

Artificial intelligence and libraries



David Ožura

Special Library of Oncology, Ljubljana, Slovenia
dozura@onko-i.si

Dear colleagues,

Historically, human civilisation has been shaped by successive waves of technological innovation, each bringing profound changes to the way we live, work and structure society. These technological revolutions have consistently followed a similar pattern of disruption, starting with the destabilisation of existing social systems, followed by gradual societal adaptation, and, finally, their integration into everyday life.

Furthermore, with every technological advance, from the printing press to the digital age, libraries –as institutions at the crossroads of preserving and disseminating knowledge – have had to reinvent how they operate and cater to their communities. Rising to the challenge of these transformations, libraries have managed to adapt time and again, steadfastly maintaining their core mission of ensuring access, privacy and intellectual freedom. Thus, from a historical perspective, libraries emerge not only as passive recipients of technological changes but as active participants involved in shaping how societies communicate knowledge and pass it on through each information revolution that arises. Throughout history, libraries have held on to their role as societal stabilisers in times of technological disruption.

The First Industrial Revolution, spanning the 18th to 19th centuries, radically transformed production through innovations such as the steam engine and mechanised manufacturing, upending traditional craftsmanship and giving rise to urban industrial centres. To cope with their rapidly growing collections, libraries turned to new systems of classification, notably the Dewey Decimal System.

In the wake of 20th-century technological developments, from electrification and mass production to the digital revolution, this pattern of adaptation has accelerated at a dramatic pace. It wasn't long until the invention of computers and the later development of the internet transformed nearly every aspect of modern life in ways that would have been unimaginable just a few generations earlier. The Third Industrial Revolution has had a profound effect on libraries through digital technologies, ushering in their transformation from physical book repositories to hybrid digital-physical spaces by adopting computerised cataloguing systems, electronic databases and early internet services. At the same time, in order to keep up with the technological shift, librarians had to acquire new skills in information retrieval and digital literacy instruction. The introduction of online public access catalogues (OPACs) and electronic databases such as MEDLINE revolutionised the search for information, pushing librarians to develop new skill sets with regard to searching databases and acquiring and teaching digital literacy.

Today, we arguably stand at the greatest watershed in the history of human civilisation – the Fourth Industrial Revolution – marked by the rise of artificial intelligence, machine learning, quantum computing and robotics.

In this thematic issue of *JEAHIL* dedicated to artificial intelligence, we are publishing five studies by authors from Finland, the Netherlands, Italy and the United Kingdom that explore the impact of AI, particularly generative AI, on health information retrieval, library services and user behaviour, emphasising its potential benefits and challenges in medical and health-related settings. These studies emphasise the importance of human oversight, the critical evaluation of AI outputs and ethical considerations such as transparency, bias and data privacy, emphasising that AI should augment rather than replace human expertise. They also highlight the necessity of AI literacy and professional training for librarians and information professionals so they can effectively integrate AI tools into their workflows while maintaining accuracy and trustworthiness.

The study *Artificial intelligence and health information literacy* by Andrew Cox argues for integrating AI literacy into health information education, addressing challenges such as accuracy and transparency in AI tools while advocating for critical and ethical engagement with the technology.

The survey-based study *AI will never replace us, or will it? Views of Finnish health librarians and information professionals on artificial intelligence in library and information services* by Tuulevi Ovaska examines the attitudes of Finnish health librarians to AI, revealing both optimism about its benefits and concerns about job displacement and the need for ongoing skill development.

The article *AI in literature research: a workshop perspective* by Sjoukje van der Werf shares insights from a workshop where information professionals evaluated AI tools for literature searches, noting their efficiency but also raising concerns about reliability, transparency, bias, ethical risks and privacy in AI-generated outputs.

The report *A training course on the employment of artificial intelligence to improve biomedical bibliographic searching* by Francesca Gualtieri et al. describes a training course for biomedical librarians about AI tools such as ChatGPT, PubMed Buddy, Scispace, Rayyan, Dimensions and others, emphasising their potential to enhance search efficiency, as well as the importance of critical evaluation and ethical use.

The scoping review *AI and generative AI in health and medical libraries: a scoping review of present use and emerging potential* by Shampa Sen explores the current applications and emerging potential of AI in health and medical libraries in areas such as event planning, content enhancement, searching the literature, training promotion and evidence synthesis, while emphasising the need for human oversight and ethical implementation.