Scientific Research Publishing

How to Publish Like Artificial Intelligence and Obey the Rules of the Game?

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Abstract

This article proposes guidance on how academic researchers can publish maintaining research quality, research excellence, impact and ethics principles. The three features of artificial intelligence (AI) (intentionality, intelligence, and adaptability) have been applied towards developing the foundation of publishing like "thinking machine". By revisiting the notions of "publish or perish", Research Excellence Framework (REF), academic pathways of teaching and research (T&R) or Teaching, Scholarship and Professional Practice (TSPP), this article develop propositions on achieving high-quality, impactful and compliant research. Also, the article reveals ethical dilemmas such as abuse of data, unconsented acknowledgements, the oligopoly of major publishers, "all authors have contributed equally", a decline in the quality of publications, "add my name", "ghost authorship" and gifted authorship. Finally, the article develops ethics rules and 12 simple guidelines on how to publish like AI but obey the rules of the game.

Keywords

Research Excellence Framework, Teaching & Research (T&R), Teaching, Scholarship and Professional Practice (TSPP), Ethical Dilemma, Ethics Rules, Publish or Perish

1. Introduction

The phrase "publish or perish" is common among academic researchers (see, for example, Fanelli, 2010; Neill, 2008). In this essay, I discuss how academic researchers can publish like artificial intelligence (AI) algorithms. Researchers can become "thinking machines" that respond to societal issues despite the ev-

er-increasing work demand of modern academics. AI software systems "make decisions" requiring a "human level of expertise" align to three qualities: intentionality, intelligence, and adaptability (West, 2018). These three qualities of AI have been applied towards developing the fundamentals of publishing like a machine. Researchers must position their research context and make contributions to guarantee the acceptance and publication of their study. In this article, I explore how academic researchers can publish maintaining research quality, observe the ethics of research and follow the rules of the game.

The phrase "publish or perish" reflects the reality that academic researchers are under immense pressure (Grimes, Bauch, & Ioannidis, 2018). Description of academic roles and expectations is often based on university mission and commitments. Nowadays, universities make commitments to their students that align with the Student Charter and the Bill of Student Rights and General Data Protection Regulation (GDPR). Specific research expectations differ according to university mission and goals. However, research assessment often has implications for promotion, grading and salary. In many institutions, academics with teaching and research responsibilities are required to establish research profiles by regularly producing high-quality peer-reviewed research outputs that create a strong international reputation. However, assessing academics mainly on publication "creates a perverse incentive, allowing careless and fraudulent conduct to thrive, compounded by the predisposition of top-tier journals towards novel, positive findings rather than investigations confirming null hypothesis" (Grimes et al., 2018).

Universities have developed several measurements of assessment of research qualities which largely depend on journal ranking in professional associations, journal indexing and/or impact factors. Besides the demands and expectations to publish in top journals, academics are expected to consider the social, economic and environmental impact of their research activities (Kovac, 2015). More so, academics are required to regularly generate research income at an appropriate level and scale in line with an institutional benchmark. In most cases, the generation of research or consultancy income will be dependent on the national/international reputation or profile of academics. For these reasons, academics are under increasing pressure to publish research articles. Therefore, academics must develop the intention, intelligence and adaptability to the changing academic roles.

Due to the pressure that academic researchers are under, "add-my-name" as a parody of research collaboration is becoming common practice as researchers are desperate to get their names on an article that they have made no contribution as evidence for academic and promotional assessment (Aiyebelehin, 2021). There is a decline in the quality of publications and some publishers are fishing for manuscripts (Brondz, 2015). The claim that "all authors have contributed equally to a study" may not be practicable (Akhabue & Lautenbach, 2010). Also, abuses of personal data, authorship, ghost authorship, and coerced or hostage

authorship are common unethical practices (Koljatic, 2021). This article develops awareness of basic research ethical dilemmas and proposes 12 simple rules to guide academic researchers towards publishing like AI but obey the rules of the game to overcome the impact of "publish or perish".

2. Research Ethics and the Rules of the Game

2.1. Ethics of Research

Research is a core activity that happens within academic institutions (Aiyebelehin, 2021). Research ethical principles govern the standards of conduct for scientific researchers in order to protect the dignity, rights and welfare of research participants (World Health Organisation (WHO), 2021). Ethics of research defines acceptable and unacceptable behaviours (Resnik, 2020). According to Kouritzin and Nakagawa (2018), there are four major ethical issues 1) ethics is not adequately defined, theoretically or practically; 2) a failure to make a distinction in the types of communities under investigation; 3) less consideration of insider research versus outsider research; 4) consent has been mistaken for consensus (Kouritzin & Nakagawa, 2018: p. 675). There is an "oligopoly of major commercial publishers, charging exorbitant subscriptions or publishing fees, making exponential profits, and treating the intellectual output of scientists and institutions as if it was all their personal property thereby profiteering from an enterprise that generates knowledge which belongs to all and which should be truly open and free for anyone in the world to access" (Rahman, 2021).

Researchers are expected to observe and follow the rule of the game and the General Data Protection Regulation (GDPR). Research ethical principles tend to be broader and more informal than laws, hence, individuals and organisations interpret, apply, and balance them in different ways considering their goals, values or expectations. Promoting ethical principles is essential to promoting collaborative work. The principles include accountability, confidentiality, mutual respect, and trust (Resnik, 2020). These provide the foundations to protect copyright, authorship, and data sharing, and confidentiality rules in the peer-review process (Resnik, 2020). Add my name (Aiyebelehin, 2021) and other unethical practice such as gift authorship and ghost authorship as major issues in research ethics (Ranieri, 2019).

Previous studies have identified cases of unethical research practices, the inadequate practice of research ethics and forms of unethical practice ranging from fabrication, falsification, and plagiarism, etc. (Aiyebelehin, 2021). Another ethical dilemma has been described by Koljatic (2021) as unwelcome or unconsented acknowledgements which constitutes a form of authorship abuse perpetrated in the acknowledgements section of published research, where the victim is credited as having contributed to the paper, without having given their consent, and often without having seen a draft of the paper.

Akhabue & Lautenbach (2010) add that there is a dilemma of what constitutes the most ethical, transparent and fair way to credit authors for their contribu-

tions to an original published work? Therefore, it is common to see publications with certain authors explicitly designated as having "contributed equally" to the manuscript (Akhabue & Lautenbach, 2010: p. 2). Preventing "add my name", unconsented acknowledgements and gifted authorship require that more than one individual or one institution take responsibility for ensuring its regulation and prevention (Koljatic, 2021; Tubig & McCusker, 2021).

2.2. Ethics Rules

Researchers can contribute towards resolving ethical issues by considering and incorporating ethics approval during the planning and execution of their research. Williamson et al. (2021) emphasise the need for research to advance scientific understanding but be balanced by ensuring that the rights and wellbeing of participants are safeguarded. Williamson et al. (2021) provide some guidance for carrying out ethically responsible research with participants' rights to self-determination, confidentiality, non-maleficence and beneficence. There are several ethical issues that reviewers look for when examining the research methods and how the researcher identified and resolved ethical issues.

Most of the issues are linked to Belmont Principles including 1) Respect (protection of personal data; dignity and autonomy of participants; were participants fully informed about the purpose and intended outcomes of the research); 2) Consent (did participants freely and voluntarily provide their willingness to participate in the study); 3) Withdrawal (were participants informed that they can withdraw anytime if they wish); 4) Confidentiality & Anonymity (were participants promised confidentiality except where impossible or participants choose otherwise); 5) Beneficence & non-maleficence (has the risks and benefits to participants or society been assessed); and 6) Justice (has participants been treated fairly and not coerced).

More so, peer-reviewers seek information about the merits and de-merits/ limitations of the research method applied. How participants were identified and selected? Where and when data was collected? What was the inclusion/exclusion criteria for selecting participants? In most cases, participant information/profile sheets will be required by reviewers or editors. Has the researcher considered the risks associated with the study and how was the risks mitigated? These are critical rules that must be followed by researchers (see, e.g., a qualitative research article by Nwajiuba et al., 2020; Igwe et al., 2020a, 2020b and quantitative research article by Okolie et al., 2021).

3. How to Publish Like Artificial Intelligence?

3.1. Intentionality to Undertake Research

Academics who take up the role of T&R must set out their intentions and strategy. Intentionality begins with an effective statement of intent or a personal statement defining a personal career target and motivation that will drive the researcher's activities in a field of practice. The creation of new knowledge is the

aim of every research (Rajapakse & Gunatilaka, 2016). Researchers need to define their strategy in the continuously changing environment and to be on par with the changing situations (Rajapakse & Gunatilaka, 2016). Attitudes, beliefs, perceived behavioural control, (capacity and autonomy), self-efficacy, and motivation influence intention to publish (Moksness & Olsen, 2017). Ajzen (1991) theory of planned behaviour (TPB) proposes that the intention to perform a behaviour is determined by attitudes and perceived norms.

Hence, TPB has been used extensively to explain and predict several categories of behaviours such as health-related decisions, consumer behaviour, environmental behaviour, political behaviour, organizational behaviour or job behaviour (see, Moksness & Olsen, 2017). Bandura's social cognitive theory (self-efficacy) is defined as "an individual's belief in his or her own ability to organize and implement action to produce the desired achievements and results" (Bandura, 1997: p. 3). Most times individual actions often do not match their intentions especially when there are external disturbances (Horowitz & Patton, 2015). Academic roles in many regions take two paths—teaching and research (T&R) or Teaching, Scholarship and Professional Practice (TSPP pathway). Deciding if you want to follow T&R or TSPP pathway depend on your ambition and future career choice. Whilst both pathways lead to career success the expectations are different.

TSPP academics are expected to demonstrate excellent teaching and learning delivery, as well as develop a curriculum that delivers improved student attainment and experience. TSPP like T&R academics are required to provide evidence of continuous professional development, scholarly publications and teaching innovations. It is difficult for both T&R and TSPP scholars to create and maintain national or international profiles without research outputs or scholarly contributions. In addition, T&R scholars are expected to develop research leadership and research supervision that enables them to develop external research profiles as an indicator of esteem. Unfortunately, for many academics, some internal and external issues prevent them from succeeding (Horowitz & Patton, 2015).

3.2. Intelligence to Develop Research Excellence

A major debate in society is the impact of academic research on solving some of the world social, economic and environmental challenges (Terämä et al., 2016). Towards this direction, many national and international organisations have promoted research excellence agenda (Ferretti et al., 2018). However, there is an argument around what is the meaning of excellence and how to measure research excellence (Ferretti et al., 2018). In the UK, the Research Excellence Framework (REF) is the main research assessment for universities and assessing the quality of research. It informs university league tables and the allocation of government research funding (Stockhammer, Dammerer, & Kapur, 2021). Although research impact is important and is recognised as an essential part of re-

search funding and university ranking, there are some question marks about the metrics used in assessing research excellence. Moreover, the word 'impact' has a slightly different meaning and interpretation in different contexts, regions, institutions including within REF (Terämä et al., 2016).

Collaboration and shared responsibilities are important when undertaking high-quality, impactful and compliant research. Seeking and providing mentoring, building collaborations and relationships, enable researchers to develop research competencies and excellence (Antes, Kuykendall, & DuBois, 2019). Academics are required to develop quality research focusing on contemporary issues. Hence, there are several assessments and measures of research excellence. The UK REF assessment first took place in 2014 and the second exercise in 2021. Also, the Chartered Association of Business Schools (CABS) has an Academic Journal Guide (AJG) that ranks the quality of journals in which business and management academics publish their research into 4* star, 4 stars, 3 stars, 2 stars and 1 star.

Within the business and management field, including economics, there are a small number of grade 4* Journals of Distinction recognised worldwide as exemplars of excellence (CABS, 2021). For the grade 4 journals, the article selection and review process is rigorous and demanding, typically have high submission and low acceptance rates (CABS, 2021). Academics with formal affiliations to universities in America, Canada and the UK have interest in the disciplines covered in the AJG list. Also, there is the Australian Business Deans Council (ABDC) Journal Quality List which follows an extensive review conducted by Expert Panels, which assessed journals (ABDC, 2021). Academics with formal affiliations to universities in Australia, New Zealand, and internationally have an interest in the disciplines covered by the ABDC list (ABDC, 2021). In 2019, the ranking contains 2682 journal entries with the following classifications: A* (7.41%) (199); A 24.27% (651); B 31.69% (850); and C 36.61% (982) (ABDC, 2021).

3.3. Adaptability to Publish Quality Research

Psychological resilience represents a process of adapting well in the face of adversity (Ozbay et al., 2007). Individual's knowledge, ability, skills enable the ability to adjust or change itself to best meet the changing academic assessment, social and economic environment. Capabilities foster rapid adaptation, reduces risk and instability. Researchers must sense signals of change and respond to the rapidly changing external environment (Wilkins et al., 2014, cited in Zhou & Lin, 2016). Research collaboration is designed to allow experts to share ideas, skills, and expertise through an informal process (Aiyebelehin, 2021). Some studies reveal that social support has a strong influence on adaptability and attainments (Zhou & Lin, 2016). It is believed that the positive relation between adaptability and achievements is essential for maintaining physical, psychological health and professional excellence (Ozbay et al., 2007).

Understanding individual mental conditions (e.g., social support and psychological resilience) can help provide better-targeted suggestions and assistance for different people (Li et al., 2021). The notion of managerialism demand that academic staff be efficient and effective in their roles (Ryttberg & Geschwind, 2021). Universities have a wealth of support available for staff who engage in research ranging from internal funding, mentoring, guidance to training for early career researchers. Universities foster a positive environment to enable staff and students to engage in research such as promoting conferences, sponsoring staff to attend conferences and awards of internal research grants. However, many universities have missions that may be too short-sighted to provide academics with adequate support that will be sustainable.

A key challenge is the costs of doing research (time, work loading and financial) which limits the capacity of institutions to support all academics that require support. Many institutions apply the strategy of centralisation and formalisation of support functions which become limited or ineffective in meeting the demand for academic support (Harris, 2011; Ryttberg & Geschwind, 2021). Academics who wish to publish like super thinking machines must contend with over-centralisation and formalisation of support and limited resources available and allocated to the research mission of the universities. More so, many universities now place much emphasis on the provision of excellent teaching and learning more than a focus on research excellence. Moreover, there is now a shift towards "marketizing" in higher education (see, e.g., Mogaji, Maringe, & Hinson, 2020) with a strong focus on students' teaching and learning experience (Staddon & Standish, 2013; Igwe et al., 2020b).

4. How to Publish Like AI: Recommended Approach

Although there are several excellent suggestions from several scholars about how to conduct, structure, and publish research in general, this article focuses on recommendations and guidance on how to publish like a machine while maintaining quality, research excellence and ethical principles. Reflecting on previous studies, scholarly propositions and personal experience, the author offers some rules and advice for conducting research and publishing like a machine.

Rule 1: *Identify the journals you would like to publish and ensure that you plan projects that are relevant to the aims and scope of the journal.*

A major reason for most rejections is when a paper does not conform to the aims and scope of a journal. Start with low ranked journals with less rigorous peer review and as you gain experience move upwards to high ranked journals. When planning a project, identify special issues from journals of interest as they tend to provide topics and research questions on the current wish list of the journals. If you are an early career researcher, start with writing book chapters with less rigorous peer review to learn and gain experience in writing an article.

Rule 2: *Study and understand the gaps in the current literature.*

Research projects should be based on the identified gaps within and outside

the journals of interest. By reading the most recent issues and articles on the research topic and identifying the research gaps, you stand a better chance to position the arguments for your study and its relevance to the journal. A good example could be trying to replicate the identified research questions in a different context, applying a different theory, methodology or focusing on unexplored study locations/regions.

Rule 3: Data size, quality of data and analysis.

Examine previous papers from the journal of interest to gain knowledge about an acceptable size of data from previously published papers in the journal. Also, ensure data quality by applying and collecting diverse sources of data, population, features and possibly a mix of data. Follow acceptable analysis process and procedure that has been applied by currently published papers of the journals.

Rule 4: Develop the abstract, introduction (with clear aims and objectives) and the structure of your article in line with the style of the journal.

Provide a summary of the current state of the issue or topic you are investigating. Have a clear aim, objectives, arguments (for and against the concepts & theories) and research questions.

"*Having defined a question, you will need to describe how the question is to be contextualised and provide an indication of the key theoretical, practical or empirical contexts you plan to use to locate your work within contemporary creative practice. This could include an explanation of why the question interests you, and an outline of the reasons why the project outcomes will be of interest to a wider audience*" (*Cambridge School of Visual and Performing Arts*, n.d.).

Have clear and focused research questions to avoid examining a broader scope. Articulate clear theoretical gap (why is this study necessary and its contributions to knowledge). Avoid introducing or applying too many theories or concepts. In management or social sciences, the introduction could benefit from a clearer structure focusing on the classical standard four paragraphs as follows 1) what we already know; 2) the gaps in the literature; 3) why is this study necessary? and 4) how you intend to close the gaps and add to the current knowledge (contributions to knowledge).

Rule 5: Follow the predominant research methods, analysis, presentation of findings and concluding style of the journal.

Do not try a new method that has not been applied by previous scholars except you are an authority in research methodology and/or the field of knowledge? By applying a new method of analysis and analysis, you may be exposing yourself to the ridicules of reviewers or editors.

Rule 6: Do not focus on planning a single project at any time but multiple projects.

The peer-review process takes a long time, and the outcomes may not always produce the desired result. To avoid putting too much hope on the outcome of peer-reviewed papers, plan and execute as many projects as you can achieve given the limits of your workload. Having multiple projects and submitting dif-

ferent papers to different journals enhances the possibility of a few being accepted and published rather than a single project or few projects at any given period. If you are PhD or early career researcher, start from your PhD data. PhD data can offer multiple publications.

Rule 7: *Collaborating with people with the same drive and goal is key to achieving research success.*

Identifying and collaborating with the right people and academics who have very good experience of publishing will help to ease the experience of publishing. Also, collaboration enables learning and personal development necessary to succeed in an academic environment. Also, identify a reliable and trustworthy mentor, especially if you are an early career researcher. Edit and revise the manuscript and seek internal peer review from senior colleagues or mentors during the design of the project and before submitting the article.

Rule 8: *Expand your network, attend workshops and conferences.*

Whenever possible, engage in social networks like LinkedIn and Researchgate. Attending webinars, workshops and conferences will provide the opportunity to meet academics with a shared research interest, reviewers and editors. Such a network will be vital for sharing information about special issue call for papers, new research methods and the emerging field of research.

Rule 9: *Develop a habit and drive to write a minimum of words every day.*

Set a personal target (for example, writing about 500 words, maximum of 5 days in a week) on any research interest. Bandura's (1997) social cognitive theory emphasises the importance of an individual's belief in his or her own ability to organize and implement actions. To achieve success, academics must develop a personal goal, positive attitude, hardworking and motivation (Moksness & Olsen, 2017; Fishbein & Ajzen, 2010). A commitment to set a personal target of minimum written words achievable every day and a focus on multiple projects is required to publish like a machine.

Rule 10: *Be prepared for the review or editorial outcome.*

The review process could be long, tedious and disheartening. Always pay attention to every editor or reviewer suggestions. Study, learn and improve your article in line with suggestions from editors and reviewers. Provide detailed responses and compliments for reviewers or editors recommendations. Be determined and do not allow rejections from reviewers and editors to kill your research interest, drive and self-efficacy.

Rule 11: *Seek funding (internal or external) to undertake research projects.*

With funding, it is more likely that the study can cover a wide scope of geographical area, collect quality data, increase the size of data and have funds to pay for software or open access if required. Internal sources of funding can be easily accessible, unlike external funding.

Rule 12: *Maintain research integrity and carry out ethically responsible research.*

Avoid illegal acts and the risk of harm. Maintain trust, accountability, confi-

dentiality, copyright, data sharing rules, ethics rules and implement General Data Protection Regulation (GDPR) by being responsible for using and protecting personal data.

The above are simple rules for developing research capability and publishing like a machine. Much of the rules apply to any field of research, however, there could be some missing hints that apply to specific subjects or fields. The pressure on academics to publish and respond to societal issues is likely to continue given the competitive environment that universities find themselves in the globalized world and the current shift towards "marketization" in higher education.

5. Conclusion

The three qualities of AI concerning intentionality, intelligence, and adaptability (West, 2018) has been applied in this article to analyse how academics can overcome increasingly pressure to publish research articles. Of course, achieving success will depend on intention, attitude, perceived norms and planned behaviour (Fishbein & Ajzen, 2010). Hence, the article highlights the importance of social support in an academic environment, collaboration, and networking. This article developed propositions on the relevance of REF, high-quality, impactful and compliant research.

Besides the financial cost, time and resource implications of doing research, ethics of research, promotion of ethical standards and values pose major concerns. Unethical research practices, a decline in the quality of research, the inadequate practice of research ethics, ghost authorships, trust, accountability, confidentiality, authorship, copyright and data sharing pose a threat or ethical dilemmas (see, e.g., Aiyebelehin, 2021; Koljatic, 2021; Resnik, 2020; Williamson et al., 2021). These have implications on the conduct of research activities and academics obeying the rules of the game while setting the goal to publish like an AI machine.

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Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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