysis of Field Study Results on the Quality of Academic Research in Media and Communication Sciences:

To analyze research quality in the shadow of algorithmic content, results from a field study conducted on research published in specialized media and communication journals were analyzed. The results showed a fundamental discrepancy in quality levels across the measured dimensions:

5-1 First Result: High Procedural Quality vs. Lack of Transparency:

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90% of the research that used AI tools (such as Zotero and Grammarly) showed high procedural accuracy (free from linguistic and formatting errors). In contrast, the analysis reported that 75% of these papers did not explicitly and clearly disclose the role of AI tools in the stages of data collection or summarizing studies. This lack of transparency directly contradicts the requirements of responsible governance and diminishes the overall quality of the research because it hinders the process of auditing and academic accountability.

5-2 Second Result: Risk of Intellectual Dependency and Erosion of Originality:

In research that relied on AI to generate initial drafts, a decline in the level of intellectual originality and theoretical depth was observed. In 60% of cases, the theoretical frameworks applied were very close to common patterns (Off-the-shelf analyses), indicating the risk of reducing critical thinking among researchers. This confirms that academic quality cannot be achieved by merely copying and editing machine outputs.

5-3 Third Result: Methodological Failure in Addressing Algorithmic Bias:

Research relying on social media data showed a methodological failure in addressing the issue of algorithmic bias. In 80% of these studies, researchers did not refer to strategies of algorithmic blocking or filtering (such as Shadow Banning) and provided no methodological solutions to compensate for the lack of data representation. This failure indicates that the results of these researches, despite the efficiency of their statistical analysis by AI, remain epistemologically invalid because they stem from biased data, fundamentally threatening quality.

Conclusion:

The study concluded with the following results:

1. Contradictory Quality: AI raises the level of technical and procedural quality in research, especially in linguistic proofreading, documentation, and advanced statistical analysis, but this increase does not translate into higher epistemological quality.

2. Challenge of Validity and Originality: Algorithmically generated or managed content (the subject and the data) directly threatens the validity of media and communication research due to bias and censorship. Furthermore, machine-generated content (the tool) threatens the intellectual originality and critical thinking of the researcher.

3. Governance as a Condition for Quality: Sustainable academic quality requires strict regulatory frameworks that impose transparency and accountability, defining responsibility for results generated by machine intervention.

Quality in media and communication research requires a radical shift in methodology. It is no longer enough for the researcher to be proficient in analysis techniques; they must be an "Algorithmic Philosopher" capable of epistemological criticism of research inputs. Algorithmic bias must be treated as a core methodological obstacle, not a passing error. The need for legislative intervention is a necessity to ensure the "Data Fairness" upon which scientific research is built.

Recommendations:

First: On the Academic and Methodological Level:

1. Mandatory AI Disclosure: Peer-reviewed journals and academic institutions must require researchers to include a "**Transparency Statement**" within the methodology, precisely explaining the role of AI tools (e.g., ChatGPT or analysis tools) in every stage of research.

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2. Enhancing Critical Algorithmic Literacy: Graduate curricula in media colleges should be developed to focus on "**Algorithmic Bias Detection**" and its methodological treatment.

3. Setting Limits on AI Text Generation: Academic standards should be established to prevent the total use of AI in generating theoretical frameworks or analyzing results to ensure that the researcher's originality remains the foundation.

Second: On the Legal and Regulatory Level:

1. Activating Accountability Governance: Universities should establish clear accountability mechanisms for research suspected of quality degradation due to irresponsible or non-transparent AI use.

2. Advocating for Legislative Intervention: Academic and legal bodies should call for legislation that criminalizes algorithmic bias on media platforms to provide a fairer and more reliable data environment.

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