The Use of Artificial Intelligence in Academic Activities in Social Sciences: Trust and Threats – Survey Results

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Abstract

The development of artificial intelligence (AI) is causing a lot of emotions and discussions around the world, both in the context of the possibilities it brings and the threats that may result from its irresponsible implementation. Trust in AI and the threats associated with it are important topics in the debate about the future of technology. This study examined how the scientific community in social sciences uses AI in scientific and teaching work. The survey obtained responses from 151 respondents who indicated their experiences with the use of AI by answering quantitative and qualitative questions. The study also determined the threats perceived by the academic community and the degree of trust in the answers obtained within the framework of AI technology.

Keywords: Artificial Intelligence (AI) in research and education, Human-AI Collaboration, Ethical AI, trust and threats from using AI, AI Trustworthiness.

1. Introduction

Due to the nature of educational activities, including mainly the cognitive intensity of action, artificial intelligence has a justified and rational application in this area [7]. The subject is becoming increasingly popular among representatives of the education and training system - teachers, lecturers, trainers, as well as at the level of administration of the education and training system. There are three main reasons for taking the initiative to examine the use of artificial intelligence in education, i.e. its potential and the resulting possibility of achieving educational goals in a better way, on a larger scale and at lower costs, awareness of the risk of using artificial intelligence at the system level and concern about potential future threats and the scale of possible unintended or unexpected consequences [2]. Among the potential possibilities of using artificial intelligence in education, the following have been distinguished: streamlining the administrative tasks of teachers and educators, faster assessment of students and the possibility of providing

immediate feedback, development of digital competences, critical thinking, problem-solving, creativity of participants in the education system and personalization of educational experiences [4]. Scientists are opening up new opportunities in terms of automation and efficiency, as well as challenges related to ensuring ethical actions that take into account social values [6]. Researchers should pay special attention to justice, privacy protection, data security, as well as transparency of algorithms and building trust between users and AI systems [5]. In 2019, the European Commission published a set of non-binding guidelines on ethics for trustworthy artificial intelligence. It provides guidance on how to support and secure the development of ethical artificial intelligence systems in the EU. In the same year, the European Union issued ethical guidelines for AI [1]. In 2024, the EU Council adopted the world's first regulations on AI [3]. The implementation of AI in science requires a cautious and critical approach. It should be treated as a supporting tool, not a substitute for human intellect. It is crucial to develop an ethical and regulatory framework that will ensure the safe and responsible use of this technology.

2. Research methodology

The aim of the study was to analyze and evaluate the use of artificial intelligence in academic activities in the social sciences, especially in the context of opportunities and threats. A standardized survey questionnaire was used to conduct the study. It contained 18 questions, including 2 closed questions on a Likert scale (1-5). The questionnaire was divided into 4 blocks:

(1) examples of activities carried out using AI,
(2) level of trust in AI tools,
(3) advantages and disadvantages of the AI tools used,
(4) opportunities and threats resulting from the use of AI tools.

The sample included 151 scientific and research workers from leading universities in Poland. Purposeful sampling was used, and the analyses were conducted based on descriptive statistics measures.

3. Research results

This study investigated how the scientific community uses AI in scientific and teaching work. Additionally, the group of respondents was limited to representatives of social sciences. Therefore, the study used responses from 151 respondents who indicated their experience with the use of AI by answering quantitative and qualitative questions. Among the respondents, 50% of employees were in the age group of 44-59 years, 37% of employees in the age group of 30-43 years, 8% in the age of up to 29 years and 5% over 60 years. The declaration of using AI tools for teaching activities was 63%, and for research activities 38%. The declaration of participation in AI tool training among respondents is 58%.

The largest group consists of employees of economics and finance (37%) and management sciences (28%).Other social science disciplines represented include: security studies (11%), political and administrative studies (7%), sociological studies (5%), and legal studies and theology. Among the respondents, 55% use AI tools regularly, while 45% declare only occasional use of this technology.63% of respondents indicated that they use AI tools in teaching activities, and only 37% that they also use them in research activities. The main reasons for reluctance to use AI in research activities are moderate trust in the results and ethical aspects caused by the possibility of using the work of other scientists. 34.5% of respondents have low trust in the support obtained from AI tools, 50% have moderate trust and only 15.5% have high trust. Additionally, only 14.5% of all respondents declare frequent use of AI tools in research or teaching. Of course, this is related to the novelty of this technology, but it also indicates what barriers need to be overcome for this technology to become widely used:

- preference for traditional methods – 22%,
- lack of training–17%,
- poor knowledge of technology–15%,
- ethical concerns–12%,
- data security and privacy concerns–11%,
- lack of belief in benefits–10%,
- belief in AI limitations–6%.

The subjective disadvantages of using AI tools indicated by respondents:

- risk of error and inaccuracy– 36%,
- lack of possibility to verify and critically evaluate results– 19%,
- ethical problems, including authorship, plagiarism, data manipulation or discrimination– 17%,
- possibility of weakening the skills of critical thinking, analysis and interpretation– 11%,
- possibility of shallowing analyses resulting from the lack of direct contact with the subjects– 9%,
- costs of selected AI tools– 8%.

The subjective advantages of using AI tools among respondents can be seen in Fig. 1.

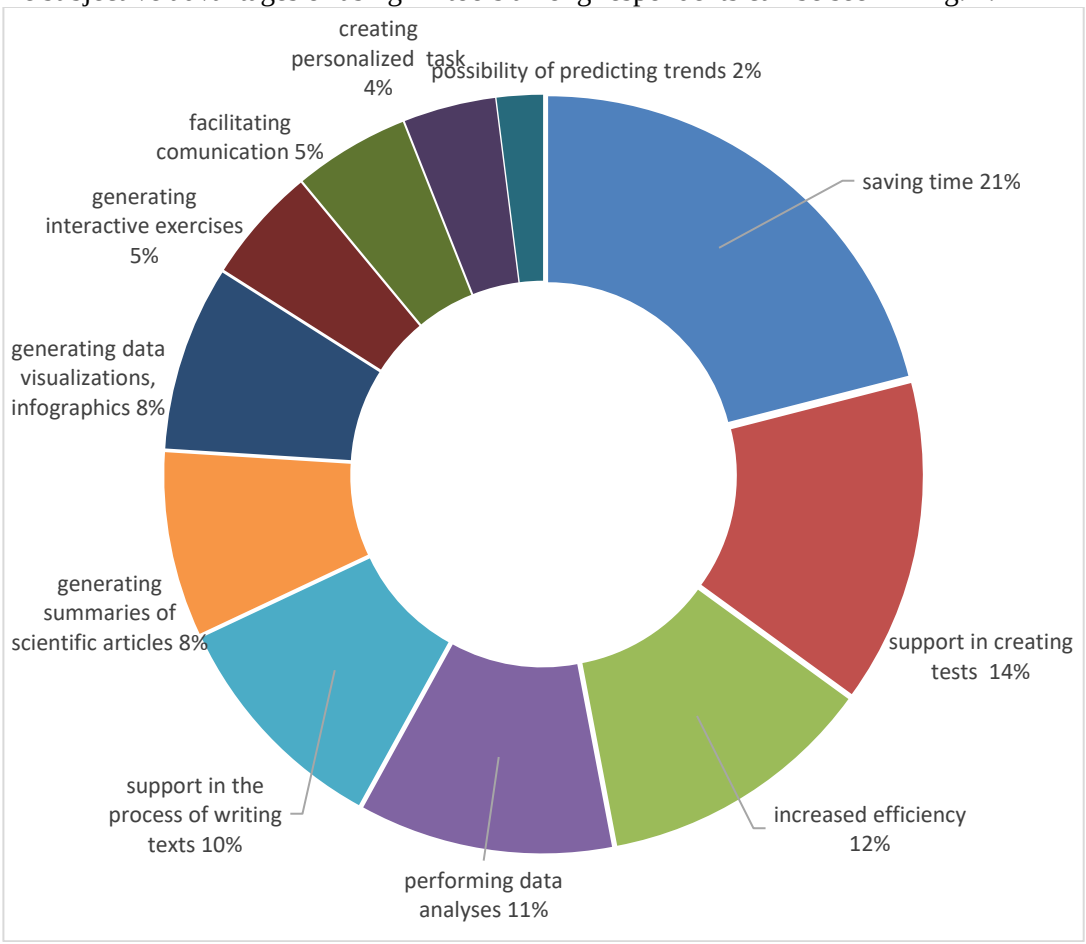

Fig. 1. The subjective advantages of using artificial intelligence tools.

When survey respondents indicated threats resulting from the use of AI tools, it is again confirmed that the greatest concerns result from the possibility of generating false content and copyright infringement:

- existence of the possibility of generating false information – 26%,

- risk of copyright infringement – 23%,
- possibility of weakening critical thinking and problem-solving skills – 19%,
- inability to identify potential errors or abuses – 17%,
- possibility of technology addiction – 9%,
- lack of legal regulations – 6%.

4. Conclusions

The study was deliberately conducted among scientists not directly related to AI technology in order to determine the current use in society. The results confirm the characteristics of new innovations. The study also determined the risks perceived by the academic community and the degree of trust in the answers obtained within AI technology. The results clearly indicate that for further development and wider use of AI in society, it is necessary to increase the credibility of these AI systems. This study was shown that for the wider use of AI in the information society, training and education in schools at all levels of education will be necessary, as well as raising awareness of how AI technology works. Because these elements are responsible for limiting the use of useful solutions. On the other hand, the results indicate the wide use of AI tools for generating text and graphics, especially in teaching activities. The development of artificial intelligence is undoubtedly a step into the future, but for this technology to serve humanity, a responsible approach to its development and implementation is necessary, with respect for human rights, ethics and safety.

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