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Scientific publishing between organisational determinants and the ethical responsibility of the scientific researcher

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Abstract

Universities and research centres worldwide are interested in publishing the results of their research in peer-reviewed scientific journals, which adopt sound scientific standards in the exchange of knowledge and scientific results, thus enhancing the importance and accuracy of scientific publishing in scientific journals and magazines in particular. The achievement of scientific research requires following sound scientific methodological steps based on the global scientific publishing system. In accordance with this global feature, scientific publishing aims primarily to share science and scientific knowledge and make it available to all with different specialisations and

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interests. For this reason, scientific publishing is one of the most important university academic activities that bind the scientific researcher to the moral rectitude of this scientific responsibility and respect for the various standards of good scientific publishing. In addition to the evaluation criteria for the performance of higher education institutions, which predict their continuity and development in the future (university ranking is one of the most important of these criteria). The development of scientific publishing techniques and tools (the expansion of electronic publishing) and the accompanying citation reports for editorial boards and the impact factor of scientific journals has made it imperative for the scientific researcher to adhere to the correct scientific and methodological steps before initiating the composition of a scientific research paper and selecting the most appropriate scientific journal. The question therefore arises as to how scientific research can be published in accordance with the standards and conditions that have been established for the publication of scientific research?

Keywords: Scientific publishing, e-publishing, publishing standards, researcher ethics, Articles and journals.

Introduction

Scientific publication represents a pivotal criterion in the activity of faculty members, particularly those specialised in research, who possess the capacity to develop scientific approaches and contribute to the accumulation of knowledge through specialised scientific research and articles published in peer-reviewed journals and magazines. Scientific research in universities is a pivotal area of excellence in many fields, with numerous international journals achieving eminence and leadership in the domain of scientific research.

The criteria and indicators of academic evaluation of international universities according to the British "THE" ranking emphasise the criterion of reputation and income in scientific research, where the percentage of professors' research occupies more than 25% of the total evaluation scores of universities. According to the Shanghai ranking (indicators of academic ranking of world universities), scientific research outputs account for 40% of the total evaluation score.[1]

[1]- Hammam Abdulkhaleq Abdulghafour and Mohammed Abdulwahab: Logic and Ethics in the University Environment - Visions and Applied Approaches, Dar Al-Ayyam for Publishing and Distribution, Amman, Jordan, 2020, pp. 101,100.

However, scientific research is not only a systematic process leading to greater knowledge of various phenomena, solving and solving problems and limiting their aggravation, but it is also a noble ethical process that helps research and the researcher to achieve scientific excellence. The university professor, in particular, has the primary responsibility to preserve his or her scientific ethics and to work to maintain and complement it with sober and sophisticated scientific values and practices, because scientific ethics are highly sophisticated and sensitive scientific values, characterised by transparency, care and follow-up.

For this reason, in our scientific paper, we will try to objectively reveal the reality of scientific publishing in scientific journals and magazines, considering its importance as a global standard in the development of research skills. This in turn requires an analysis of the ethical practices of researchers and scientific research.

Accordingly, how do the organisational determinants of scientific publishing fit with the ethical responsibilities of the scientific researcher?

I- Scientific publication as a global standard in the development of research skills

The significance of scientific publication in attaining quality in university outputs and enhancing the investment of human capital competencies has been increasing in accordance with developments in the modernisation of higher education institutions, which have become integrated in the fields of creativity, innovation and upgrading university outputs. Consequently, scientific publication is one of the criteria for distinguishing between researchers in their field of specialisation and a distinctive criterion for measuring the importance of the university's alignment with social development. Consequently, the university's prestige is enhanced by the publication of scientific research, as the role of the university professor evolves beyond the mere teaching process, with scientific research assuming an integral aspect of their interests and future prospects. In the contemporary academic landscape, scientific publication serves as a fundamental criterion for the promotion of professors and a prerequisite for obtaining university degrees.

The necessity for scientific research has arisen in response to the increasing demands of both individuals and society, which have in turn precipitated the need for the accumulation of knowledge. The importance of cooperation and concerted scientific efforts to solve issues, discover scientific facts and explain phenomena that exist in reality has been reinforced.

As previously stated, the degree of scientific progress and development in a nation is determined by the magnitude of its contributions to the identification of solutions and the analysis of phenomena across diverse domains of social, economic, cultural, and political advancement. This

approach is instrumental in the effective management of crises and the attraction of highly qualified personnel who possess both intellectual and scientific aptitudes. The enhancement of scientific publishing, both in terms of its scope and its expansion into the domain of electronic publishing, is a pivotal factor in achieving these objectives.

The scientific researcher disseminates their scientific oeuvre in order to communicate their orientations and ideas to interested parties and to provide useful insights into the development of scientific research, making it available to other fields, or as a prelude to completing scientific research successfully and with distinction.[1]

Scientific publication is a strategic indicator in the development of scientific research and the final outcome of the researcher's scientific and knowledge achievements that contribute to achieving societal development. Consequently, researchers in various fields and specialisations publish their research and scientific articles in reputable scientific journals and periodicals that have global impact factors and are listed in global rankings, which are widely accessible. These global rankings facilitate the evaluation of universities and the determination of their international rankings based on the volume and quality of their intellectual production. The process of citations and reference citations of published research is also taken into account, with the objective of enhancing the effectiveness of electronic publishing in the production of books, periodicals, journals, and publications using new technologies and applications.

The advent of e-publishing has engendered novel prospects for publishing houses, enabling them to broaden the ambit of their operations from a local to a global scale. This progression has been facilitated by the utilisation of electronic marketing and interactive advertisements via the Internet, which have fostered the dynamism and expeditiousness of scientific communication among individuals within a given society and between disparate societies. Moreover, these innovations have enabled researchers to access electronic sources of information with alacrity, by furnishing electronic libraries that are sustained by scientific and intellectual output, and are disseminated by a designated publishing house, irrespective of temporal and geographical constraints.

[1]- Shaher Ismail Al-Shaher: Publishing in International Scientific Journals and its Ethics, Arab Journal for Scientific Publishing, No. 32, 2021, p. 3, 2.

Thus, e-publishing has contributed to the accumulation of digital knowledge content by publishing quantitative and qualitative information that in turn contributes to improving scientific research and ensuring the continuity of its activity.[1]

In consideration of the significance and worth of scientific publishing, the following aspects are of primary importance:

- Originality of content and following a scientific methodology appropriate to the nature of the topic.

- Scientific addition and following the proper conditions and rules of the published journal while adhering to the thematic selection of the appropriate journal for the research topic.

- Respecting the principles and rules of the language used in scientific publishing (scientific, objective, precise, and clear language).

In accordance with these pillars, or scientific fundamentals, the scientific publishing system seeks to achieve a number of scientific objectives that are beneficial and useful in various fields. We summarise them as follows:

- Developing and improving methods and methods of work and performance in response to subsequent and rapid developments synchronised with the process of building and transferring knowledge globally.

- Revitalising the scientific research movement and expanding it quantitatively and qualitatively in a way that guarantees the intellectual rights of researchers in documenting their scientific achievements.

- Scientific research contributes to increasing the awareness of community members of the importance of scientific research and the developmental benefits it achieves.

- Promoting and achieving scientific reputation and fame for the researcher, as well as obtaining material and moral benefits.

- Sharing knowledge and information and making it available to everyone, which contributes to obtaining rewards and promotions or obtaining new job opportunities.

- Developing research skills and enhancing self-confidence so that the scientific researcher can develop the fundamentals of reading, writing, analysing, interpreting, and

[1]- Mustafa Rabhi: Digital Electronic Libraries, Dar Safaa, Amman, Jordan, 2010, pp. 17,16.

discussing. In other words, scientific publishing contributes to improving the researcher's level of academic scientific writing, enhancing the efficiency of critical reading, and acquiring the ability to review, summarise, analyse, critique, and translate books and scientific research of international quality.[1]

Scientific publishing is considered a fundamental component in the advancement of knowledge and the development of societies, as it is contingent on the originality of the content and the accurate scientific methodology that aligns with the nature of the research. By adhering to scientific and ethical standards, researchers ensure the actual contribution to their respective fields of knowledge, while taking into account the conditions and rules established by scientific publishing journals. It is imperative to recognise the crucial role of employing precise and objective scientific language in communicating ideas accurately and clearly.

Conversely, the scientific publishing system contributes to the achievement of other essential objectives, the most significant of which is the enhancement and development of research and academic work methods, ensuring they keep pace with the rapid advancements in knowledge production. Scientific publishing also enhances the intellectual rights of researchers and encourages the revitalisation and expansion of the research movement, leading to an increased societal awareness of the importance of scientific research in development.

Furthermore, it enhances the scientific status of researchers and opens up new professional and academic horizons for them.In addition, scientific publishing provides an opportunity to share knowledge and make it widely available, thus helping researchers to develop professionally through academic promotions or gaining new employment opportunities. Moreover, it helps to develop scientific research skills, including analysis, interpretation and criticism, thereby enhancing the researcher's ability to contribute effectively to the construction of scientific knowledge. Consequently, scientific publishing can be regarded as a complementary process that contributes to the development of researchers, enhances the quality of scientific production, and enriches the academic movement on a global scale.

II- The reality of scientific publishing in scientific journals

The Internet has had a profound impact on the production and dissemination of scientific journals, as well as on the ease with which they can be accessed. Search engines such as Google Scholar and Research Gate have significantly streamlined the process of accessing research.

[1]- Fakia Azaf: Obstacles to scientific publication in scientific journals class 'C' in Algeria among doctoral students, The Researcher's Journal of Mathematical and Social Sciences, Volume 04, Issue 07, 2021, University of Djelfa-Algeria, pp. 299,298.

Consequently, there has been a gradual shift towards scientific research being made available on the personal websites of researchers, either free of charge or via open access journals. The latter option provides unrestricted online access to the full contents of an issue, a practice which is becoming increasingly prevalent in certain applied sciences. Conversely, a significant number of these commercial journals are currently endeavouring to conceptualise a methodology for the unrestricted availability of scientific content without compromising its quality.

The notion of Open Access represents a paradigm shift in the realm of scientific publishing, promising to eliminate barriers and facilitate unimpeded electronic access to scholarly output via the Internet for all stakeholders. This transformative concept aims to not only transcend the challenges associated with traditional publishing models but also to promote transparency and fairness in the dissemination of scientific knowledge. However, the implementation of this system has been fraught with challenges, including the emergence of issues such as scientific publishing fraud and academic plagiarism, which have been driven by commercial interests. Concurrently, there has been a discernible decline in the quality of scientific research.

Despite the remarkable advancements in the domain of scientific publishing, particularly in the realm of electronic publishing, as previously delineated, the prevalence of fraudulent practices has begun to emerge, particularly with the persistent and incentivising encouragement of research and academic entities to publish in these scientific journals as a prerequisite for the advancement of researchers. Conversely, it is arduous to meet the fundamental criteria for publication in esteemed international journals such as Nature, Science, and analogous publications.

In recent years, this fraudulent group has exploited the scientific need for publication by creating numerous fake websites on the Internet. These websites have the appearance of international journals that accept research in exchange for substantial financial fees, without any consideration of the quality of the publication. It is estimated that thousands of researchers, predominantly from developing countries, have fallen victim to these fraudulent activities. The proliferation of these fake journals and publishing houses has expanded extensively, reaching all countries worldwide. These sites are operated by seasoned professionals who possess extensive expertise in electronic fraud and entrapment tactics, meticulously designed to deceive their targets. This phenomenon has prompted a need for a thorough examination of scientific papers submitted for promotion, as these papers frequently contain significant scientific errors, both in content and form, attributable to these deceptive journals and publishing houses, which

take the form of professional, anonymous, fictitious, greedy and extortionist gangs operating within the virtual domain.

In accordance with the aforementioned points, the international scientific publishing system has established the following conditions for the publication of scientific research in journals:

- To be issued by a recognised scientific body, such as universities, institutes, research centres, scientific societies and publishing houses with a good scientific reputation.

- It should have an Editorial Board with expertise and a good reputation in the field of scientific research.

- It is better to have a scientific advisory board as much as possible and reliable.

- Publishing vessels include an editorial policy that explains how to write research papers, submission methods, refereeing mechanism, review, and steps for accepting and publishing research.

- These journals should be in the researcher's field of specialisation.

- They should have an ISSN number and an impact factor.

- They should have at least one regular issue, be indexed, and their abstracts should be clearly visible in recognised international directories.

- The scientific research must be peer-reviewed by experts and researchers specialised in the subject of the research to be published. Each referee evaluates the research and writes a detailed report on the scientific value of the research, then makes a decision to publish the research, reject it, or make substantial or minor amendments. The severity of the criteria and conditions for accepting research varies from one journal to another and varies in the arbitration and publication period, but it is often done in a confidential and transparent manner.

- The Impact Factor (IF)* is a metric used to quantify the importance of peer-reviewed scientific journals within their respective fields of research specialisation. The Impact Factor is determined by the frequency with which new research is referenced and cited by previously published research in that journal. Consequently, a journal with a high Impact Factor is considered more significant and is cited more frequently than a journal with a low Impact Factor.[1]

[1]- Arab Scientific Society Organisation: Scientific Publishing, 2015, Arsco, pp. 9,8,7.

The necessity for the regulation of scientific publishing houses and the establishment of clear laws and regulations governing them has become increasingly apparent in order to reduce scientific fraud and ensure the integrity of academic research. This is particularly important in the context of the increasing number of predatory journals that exploit researchers by charging publication fees without providing a rigorous scientific review. The establishment of regulatory standards that ensure the quality of published research and the transparency of the refereeing process is therefore vital. The establishment of clear regulations that define the scientific publishing process is instrumental in fostering trust by mandating that journals adhere to scientific research ethics, implement reliable refereeing systems, and safeguard intellectual property rights. Moreover, regulatory frameworks assist in the detection of fraudulent practices, such as plagiarism or data fabrication, thereby ensuring the credibility of research and contributing to the international standing of scientific research.

III- Ethical Practices of the Researcher and Scientific Research

Scientific research ethics is the set of qualities that the researcher possesses and adheres to, encompassing the scientific fundamentals and objective principles. It involves the recognition of the efforts of previous researchers and the avoidance of plagiarism, in order to prevent scientific abuse and preserve the principle of scientific honesty in providing positive work that benefits society without causing harm to others.[1]

Consequently, scientific research ethics demands the respect of the rights, opinions and dignity of others, whether they are fellow researchers, research participants or those targeted by the research. Ethical principles encompass positive action and the avoidance of harm, as they are among the values of scientific research ethics and include ethical behaviours such as credibility, expertise, trust, safety, consent, withdrawal, digital recording, feedback, false and false hope, consideration of the feelings of others, exploitation of situations and confidentiality of information.[2]

In accordance with these ethics, scientific research is subject to certain conditions that have been stipulated in international scientific forums. These conditions can be summarised as follows:

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*- The impact factor was invented by Eugene Garfiell, the founder of ISI.
1- Al-Ajmi, Mohammed Hussein: Academic development and preparation for the academic profession between the challenges of globalisation and the requirements of internationalisation, Modern Library for Publishing and Distribution, Egypt, 2007, p. 127.
2- Riad Aziz Hadi: Ethics of the University Teaching Profession, a university cultural series issued by the Centre for Development and Continuing Education, Volume 1, Issue 1, 2009, University of Baghdad-Iraq, p. 52.

- The desire, feeling and interest in the research topic must be considered in parallel with the possibilities available to the researcher in preparing their research.It is crucial to recognise that the desire and interest in the research topic are pivotal factors in the success of any scientific study. Indeed, it is the passion for the topic that provides the researcher with the motivation to continue in the face of challenges and obstacles.Furthermore, a sense of the importance of the research enhances the researcher's ability to think critically and analyse deeply, leading to more accurate and objective results. However, it is imperative to strike a balance with the available resources, whether material, temporal, or cognitive, to ensure that the research is completed to a high standard within the specified time frame.Consequently, the researcher must assess their available resources in advance and plan how to effectively utilise them to achieve their research goals.

- The selection of the research topic is of paramount importance in the preparation stage of a study, as it is essential to specialise in a specific field while avoiding excessive complexity that may lead to difficulties in collecting and analysing information. The selection of a broad topic can potentially consume a considerable amount of time and effort without yielding tangible results, and it may also result in a lack of accurate data necessary for the research. Therefore, it is advisable to strike a balance between generality, which facilitates understanding of the overall context, and specificity, which enables an in-depth examination of a specific research issue. Adopting this approach enhances the quality of the research and mitigates the theoretical and practical challenges that researchers may encounter during the execution of their study.

- The utilisation of a diverse array of scientific sources is pivotal in fostering academic excellence and driving the advancement of scientific research. By encompassing both theoretical and applied domains, researchers can ensure the credibility and academic robustness of their studies. The integration of diverse scientific sources is a hallmark of rigorous research, providing a foundation for both theoretical and applied studies. Theoretical sources, such as books and scientific articles, offer the conceptual framework and theoretical basis for research, while applied studies, including experiments and questionnaires, enhance the realism of the results and provide practical solutions to the issues at hand. This diversity in scientific sources is instrumental in propelling the development of scientific knowledge and contributing to the advancement of society. Conversely, applied studies, such as experiments and questionnaires, enhance the realism of the results and provide practical solutions to the issues at hand.The diversity of sources is indicative of the researcher's familiarity with the latest developments in their field, which contributes to the quality of scientific production.Through this diversity, research becomes more comprehensive,

which drives development and scientific progress and contributes to making real contributions to solving societal issues.

Based on these conditions, the researcher adheres to some cognitive and methodological specifications of an ethical nature, the most important of which are

- Ethical principles accompanying research planning and the process of collecting and dealing with data.

- Adherence to field principles and procedures in the selection of statistical methods used in data processing.

- Honesty and objectivity in the preparation of the research report and in the researcher's presentation of the research literature from opinions and studies, as well as scientific honesty in everything related to documentation and quotation.

The establishment of global ethical principles is determined by the responsibility of establishing acceptable ethical practices in scientific research, as well as personal responsibility for ethical standards related to the study. The foundation for ethically acceptable research is a clear and fair agreement between the investigator and the participant, in which the responsibilities of both are clearly defined in terms of respecting the laws and rules agreed upon within the framework of ensuring protection and avoiding damage and the possibility of risk.[1]

In the domain of scientific research, the characteristics and ethics of a good researcher are of paramount importance. However, there exists a potential for such individuals to utilise their position for malevolent purposes, thereby jeopardising the well-being of society as a whole. The scientific community, in conjunction with international organisations, has identified a set of qualities and ethics that are crucial in ensuring the optimal functioning of scientific research. These qualities and ethics are designed to produce a positive image that is aligned with the noble aspirations of scientific research.

In light of the aforementioned conditions, standards, and ethics, the scientific researcher must strive to avoid and mitigate the following risks that jeopardise the importance and ethical value of scientific research:

- Forming premature conclusions and disregarding counter-evidence.

[1]- Abdul Basit Abbas Mahmoud: Ethics and Ethics of the University Teaching Profession, Dar Al-Ayyam for Publishing and Distribution, Amman, Jordan, 2020, pp. 174, 173.

- The tendency to think within fixed boundaries, resulting in an inability to gather facts related to the issue.

- Inaccurate observation and error in matching or reconciling the signs of cause and effect (meaning that the researcher must be careful and attentive in formulating these relationships).[1]

These risks represent challenges to the quality and credibility of scientific research, requiring researchers to exercise caution and adhere to strict scientific methodology. Forming immature conclusions or ignoring counter-evidence can lead to erroneous conclusions that negatively impact the development of knowledge in the field.Fixed boundaries limit the researcher's ability to explore new solutions and hinder scientific creativity. Inaccurate observation and misinterpretation of causal relationships can lead to misleading conclusions, requiring the researcher to be meticulous in analysing data and formulating conclusions. Therefore, adherence to the scientific method, openness to all evidence, and careful verification of causal relationships are necessary to maintain the ethical and scientific value of the research.

In order to address the issues faced by various scientific and academic institutions in society, scientific research methodology and methods have become recognised in international scientific forums in general, and international scientific publishing systems in particular. The scientific researcher must:

- Provide knowledge in order to provide better conditions for human survival, security and well-being.

- Devise a new way of addressing issues and revive some old topics through rigorous scientific investigation.

- Discover new facts with a new understanding of the past and new research for the present.[2]

Scientific research has become a fundamental component in the development of scientific and academic institutions, as it serves as an effective instrument for addressing challenges and achieving knowledge advancement.Adhering to a rigorous research methodology enables researchers to contribute to enhancing the quality of life and promoting human welfare and security. Scientific research encompasses not only the pursuit of novel discoveries, but also the development of innovative methods for addressing issues and the re-examination of long-standing

[1]- Hansson, S. (2011). Avons-nous besoin d'une éthique spéciale pour la recherche ?. Éthique des sciences et de l'ingénierie , 17, 21-29. https://doi.org/10.1007/s11948-009-9186-6 .
[2]- Sami Melhem: Research Methods in Education and Psychology, Dar Al-Masirah, Amman, Jordan, 2000, p. 45.

problems through a contemporary scientific lens. The application of a profound understanding of the past and a re-evaluation of the present enables the discovery of new truths that contribute to the construction of a more advanced future.Consequently, the dedication of researchers to the principles and ethics of scientific research strengthens the role of academic institutions, supports scientific publishing systems, and advances progress in various fields.

Conclusion

Comprehensive and sustainable development is predicated on the concerted efforts of the public and private sectors, in conjunction with universities. The onus for achieving the effectiveness of the development process through the development of state agencies, the private sector and education in general lies primarily with universities. This is within the framework of directing the activity of these bodies towards serving the objectives of comprehensive human development.

The university plays a central role in achieving its goals and objectives by integrating its activities in three key areas: the preparation of community leaders, the conduct of scientific research, and the contribution to its social and economic environment. The university's educational mission is to produce leaders who are capable of creating the political, social and intellectual climate necessary to facilitate the development process.

In light of the pivotal role played by research and technological development in nurturing a robust and competitive economy, it is imperative to channel all endeavours towards the promotion of scientific research and the fortification of the scientific and technological foundations. This entails the identification and provision of the requisite resources for research and development, along with the allocation of funding support for the state. This approach is undertaken within the overarching framework of revitalising the function of the researcher, scientific research and development, and galvanising the process of valorisation of research outcomes.

Finally, returning to the primary objective of this paper, scientific publishing ethics refers to all the scientific principles and practices that face the behaviour of researchers, editors and publishers involved in scientific research.Adherence to ethical guidelines is essential to ensure the integrity and credibility of scientific research in maintaining public trust in the scientific community.

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