Research Through Ages — Evolution of research publishing with the advent of AI!

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Have you ever wondered what was the first published scientific journal? Or how researchers managed to publish their research work without the existence of digital or print journals? There was a time when research papers and journals were written in longhand format. Researchers published their research by first writing (hand written) in a lengthy format which and then giving it to a typist to get the typed script back for publishing. This process took months until the paper could get published in a scientific journal.

However, today research publishing has developed into an efficient digital process, which not only saves time in publishing papers but also helps it reach out to the audience in the scientific world. In this blog, we will discuss how AI in research has improved and enhanced the process of research publishing and how does the future of publishing look through an AI lens.

Evolution of Research Publishing

In olden days, academic credits were granted to scientists to share their research knowledge with other peers or young researchers, which they would otherwise choose to circulate in their closed dedicated forum. This credit system created a competitiveness among researchers which can be observed till date.

Over the past few decades there has been a considerable increase in scientific publishing. Therefore, some people and organizations tried to reform the academic journal publishing method, insisting changes in the way the journal's publishing process worked and the relationship between authors and publishers, using the benefits of Internet. There is a rapid change in research publishing, to an extent that open-access movement flourished.

Digitization of Research

Open Access movement provides access to scientific information online for free of charge. It promotes and allows to access scientific or academic resources, published in digital platform for free. With this new approach, science has advanced to a more social and open community. And what is more! Sharing scientific discoveries with other scientists leads to more efficient way of progress in research.

In 1971, establishment of Project Gutenberg led to the onset of digital publishing. Major turn of events occurred when newspaper publishers experimented with alternate ways of publishing and distribution. Moreover, digital publishing introduced newer formats such as HTML, XML, ePub, and various other applications. This evolution in digital publishing impacted the scholarly publishing and paved a way to experience newer forms of research content.

Reasons Why Digital Publishing Is Taking Over Conventional Research Publishing

Better Turnaround

With digital publishing, time taken to publish research reduces extensively. In fact, there are customized content management systems that help researchers to handle the end-to-end publishing process. This helps reduce the turnaround time for publishing the research by reducing the time taken to compile, edit, proofread, review, and publish the research content.

Global Audience

In olden days, university libraries were the place to retrieve a published research paper in a printed format, which used to be a cumbersome task. But digital publishing makes acquiring published papers an easier and a faster task. This is a crucial aspect because the discoverability of a research paper determines its global audience and impact.

Due to an indexing strategy, retrieval of academic articles is simplified. Some of the different types of indexing are:

- Search engines for scholarly content like Google Scholar or Microsoft Academic
- Indexing databases like PubMed, MEDLINE, Web of Science, Scopus, Directory of Open Access Journals (DOAJ)

Increased Storage Facility

You need not worry about space and storage constraints. Digitization has made storage of many number of articles on any device possible. Users can also use cloud repositories like OneDrive, Google Drive, or Dropbox to manage and store their research content in one place.

Access to AI-enabled Tools

AI-driven tools are assisting researchers in improving their research content quality by providing assisted proofreading and language editing services. With the increased number of academic research paper publications, there has been a massive growth in research database and AI-tools have enabled scanning through millions of scholarly database records and instantly retrieve the required research paper.

AI tools are assisting researchers in overcome the language related barriers and helping researchers create content which is free of grammatical errors. With the innovative tools and user friendly applications, AI is the leading game-changer in the publishing industry.

Improved Citation Management

Citation plays a crucial role in academic or scholarly publishing. Traditionally, researchers used to take a considerable amount of time for citations. There are some remarkable citation management tools like EndNote, Mendeley, and Zotero the help researchers simplify the process of organizing, managing, and formatting the citations. This has considerable impact on research publishing process, as it cuts down the time and effort of citations.

Detect Plagiarism

Quality of content is an essential aspect of academic writing. Plagiarized content could defame an earned reputation, resulting in the loss of trust within the scientific community. Before the existence of AI technology, plagiarism checks were done manually. This involved comparing a document in question to a database of other documents or sources to identify similarities. Additionally, educators and professors often used their own knowledge and experience to determine if a document was original or not. This process was time-consuming and labor-intensive, but it was the most common method used before the advent of AI-based plagiarism detection software.

Open Access Publishing

Before the advent of AI technology, open access publishing mainly relied on traditional methods such as print and electronic journal publication, and self-archiving in repositories. These methods typically required authors to pay publication fees or to submit their work to journals that were available for free online.

Open access publishing also relied on the use of institutional and subject-based repositories, where authors could self-archive their work, making it freely available to the public. However, this process was largely dependent on the authors' initiative and willingness to share their research, and the process of finding and accessing the research was often difficult and time-consuming.

Additionally, before the advent of AI technology, open access publishing was not as widespread as it is now, and many researchers were not aware of the benefits of open access publishing or the available options for making their work openly available.

In summary, open access publishing before AI technology was not as easy and efficient as it is now, with traditional methods and self-archiving in repositories being the main ways of providing access to research.

AI-enabled Tools Accelerating Research Publishing Process

The advent of AI technology has had a significant impact on the evolution of research publishing. One of the main ways it has impacted research publishing is through the use of AI-based plagiarism detection software, which has made it easier to identify and prevent plagiarism in research papers.

Additionally, AI technology has also been used to improve the efficiency and accuracy of the peer-review process. For example, some journals are now using AI-based systems to screen and pre-select papers for review, which can save time and improve the quality of the papers that are ultimately published.

Another way that AI technology has impacted research publishing is through the use of natural language processing (NLP) and machine learning (ML) to help researchers analyze and understand large amounts of data and literature in their field. This can help researchers identify new trends and insights, and can also help them to more easily identify and cite relevant literature in their own papers.

Overall, the advent of AI technology has brought a significant change in research publishing, making it more efficient, accurate and productive.

What was your experience while using AI-based tools in research? Is it a boon or a bane for research publishing? Write to us or tell us in the comments below!

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