

The Ethics and Practice of Research Publications

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Abstract: *Research initiates itself by asking the right questions and necessitates the skill-sets and competencies required for transforming perspectives to concrete ideas. The systematization of research process not only cultivates the intensive ethics of reading, research and writing but also seeks for its applicability in terms of research publications. The effectiveness and quality of research publications are guided through vital aspects such as Indexing, Indexing Agencies, Indexing Parameters, Review methods, scholarly Journal Databases etc. Each feature contributes towards standardizing the validity of publications through a series of screening measures. So, an intensive analysis would facilitate an understanding of approaches to publishing in academia. This article underscores the historical and contemporary contributions from various researchers, working and developing systems to contrive vast amount of resources in terms of its quality content and the readers it caters, through manifold distributions.*

Keywords: *Research Process, Research Publications, Indexing, Evaluating, Scholarly Journal Databases.*

I. INTRODUCTION

The publication of research is not merely associated with dissemination of research findings but the ability to further contribute well-supported work among the larger scientific community. The final process of research publication is a culmination of long drawn format commencing its way through intensive literature reviews which enables the researchers to evaluate the historical and current researches in specific research areas, the gaps present in prior researches and prioritize the development of academic and professional practices. The cognizance of academic writing stems through experiences, internal and external reviewing and continuous evaluation for clarity. The basic framework of undergoing a publication process is important as 'until and unless any research work gets published, the findings would be confined to the researcher and there would be no proof to validate the work' (Dangal, Hamal, Giri, 2017, p.4) [2]. The essence of research publications lies on what one can learn from the published work of the other and enhance opportunities for collaboration with several funding agencies. The culture of research publication is being stated as protocol by several universities where quality and quantity of publications is considered a vital criterion for securing various academic positions. But at the same time publishing content in a fast pace for the sake of designations led to many unethical practices of data falsification which can be considered as a major challenge today.

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So, the priority area in terms of research publications is to adequately select the journals during the preparation of manuscripts as different journals follow different stylistic and syntax requirements concerning aims and scopes. However, Vikash Singh and Philipp Mayer also stated that additionally decision-time and acceptance rates are two important indicators while selecting a journal. Decision-time can be defined as 'the time between manuscript submission and the editor's decision...Information regarding acceptance rates might be found on journal websites' (Singh & Mayer, 2014, p.411) [4] [10] [12]. The decisions regarding the selection of journals is strengthened through various quality measures of publications and most importantly through indexing forms and review methods which extensively describe the process of formal qualification of a content to be valid and relevant enough for publication in national as well as international journals.

II. REVIEWING LITERATURE AND ETHICAL PROTOCOLS

Academic writing with operational definitions and research design enables a distinct procedure of recording the author's work in terms of standardized language and forms. Robert Day provides an illuminating definition of 'scientific paper' which is "a written and published report describing original research results. He claims that scientific papers have to meet certain requirements regarding how the paper was written and the way it is published. He termed scientific paper as valid publication, i.e. it must be published in the right place, like in a peer-reviewed journal or in a top-ranked conference" (Derntl, 2014, p.106). But studies on inclusion of research publications as an academic course in its own right have been less emphasized upon. Vikash Singh and Philipp Mayer states that 'Students and researcher are usually well-trained and motivated in designing, performing experiments and, analysing data. However many of them received no formal training in scientific writing and struggle with various challenges during the writing process for a description of cognitive and socio-cultural demands of writing' (Singh and Mayer, 2014, p.405). The ethical dilemma is posited across various world-views and competing interests. Elsevier issued a paper titled 'Ethics in Research Publications' which elaborates on issues of transparency and objectivity while situating various challenging situations in scientific research 'When an investigator, author, editor, or reviewer has a financial/personal interest or belief that could affect his/her objectivity, or inappropriately influence his/her actions, a potential competing interest exists. Such relationships are also known as dual commitments, competing interests, or competing loyalties.

The most obvious competing interests are financial relationships such as: *Direct*: employment, stock ownership, grants, patents, *Indirect*: honoraria, consultancies to sponsoring organizations, mutual fund ownership, paid expert testimony' (Elsevier, 2019, p.4).

There are enough of research publishing options in every discipline with different forms of rating systems. Impact factor is an important parameter while selecting a journal, although it cannot be considered as a sole criterion for envisaging the reputation of the journal. Additionally, indexing as a marker of journal quality is the process of displaying and accessing the quality of journals. These parameters necessitates the detailed study on the contribution of each towards a valuable academic record.

III. INDEXING: HISTORICAL BACKGROUND AND INDEXING AGENCIES

The indexation of a journal reflects better academic quality and consistency. It is a collection of scientific reviews that keeps track of ethics and publications accuracy. The indexed journals are of higher quality than non-indexed journals and provides greater accessibility.

Paul Otlet has a unique distinction in the history of information science. According to Otlet, documentation consists of 'simple and complex facts which are reflected in bibliographic abstracts, classification systems and other "knowledge organizations"' (Day, 2018, p.398) [3]. The pioneering work of Paul Otlet and Henri La Fontaine in designing Universal Bibliographic Repertory is the well-known model of prior indexing system.

However, the viability of citation indexing appears as indexing of connections which marked a systematic approach of culminating the variability of prior and current researches. Citation index is a structured list of cited publications, where the cited article or content is listed in the reference to acknowledge the work of other authors. Citations 'symbolizes the concepts or scientific ideas authors discuss' (Garfield, 1997, p.1) [6]. Several citation-based search strategies includes cited-reference searches, reference cycling, co-citation and bibliographic coupling etc. An index is also referred to as List, Register, Catalogue, Dictionary, Repository and Table of Contents. An American linguist, Eugene Garfield made a notable contribution in this field. In 1960s Eugene Garfield's Institute for Scientific Information established the first citation index of papers published in academic journals (Nikhilraj K, 2020, p.1) [1] [8]. Indexing as an access point to documents not only lists relevant information but evaluates the academic performances of an author and more broadly a journal within a database.

The success of the journal is being evaluated by its representation in indexing services. According to Danielle Padula, every organizations publishing journals should prioritize indexing to increase its accessibility among a large group of readers which serves the need of researchers (Padula, 2019, p.1) [5] [11]. Journals should follow certain rules and regulations to be included in the academic indexes such as the scope of publishing referring to multi-disciplinary or specific disciplinary adherence, the editorial policies and publications where indexes might require the full names and affiliations of journal editors, readability of articles and

quality of production, timeliness of publications, e.g., the duration of such publications and lastly, the archival policy as some indexes prefer journals with assurance of long – term digital preservation. Some top-level indexing agencies includes ISI Web of Science, Scopus, Google Scholar, ABDC, Ulrich's periodicals etc. Scopus is Elsevier's largest abstract and citation database of peer-reviewed literature: scientific journals, books and conference proceedings (Elsevier). On the other hand, the Web of Science Core Collection indexes consists of Science Citation Index Expanded (SCIE), Social Science Citation Index (SSCI), Arts and Humanities Citation Index (AHCI) and Emerging Sources Citation Index (ESCI). These forms the basis of journal evaluation systems as if a journal performs well it is placed under SCIE, SSCI or AHCI and if it performs averagely it is placed under ESCI.

IV. SCIENTIFIC METRICS

Metric sciences have been a vital evaluative point for research publications. Bibliometrics is the measurement related to all aspects of publication and reading of books and documents. Pritchard defined bibliometrics as the 'application of mathematics and statistical methods to shed light on the process of written communication and on the nature and course of development of a discipline (in so far as this is displayed through written communication), by means of counting and analysing the various facets of written communication (Lawani, 1981, p.294) [7]. Bibliometrics can include evaluations through questions such as how many copies are printed, how many editions made, how many languages it has been published into, how many words the content contains, etc. Journal metrics consist of open ranking measures as well as closed ranking measures. Open-ranking measures can be assessed through computation and verified by anyone while closed-ranking measures consist of closed algorithms. Some of the most common metrics consists of – Impact Factor, h-index, Cite Score, g-index, i10-index, SNIP, SJR, Cited Half-life, IC Value, h5-index, h5-median, m-index and Eigenfactor Score. **Impact Factor of a journal** represents the citation rate over a given period for an average article in a given journal. Impact Factor of a journal can be calculated through N/D , (D = Articles in the Year1 and Year2; N = Citation to D in Year3; $IF = N/D$ published in Year4). **h-index or Hirsch index** measures the author's productivity and overall impact by taking into account the number of publications by an author and the number of times they have been cited (to find the maximum $h = h$ articles are cited at least h times each). **Cite Score** measures the average citations received per peer-reviewed document based on citation counts in a range of four years (Elsevier). It can be measured by - Citations of Y , $Y-1$, $Y-2$ and $Y-3$ / Number of documents in Y , $Y-1$, $Y-2$ and $Y-3$; where Y represents years. **g-index** is a metric suggested by Leo Egghe in 2006. It is used to draw attention towards the most highly-cited articles such that top g articles are cited a total of g^2 times. **i10-index** represents the number of publications cited at least 10 times. This metric is used by Google Scholar to assess the scholar's work.



SNIP (Source Normalized Impact per Paper) is the ratio of journal's citation count per paper and the citation potential in its subject field. The goal is to allow for comparisons of sources in different subjects field (Binghamton University Libraries). SNIP is found in the Scopus database. **SJR (SCImago Journal and Country Rank)** represents the country scientific indicators developed from the information contained in Scopus and is used to analyse scientific domains. **Cited Half-life** counts all the journal citations during one calendar year and calculates the median of articles date of publication sorting the articles which were published more recently and articles which were less recent. **IC Value** is database system operated by Index Copernicus International contributing information on the profile of scientists, publications and projects. It evaluates on how fast citation rates of papers can be improved. **h5- index** represents the h-index for articles published in a period of last five years from the base of the current year. **h5- median** measures the middle value of citations for h number of citations. **m-index** is defined by h-index divided by the number of years the author have been actively publishing, i.e., the year of first publication to the current year. Lastly, **Eigen factor Score** measures the impact of a journal by looking at when a particular journal has been cited. Citations from highly ranked journal makes a huge contribution to Eigenfactor than those on poorly ranked journals.

Research publications also goes through a process of peer-review after the manuscript have been submitted by the author, to evaluate on quality, impact and novelty of the content. Peer-Reviewed Journals goes through step-by-step approach in the official stages – Journal Manager, Editorial Board consisting of Editor-in-Chief and Section-Editor and lastly, Reviewer. The handling Editor can review content in pre-publication or post-publication. Peer-review is the process where a board of scholarly reviewers in specific domains review materials for publication either in terms of quality or editorial policies of the journals. The review process can subsequently improve manuscripts if appropriate suggestions are provided to polish the paper. There are two types of peer-review process – Open and Closed. Closed peer-review is further divided into sub-types such as Single Bind Peer-review the author have no knowledge of the person reviewing but the reviewers are informed about the Author. Secondly, Double-bind process where the reviewer and authors have no knowledge of each other. Thirdly, the Triple Bind process where the identity of the editor, author and reviewer is not revealed. These processes can be anonymous and mostly preferred for accountable reviews during the early stage of researches or by most senior professionals as compared to Open-review where the identity of the author and reviewer is transparent to each other. Open-review can be challenging as certain biases might be involved in terms of screening, accepting, rejecting and requesting a revision. William Stafford Noble states ten rules on writing a well-crafted response to reviewer, summarizing the changes made in the revision of the manuscript such as providing an overview pointing out the addition of new data which can be highlighted in the Introduction, maintaining a respectful demeanour while making the content clear enough for the reviewer to understand, etc. In some cases if the reviewer is perceived to be vengeful, one should not directly confront the

reviewer but might write a separate letter to the editor. (Noble, 2017, p.1) [9] While process of scientific metric and review process remains vital for research publications, it is also essential to consider tracking journals with ease for references. This purpose is being served by Journal Database which is a searchable collection of journal articles in a computer. It includes single academic journal, collection of archives as well as institutional repertories. Journal databases includes Academic Search Engine, Bibliographic Databases, Academic Database and Indexing Agency. Examples of Academic Search Engines includes BASE, Google Scholar, Library of Congress etc. Some other databases might take the form of Grey Literature consisting of textual outputs outside the purview of standardized academic format such as conference abstracts, unpublished trial data, policies and procedures. Research publication as a whole involves a synthesis of writing and even deciding on the ways in which the authors can be cited for better scientific productivity.

V. CONCLUSION

The impact of an academic professional can be accessed by the quality of publications he or she is able to count to his credit. Publication is a way of applying the relevant knowledge for the wider audience while setting solutions to problems, which can be acknowledged by other peers to investigate for further improvements. A published research serves as the text for insightful interaction between the author and the reader. However, several parameters are required as there might be presence of ambiguities on reliability and universal acceptance of publications. So, indexing parameters and metrics remains essential as one should scrutinize journals before submitting manuscripts. There might be certain conflicts regarding authorships and style of writing and each parameter indicates evaluation of authenticity in terms of preventing fabrication. With regard to these features, research publications should independently qualify as a course in academic institutions.

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