

Original Research

Received 11 June 2026

Revised 20 July 2026

Accepted 03 Aug 2026

Natural Resources for Human Health 2026, Vol. 6 (15s): 16–24

KEYWORDS:

Research Integrity; Generative artificial intelligence; Predatory journals; Paper mills; Hijacked journals; Research assessment.

Publish or Perish in the Generative AI Era: A Narrative Review of Research Integrity Threats.

Roberto Acevedo¹, Andrés Soto-Bubert¹, William Montes¹, Marco Alfaro¹, Mauricio Sepúlveda¹, Rekha Verma², Mukesh Sharma³, Neeraj Virdi^{3*}

¹Facultad de Ingeniería, Universidad San Sebastián, Bellavista 7 8420524, Santiago, Chile.

²Department of Management, DBS Global University, Dehradun, Uttarakhand, India.

³Department of Chemistry, Babbar Akali Memorial Khalsa College, Garhshankar-144527, Punjab, India.

*Corresponding Author Email: virdi.neeraj123@gmail.com

ABSTRACT: The swift digitisation of academic papers and the rise of Generative Artificial Intelligence (AI) has revolutionised the scholarly world. These developments have brought extraordinary efficiency and accessibility, but they have also heightened the 'publish or perish' mentality and contributed to a crucial issue in academic credibility. In this review paper we will examine some of the changing trends that impact researchers, how AI can be used to produce content in bulk, and predatory journals and paper mills. Fraud, false authorship and hijacked journals are documented and analysed with reference to the impact it has on the emerging economy in South Africa. Moreover, we analyse the aspects which will create this crisis: monetization systems or quantity based incentives. Finally, an overall navigation plan is proposed to researchers, editors and institutions, asking them to consider the call for good governance, digital literacy and change of paradigms in the measurement of research excellence.

INTRODUCTION

How academic publications are done has changed drastically since the late 20th century. A traditional, slow and centralized academic publication model, involving scholarly societies and traditional publishers, is replaced with an accelerated and decentralized model in the form of a digital industry [1] [2]. The transition has included increased adoption of open access and emergence of online-only journals, and the latest trend is use of generative artificial intelligence (AI) in the research workflow [3, 4]. But it is important to note that the developments haven't happened in a vacuum. They are layered on a well established "publish or perish" culture, in which institutional prestige, funding and advancement of careers are wed to publications metrics [2] [5]. This can result in an unrealistic expectation for high numbers of publications, and therefore opportunities for bad behaviour, and an emerging area of predatory publishing [6, 7]. This paper offers a comprehensive review of the existing literature on academic integrity to date. It tackles the publish-or-perish culture in the digital age and the fight against the AI that is wielding force for good or fraud, as well as the predicament of predatory journals against the very background of scientific knowledge. To help policymakers and citizens better navigate these challenges, and get credibility back in the academic enterprise, we synthesize recent research on cases and policy recommendations.

THE 'PUBLISH OR PERISH' CULTURE: EVOLUTION AND CURRENT STATE

HISTORICAL CONTEXT AND DIGITAL SHIFT

In the academic world, there has been a mantra for decades saying, "publish or perish," which is how it's been done, but with the digital age, things are different. With the advent of digital platforms and the author pays (Article Processing Charge or APC) system, there are many outlets available and the pace of publication has greatly accelerated [1, 2]. This has led to more quantity of available research but also to a move away from quality to quantity. Despite the convenience of quick-turnaround

reviews in order to gain interest from authors and maximize profits, rapid review sometimes has compromised the rigor of the review process [2] and [8].

Empirical evidence suggests that the publication pressure is not just a perception but a structure that affects the behaviour of research. The more competitive the setting may be the more often positive results are observed, and large cross-disciplinary surveys have been reported to be correlated with the increased pressure to publish and reduced research climate and concern about questionable practice. [9], [10] These responsible assessment initiatives thus call for a content and overall impact assessment of research in addition to mainly journal-based assessments. [11], [12]

SOCIOECONOMIC IMPACTS AND GLOBAL INEQUALITIES

The pressure is equally worldwide, but you will discover different aspects of it in different regions of the world. The problems of attempting to follow international publication standards may result in great and serious violations of ethics in the developing countries and emerging economies [13]. Costs of publishing in a good Scientific Open Access Journal may cause researchers who are members of a low resource environment to be excluded and so to go for the less expensive but guaranteed to accept journals-predatory journals [1],[14].

Gaps in publication funding and editorial assistance, and lack of training in which journal to select, further perpetuate these inequalities. Predatory publishing can have a serious negative impact on authors' careers and decrease author discoverability after publication [15]–[19] and yet inexperienced authors could be tempted by aggressive solicitation tactics, fast decisions, and seemingly low fees. Capacity building should therefore focus on the mentoring and verification of practical aspects of journal governance, indexing, peer review and fee transparency in addition to financial support.

Highlights from the financial consequences of predatory publishers are certain case studies. For example, a study on predatory journals in South Africa showed that 728 scientific papers were published in five of these journals in the country, receiving ZAR 70 million in research funds [20]. This leads to an imbalance in the knowledge system in which financial means are influencing access to participation as well as the credibility of institutional presence due to association with less credible outlets [14], [20].

THE "LEAST PUBLISHABLE UNIT" PHENOMENON

One of the significant implications of quantity incentives is the rise in the publication of "least publishable units" (LPU). It is possible to partition a single extensive study into many smaller studies for the purpose of increasing the number of publications by researchers [5]. This cause of redundancy, self-plagiarism and duplicate data, which can affect the results of systematic reviews and meta-analyses, mainly in biomedical science [5].

ARTIFICIAL INTELLIGENCE: A DOUBLE-EDGED SWORD IN SCHOLARLY COMMUNICATION

AI AS A PRODUCTIVITY ENHANCER

Generative AI / Large Language Models (LLMs), such as ChatGPT, is now an invaluable asset for legitimate researchers. They help perfect the language, create manuscripts, and help in the creation of a preliminary text, the latter of which can be helpful for non-native English speakers [3] [4]. Furthermore, AI can automate repetitive research work, such as formatting and citation management, and provide a rapid and efficient synthesis of evidence to boost the productivity of research [1], [3]. Some models are even applied to help with grant and peer review writing [21], [22].

These systems are most effective when they are not prescriptive and it is the responsibility of the user/carer to ensure that they receive the best outcomes from their application. This can include restructuring prose, making it easier to read, translating, or creating a preliminary summary, but all the facts, interpretation and quotation will eventually need to be vetted by a human. In comparative evaluations, AI-written scientific abstracts have been found to be impressive to reviewers, but with clearly intentional inaccuracies or fabricated components [23]–[26]. Efficiency improvements should thus be accompanied by documented human oversight.

RISKS TO INTEGRITY: MASS GENERATION AND FABRICATED CONTENT

While AI offers numerous advantages, it also poses significant threats to the integrity of research. LLMs can generate massive amounts of content that may seem convincing but are actually unreliable, allowing for "flooding" the literature with such

material [1] [27]. In real world, there are reports of AI using to create entire fake medical articles [3]. This capability is now being used by paper mills to mass-produce manuscripts, with fabricated information and authorship [4, 13]. In addition, the AI could be employed to produce "hijacked" journals that appear to be legitimate but are really not, thereby tricking researchers into publishing with these journals [28].

Similarly, authorship and accountability are rendered more ambiguous when AI is used, but these references are hidden. The generative systems can neither approve the final version of the manuscript nor respond "integrity queries" or report conflicts of interest or accept legal responsibility and are thus not accepted as authors [29] - [32]. The critical issue is not the use of the tool itself but the amount of scholarly control that is delegated to a system that can re-create prejudice, imagine sources or even blur the line of origin of text or ideas.

THE CHALLENGE OF DETECTION AND RELIABLE OUTPUT

One of the biggest concerns is not being able to consistently identify AI-created content. Current detectors are often not able to detect a substantial contribution by AI [4], [3], particularly when the resulting text cannot be identified as AI-based. Furthermore, AI tools can be misleading themselves, as ChatGPT has been demonstrated to falsely classify hacked journal sites as legitimate, which might mislead some researchers to fall into trap sites [28]. This puts a huge strain on both editors and peer-reviewers who are required to serve as gatekeepers against sophisticated online fraud [4], [33].

Automated detection should be used as an aid to screening and not as evidence of misconduct. Language models and AI detectors can produce false positives, particularly for formulaic scientific texts and for texts written by multilingual authors. More defensible editorial processes include clear and open disclosure, verification of citations, image and data checks, reviewers' judgment along with an opportunity for authors to provide explanation for flagged content [22], [29], [30]. This multistate system offers integrity but not fraud and linguistic style.

PREDATORY JOURNALS AND PAPER MILLS: EXPLOITING THE SYSTEM

BUSINESS MODELS AND ECONOMIC DRIVERS

Predatory journals take advantage of the "publish or perish" mentality by providing 'fast publication' on the basis of charged publishing fees and providing little if any real peer review [2] [14]. The publishers are more interested in the bottom line than research; it's a market that rewards numbers and quickness [2]. Paper mills pave the way by recruiting authors willing to take both fabricated or AI-generated papers for even the highest-quality and most prestigious journals, for a fee [8], [13]. Author positions are for sale on a number of social network accounts and it is evident that these fraudulent services are now being increasingly promoted through the social networks [27].

One of the consensus-based definitions defines predatory journals as what give high precedence to serving self-interest over that of scholarship, use fake or misleading information, depart from the norm of good editorial practice, fail to spend any funds for editorial staff, and aggressively solicit articles [15]. They have taken advantage of the availability of inexpensive digital technologies and also increase in fee-based publications; however, payment of APCs alone does not make a journal predatory [16]-[19]. Assessment should concentrate on Governance, Peer Review Practice, archiving, ownership, and verifiable indexing.

DOCUMENTED CASES OF FRAUD AND HIJACKING

This is not a theoretical thing, it is very much backed by facts and figures. In fact, Spinellis has seen his name involved in several papers, including a fake article published in 2025 in Global International Journal of Innovative Research (GIJIR), a scam journal [6]. This case will highlight the potential ease of using generative AI to produce false scientific data. One of the other threats is represented by hijacked journals: fake journals which pretend to be genuine ones in order to harvest APCs from fraudulent authors [28].

No longer, though, are they content with mere individual plagiarism: now there are paper mills which create manipulated images, templates, networks of 'authors' for 'wallflower' papers and even the selling of author names. Such retracted publications can make it through both recognized and dubious journals as shown in the cross-sectional analysis of retracted paper-mill publications and through the network-based investigations [34]-[36]. Publishers require shared intelligence, a post-publication review and coordinated corrections and retractions because these operations adapt to editorial checks.

SCALE OF THE PROBLEM

The magnitude of fraudulent publishing is truly shocking. According to the “red-flagging” approach employed by Sabel et al. (2026), about 5.8% of biomedical literature in 2023 was “fake,” averaging to more than 107,800 per year [37]. During an analysis, as many as 16.3% of articles were identified as being involved in “red flag” activities, mostly from countries such as China, India, Iran, Russia and Turkey [37]. Such “pseudo-science” can have tangible effects in the real world in situations like misinformed clinical medicine or badly designed dams and bridges in the fields of medicine and engineering, respectively [37].

THE CRISIS OF ACADEMIC CREDIBILITY

STRUCTURAL DRIVERS OF THE CRISIS

A credibility crisis is being shaped by interacting drivers of structural, technological and cultural nature. When publishers monetize using author-pays models, there is an incentive for them to publish more papers, good or bad [2] [8]. At the same time, opportunities for job promotion are based on sheer output of publications, pushing scientists to publish low-quality or otherwise dishonest papers [2] and [5]. These things, along with the ability to produce papers in greater and greater numbers, makes AI-generated academic research a self-reinforcing loop that undermines the credibility of academia as a whole [38], [1].

This cycle can be magnified through metric-driven assessment, as publications and citation counts are turned into institutional and/or career rewards. From these findings it becomes clear that both researcher and journal incentives should be changed, especially given the evidence that editorial quotas and competitive systems can play a role in publication outcomes [9] [39]. The huge numbers of retractions in recent years are at least partly due to a serious contamination problem and at least partly because of better detection, but transparent correction is an important element in self-correcting science [40].

IMPACT ON SPECIFIC FIELDS

In other areas, such as medicine and pediatrics, in which clinical decisions and public health policies are based on the quality of published evidence [1], [41], the stakes are especially high. This fabrication of AI-generated research and paper-mill products can contribute to the dissemination of wrong clinical guidelines or even put patient safety at stake [1] [5]. Though being an acceleration of research, preprints also saw a surge of bad research and/or plagiarist fraud during the COVID-19 pandemic [1].

LONG-TERM EROSION OF TRUST

In addition to the immediate health risks and the policy issues associated with the crisis, it also threatens the public's confidence in science. It is important to observe that “predatory” and “paper-mill” publications, who are referred to or covered up in news reports, discredit the entire research endeavor [27]. In 2023, an ethics review singled out the potential return to in-person testing in educational environments due to integrity concerns with the use of generative AI [27]. Furthermore, the sheer number of low-quality articles adds to the difficulty for legitimate journals to identify competent peer reviewers and further clog the system with low quality articles [42].

NAVIGATION STRATEGIES: RESTORING INTEGRITY IN THE DIGITAL AGE

RESEARCHER-LEVEL BEST PRACTICES

Researchers need to be transparent on their use of AI tools to ensure accountability. The current recommendations are that AI assistance should be disclosed and the role of the authors and AI should be defined in all manuscripts [3], [43]. Moreover, it is a fundamental need to educate authors and students about detecting predatory journals and understanding the ethical limitations of using AI [14] [15]. The researchers should even be cautious of the use of AI tools to assess journals, as it gives misleading information about the genuinity of the journal [28].

Practical disclosure should state what tool was used, version number (when applicable), what is the purpose of use and which sections in particular were affected. Authors should keep original data or prompts for audit trail (as required by institutional policies), check all generated references against authoritative databases, be cautious with the use of confidential data or other personal information and ensure that AI-generated output does not reproduce previously copyrighted material without explicit consent [22], [29]-[30], [31], [44]. That documentation can help differentiate language support or help and intellectual work at the other end.

EDITORIAL AND PUBLISHER ACTIONS

It is the responsibility of the editors and the publisher to maintain the scientific record in the best possible condition. This includes the use of AI-powered tools like plagiarism detection, image manipulation and citation checking [4] [33]. The verification rate of the Rensburg (2025) citation auditing protocol was 91.7% to detect fabricated or retracted references, for example [45]. Publishers should also improve the reviewed processes particularly by applying strict reviewing; for example double blind review and CRediT (contributor roles taxonomy), which should not be based on fast-publishing at the expense of the quality of the work [2] [33].

The level of editorial intervention should be: appropriate and traceable. When doing initial screening, look at citation validity, integrity of images, statistical consistency, authorship anomalies, and unusual textual patterns are all possible indicators, but a final determination should not be based on one proprietary score alone. COPE and ICMJE guidelines lay stress on human accountability, confidentiality in peer-review, transparency in the journal policies and disclosure of the use of AI tools [29, 30]. If one still has concerns, one should take the steps documented in investigation procedures and talk to institutions as opposed to making public allegations without justification.

INSTITUTIONAL AND POLICY REFORMS

A paradigm change of academic incentives is needed. Data analytics to measure the influence of scientific institutions should shift from publication counts to reward criteria for "repeatability", impact and quality [2] and [14]. Funding agencies can be involved too: support legitimate open access publications, advise with regard to ethical research practices [14]. There are efforts to turn the business model into open access that is sustainable, such as Plan S [46]. There are institutional policies which provide frameworks for open access publications and transfer of processing fees to credible journals (University of Pretoria) [20].

Reform also demands a congruence among hiring, promotion, funding and publication policies. The San Francisco Declaration on Research Assessment and the Leiden Manifesto have been against the substitution of journal impact factors for individual research assessments and for qualitative assessment that is sensitive to the context of the field [11],[12]. The Hong Kong Principles expand on this one by rewarding responsible practice, for example, open methods, complete reporting, recognizing a variety of contributions, and correction of the research record [47].

FRAMEWORKS AND INTERNATIONAL STANDARDS

It is essential that international standards are followed. The International Committee of Medical Journal Editors (ICMJE) released updated Recommendations in 2024 that highlighted the need for specific advice on the use of AI and issues related to predatory journals [43]. There are other organisations providing important guidelines and best practices for transparency and good practices in academic publication, including the Committee on Publication Ethics (COPE), DOAJ and OASPA. [29], [30], [15].

Some of the common suggestions in the international guidance are that an AI system should never be used to replace the human author, the human author should always be the responsible party, confidential manuscripts should never be fed into the AI system before proper precautions are taken, and the claims or citations generated by the AI system should be verified [22] [29]-[30] [31] [44]. The use of these principles through clear institutional procedures can alleviate inconsistent enforcement and provide a predictable institutional framework on which to base responsible use.

RESEARCH GAPS AND FUTURE DIRECTIONS

Existing studies have pinpointed some of the main contributors and indications of this credibility crisis, but there are still some areas that are under-researched:

UNIVERSAL DETECTION STANDARDS: At the moment, there tends to be no single universal technical threshold for AI content detection, and there is a lack of research and reliable technical tools available across platforms [4].

TECHNICAL SOLUTIONS FOR HIJACKING: Encouraging and effective tools to detect hijacked journals should remain, while the beta-versions of "Journal Checker Chatbots" are under development [28].

LONG TERM IMPACT ON CAREERS: Little is yet known about the career overall of researchers who unwittingly publish in these predatory journals or generate deceptive content using AI.

GLOBAL GOVERNANCE: The creation of a concerted international scheme for optimal governance of the paper mills and predatory publications operating across borders is still a challenge.

In the future, more cross-institutional vigilance and cautious dissemination of a verified list of black and whitelisted journals and centric certification aims for legitimate publishers is desired [2]. More recent indications are that AI-generated manuscripts do indeed make their way through predatory publication filters, especially if there are more effective and transparent editorial screening and verification protocols [48]. Automated signals can be used in conjunction with expert review for risk, using predictive methods for identifying questionable open-access journals may support earlier risk assessment as well [49]. A broad look beyond the unethical use of AI in academic writing also indicates that the financial incentives and accountability systems of academic communication need to be rethought [50].

CONCLUSION

The 'publish or perish' culture, which is commonly referred to as academic credibility, is facing an existential crisis in the digital age with the impact of AI on academic writing and publishing. The swiftness with which AI-generated fraud is being produced, coupled with the surge in predatory journals, isn't some unique occurrence or isolated behavior but rather indicative of the academic incentive system's breakdown. It will take more than just improved detection to restore integrity – it will require a new values shift away from quality to quantity, transparency to speed, and hard scholarship to output. We may yet make sure the digital age enhances rather than undermines our scientific quest for knowledge through the coordinated efforts of the researchers, editors and institutions.

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