

Generative Artificial Intelligence in Information Systems: Adoption and Perceived Risk: Findings from a Regional Study in Poland

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Abstract

The dynamic development of generative artificial intelligence (Gen AI) is increasingly influencing information systems and user interactions with digital technologies. However, despite the growing availability of these tools, the extent of their practical use and associated risk perception remains unclear. This paper aims to analyse the adoption and use of generative artificial intelligence, as well as perceived risks, based on a quantitative survey of 429 participants at a regional job fair in the West Pomeranian Voivodeship, Poland. The findings indicate a high level of awareness of Gen AI, accompanied by a clear difference between private and professional use. While it is widely used in everyday activities, its application in professional environments remains limited. At the same time, most respondents perceive risks related to its development and express a need for further education. From an information systems perspective, the results highlight the importance of aligning AI-based solutions with users' knowledge, trust, and risk perception, as these factors may influence their further development and implementation.

Keywords: generative artificial intelligence, information systems and AI adoption, risk perception, digital competencies, technology management.

1. Introduction

Generative artificial intelligence (Gen AI) is a technology capable of creating new content, including text, images, and code, based on training data [10]. In recent years, it has become one of the fastest-growing areas of artificial intelligence. It is increasingly integrated into contemporary information systems across domains such as healthcare, education, business, and creative industries.

The growing diffusion of Gen AI creates both opportunities and challenges related to privacy, intellectual property, responsibility, bias, digital security, and labour market impact [2], [5], [6]. These issues are particularly important from an information systems perspective, as they may influence user trust, acceptance, and willingness to adopt AI-based solutions.

In response to these challenges, the concept of sustainable AI has gained attention, emphasising the need to consider social, environmental, and economic impacts throughout the lifecycle of AI systems [14]. At the same time, research highlights key risk areas, including disinformation, data protection, copyright issues, algorithmic bias, and cybersecurity threats [1], [2], [3], [4], [6], [8], [9], [11], [15]. The perception of these risks may influence both technology acceptance and patterns of use.

Despite extensive discussion on the technological and ethical aspects of generative artificial intelligence, empirical evidence on users' adoption patterns and risk perception remains limited. Understanding these factors is essential for developing user-centred and trustworthy AI-based

information systems [12], [13].

Therefore, this exploratory study aims to examine awareness, use, and perceived risks of Gen AI among participants of a regional job fair in the West Pomeranian Voivodeship, Poland.

2. Methodology

The study was based on a quantitative survey method using PAPI and CAWI techniques. Data were collected on April 25, 2024, during a job fair at the Netto Arena in Szczecin (West Pomeranian Voivodeship, Poland).

A total of 429 correctly completed questionnaires were obtained. The study used a convenience sampling strategy; therefore, the findings should be interpreted as exploratory rather than representative of the wider population. The questionnaire included 13 questions (10 substantive and 3 demographic), using closed-ended and semi-open formats with nominal, ordinal, and interval scales.

The survey examined awareness of generative artificial intelligence, its use in private and professional contexts, perceived risks, and expectations regarding its development. The analysis combined descriptive statistics with selected inferential analyses (chi-square tests and Cramer's V coefficients) to explore differences and relationships in awareness, use, and risk perception of generative AI across respondent groups.

3. Results

The study was divided into two parts: (1) respondent characteristics and awareness of generative artificial intelligence, and (2) its use and perceived risks.

The sample was gender-balanced: 50% women, 48% men, and 2% other. The largest group consisted of respondents aged 18-24 (Fig. 1).

The largest group of respondents were not employed (33.6%), followed by employed individuals (31.9%), full-time students (21.2%), those combining work and study (13.1%), and pensioners (0.2%), reflecting the job fair context.

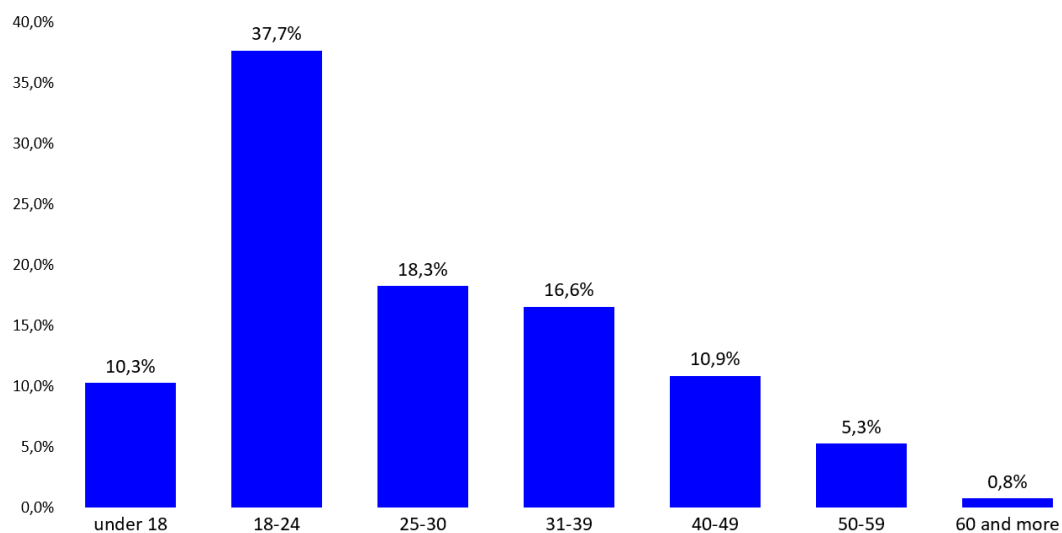


Fig. 1. Age range of respondents.
Source: Own research

Students represented diverse educational backgrounds, mainly in IT, economics, and logistics (Table 1).

Most respondents (91%) were familiar with generative artificial intelligence. Among them, 76% correctly defined it, 15% recognised the term but could not explain it precisely, and 9% were unable to define it.

Table 1. Fields of study of respondents (%).

Fields of study	%	Fields of study	%	Fields of study	%	Fields of study	%
IT	14	Medicine	5	Military	3	Cosmetology	2
Economics	11	Physiotherapy	5	Shipping	2	Spatial management	2
Logistics	9	Psychology	4	Psychology in business	2	Floristics	2
Biosciences	8	Homeland Security	3	Medical law	2	Marketing	1
Photography	7	Architecture	3	Navigation	2	Tourism	1
Journalism	6	Linguistics	3	Mechatronics	2	No education	1

Source: Own research

A significant relationship was found between familiarity with AI and age ($\chi^2 = 43.61$; $p < 0.001$; Cramer's $V = 0.198$), with higher awareness among younger respondents. A similar relationship was observed for employment status ($\chi^2 = 27.79$; $p = 0.002$; Cramer's $V = 0.158$), with the highest awareness among students and employed individuals. No significant relationship was found for gender ($\chi^2 = 1.41$; $p = 0.842$).

Lower familiarity was observed among respondents aged over 50, while the highest awareness was observed in the 18-24 and 25-39 age groups.

The most recognised tools were ChatGPT (98%), DeepL Write (86%), Claude (84%), Gemini (56%), Poe (26%), Leonardo (24%), and Midjourney (8%), with less popular tools mainly indicated by technically oriented respondents (approx. 14%). The results are consistent with global trends [7].

A clear difference exists between private and professional use: 68% use Gen AI privately, 24% at work, and 8% do not use such tools.

Detailed patterns are presented in Table 2.

Table 2. Personal use and work use of Gen AI (%)

Type of use	Personal use (%)	Type of use	Work use (%)
Fun and entertainment	82	Searching for industry information	96
Translation	81	Operating on programs	94
Searching for information	78	Creation of graphics and images	87
Assistance in learning	72	Translation	86
Content creation (texts posts)	67	Content creation (texts posts)	85
Generating ideas	59	Searching for information	82
Image generation	54	Assistance in learning	74
Editing and improving texts	48	Generating ideas	69
Programming assistance	42	Editing and improving texts	63

Source: Own research

Private use is dominated by everyday support functions (e.g., entertainment, translation, information search, learning, and content generation). In contrast, professional use is more task-oriented, including domain-specific information search, software support, and content or graphic creation.

Most respondents (84%) indicated that generative artificial intelligence involves real risks, 11% considered them manageable, and 5% did not perceive significant risks.

No statistically significant differences were observed across age ($\chi^2 = 12.37$; $p = 0.417$; Cramer's $V = 0.112$), gender ($\chi^2 = 7.82$; $p = 0.098$; Cramer's $V = 0.089$), or employment status ($\chi^2 = 9.95$; $p = 0.445$; Cramer's $V = 0.101$).

The distribution of perceived risks is presented in Fig. 2.

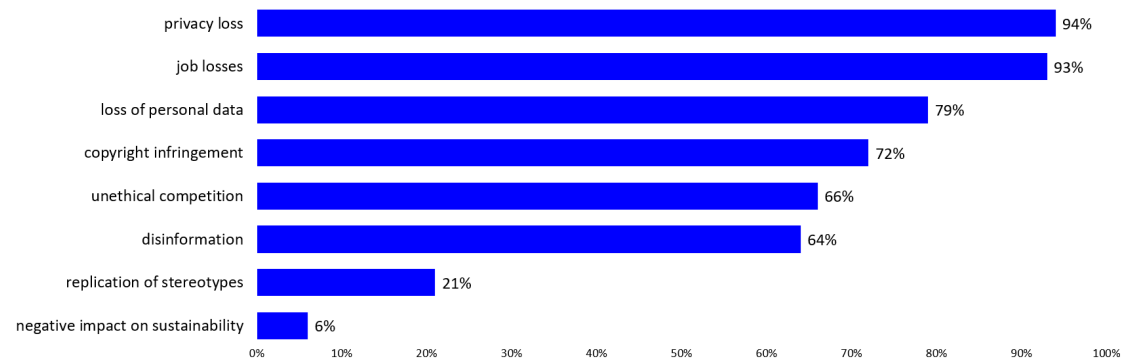


Fig. 2. Types of risks associated with Gen AI development.

Source: Own research

Additionally, 86% of respondents reported negative experiences with AI use, primarily involving automated content generation, reduced user autonomy, manipulation, and data-related concerns. A smaller share (9%) referred to media reports, while 5% reported no such experiences.

Respondents were also asked about actions that could reduce AI-related risks (Table 3). The most frequently indicated solutions were legal regulations (89%) and workplace ethical guidelines (64%), followed by support organisations (49%) and education (36%).

Table 3. Indicated solutions to the negative effects of Gen AI development.

Value	Indicated activities
89%	Changing laws and regulations within the state, EU and globally.
64%	Creating codes of ethics at work that address the use of AI.
49%	Establishing organisations that support individuals and employees and help protect them against unfair AI practices.
36%	Training and awareness-raising on the advantages and disadvantages of AI development embedded in education curricula across all levels of education and areas of employment.

Source: Own research

A strong need for further education was observed, with 89% willing to expand their knowledge. Understanding of sustainable AI remains limited: 29% correctly identified relevant actions, 43% demonstrated general understanding, and 28% were unable to define the concept.

The results reveal a gap between familiarity with generative artificial intelligence and its practical use in professional environments. Differences in awareness were also observed across age groups, suggesting the importance of digital competencies in shaping the use of Gen AI tools.

4. Conclusions

The study examined awareness, use, and risk perception related to generative artificial intelligence. The results indicate a relatively high level of familiarity with Gen AI, accompanied by a clear difference between private and professional use. While these tools are commonly used in everyday activities, their adoption in work settings remains more limited. Respondents were generally aware of potential risks associated with the development of generative artificial intelligence. At the same time, the findings reveal a strong interest in further education and a limited understanding of more advanced concepts, such as sustainable AI, indicating a competence gap. From an information systems perspective, the results highlight the importance of aligning AI-based solutions with users' knowledge, trust, and actual needs. The findings also suggest that educational activities and appropriate regulations may support the responsible use of generative artificial intelligence.

The presented results are exploratory and based on a regional convenience sample collected at a job fair in the West Pomeranian Voivodeship. Therefore, the findings should not be generalised to the entire population but rather interpreted as an initial insight into

users' awareness, adoption, and risk perception of Gen AI. Nevertheless, the study provides a useful foundation for future comparative research in other regions and broader population groups.

Future research could extend the analysis to other regions and include comparative or longitudinal perspectives.

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