# Artificial Intelligence in the Workplace: A Quantitative Analysis of Employee Attitudes and Readiness

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***Abstract.*** *The incorporation of artificial intelligence into all segments of modern society is inevitable, and its development will present many opportunities but also challenges that we will need to respond to without avoiding them. Artificial intelligence is affecting the labour market, and some employees fear that artificial intelligence will replace them, but it will be their daily support and assistance in performing work tasks. For this purpose, employees through a series of training programs and acquisition of additional skills, should become familiar with artificial intelligence as soon as possible and accept the benefits of its implementation. This research, conducted through an online anonymous survey, analyses responses based on a sample of 121 respondents from the Republic of North Macedonia and aims to find out how familiar respondents are with artificial intelligence, whether they see it as a threat or as an opportunity for creating new jobs and improving work performance, and how prepared they are to adapt to the changes caused by the application of artificial intelligence in the workplace. The research is presented through an analysis of the demographic and AI-related variables that actually represent the survey questions. Descriptive analysis was conducted to summarize respondents' demographic characteristics and response distributions across the Likert-scale items, followed by Spearman's rank-order correlation analysis in Python to examine relationships between selected AI- related variables. Within this sample, the results show that respondents perceive artificial intelligence in the workplace positively.*

**Keywords.** artificial intelligence, employee, workplace

## 1 Introduction

The advancement of artificial intelligence has shown accelerated growth in recent years, and its recent achievements improve prediction (Agrawal, Gans and Golfarb, 2024). The software that is embedded in computer systems allows artificial intelligence to be used in all processes where decisions need to be made because it resembles human-like intelligence (Demirel and Topcu, 2024). When using artificial intelligence, work processes are optimized, work tasks are simplified, and human influence is reduced, which can be used to perform other work tasks (Narang, Vashisht and Bajaj, 2024).

Innovation affects the improvement of economic development in society, and artificial intelligence through the automation of business processes improves the decision-making process and at the same time influences changes in the way of working (Akçetin, 2023). The significant increase in digital services leads to the formation of huge amounts of "big data", which average human intelligence cannot process (Demirel and Topcu, 2024). Automation enables institutions to improve profitability and performance while reducing reliance on human labour (Ris, Stankovic and Avramovic, 2020).

## 2 Artificial Intelligence in the Workplace

The development of artificial intelligence brings many unanswered questions related to the method of decision-making and choices, which results in the need for each company to make a strategic decision about implementing artificial intelligence in its operations (Daidai and Tamnine, 2023). Decisions made using artificial intelligence, which is increasingly present in business, differ from conventional ideas about management and decision-making by humans because a problem with transparency arises primarily in situations where cooperation and efficient decision-making involving both parties is inevitable, because a person makes a choice and bears responsibility for its actions, while the integration of artificial intelligence into the decision-making process shifts responsibility (Ahmed, 2024). Consequently, no matter how capable a program is to operate and use the most modern technology for decision-making, it still cannot replace human thought, especially for complex and realistic decisions (Al-Mahameed, 2024). An unethical

approach to the use of artificial intelligence can result in an increased risk of cyberattacks and data misuse (Ahmed, 2022).

The human is the most important link in the functioning of companies, so investing in human resources is the main strategy of managers who direct all their capacities towards developing ways to motivate employees and increase their performance, and the most important role in this is played by the development of the reward management system (Güngör, 2011). The connection of big data and machine learning with the human factor is the basis for the proper use of artificial intelligence for employee retention and engagement (Rao, Chitranshi and Punjabi, 2020). The application of artificial intelligence can increase competition and improve innovation, and organizations should focus on using artificial intelligence that will improve the quality of employees' intellectual work and enable their advancement (Kwasek et al., 2024). Although artificial intelligence improves the work of organizations, challenges also arise when it comes to integrating the innovations brought by AI, leading to a more serious approach by organizations in implementing intelligent systems (Olan et al., 2022). In parallel with the development of artificial intelligence, it is essential to embrace change and develop skills, rather than competing with intelligent systems (Bernard, 2024).

The benefits of using artificial intelligence in work processes where repetitive tasks occur have a positive outcome, but if companies incorrectly apply artificial intelligence, there is a risk of more harm than good, which requires an ethical and friendly relationship between the human factor and artificial intelligence (Ahmed, 2022). Whether AI will positively impact or pose a threat to traditional ways of working depends primarily on the organizational capabilities and approach of leaders (Gabelaia, Bagočiūnaitė and Navickienė, 2024). In the traditional hierarchical form of organisation where work tasks are established with a high degree of standardization and compliance, there is a risk that artificial intelligence will be used primarily as a replacement for human labour (Benhamou, 2020). Employees' fear of job loss due to AI and robots can be reduced if employees increase their innovative and creative abilities in dealing with challenges (Rampersad, 2020).

# 3 Research Problem

The ongoing global changes and the rapid development of society inevitably affect the labour market and workplace conditions. Artificial intelligence is changing the entire life of a person, leaving traces even on the workplace where individuals spend most of the day. Humans as a social being need daily communication and interaction with other people. Artificial intelligence is changing the traditionally established working relationship, which will inevitably lead to the reorganization of existing jobs and the creation of new ones. Therefore, artificial intelligence should be seen as a support in performing work tasks and making better decisions, which leaves room for further growth and development of new skills and knowledge of employees.

Employees in the workplace show different attitudes towards accepting artificial intelligence. The differences that appear depend on many factors that directly influence the attitude of the employee towards changing work tasks brought by modern technology. This research based on a sample of 121 respondents from the Republic of North Macedonia, aims to investigate and analyse the attitudes of respondents regarding their thoughts on the application of artificial intelligence in the workplace, i.e. their attitudes towards adapting to artificial intelligence, readiness and desire to learn new skills.

# 4 Research Questions

For the purpose of a more detailed analysis, the following research questions were defined within this research:

RQ1: To what extent respondents are familiar with and understand how artificial intelligence functions?

RQ2: Do respondents perceive artificial intelligence as a threat to their jobs or as an opportunity for creating new jobs?

RQ3: Do respondents believe that the application of artificial intelligence can enhance and increase work productivity and efficiency?

RQ4: What is the attitude of respondents towards learning new technologies and tools enabled by artificial intelligence?

RQ5: What is the attitude of respondents towards stress from using artificial intelligence?

# 5 Methodology

The data for the analysis was obtained through an online survey that was conducted via Google Forms between 18th February and 27th February 2026. The survey consisted of two sections. The first section of the survey focused on respondents' demographic information, such as age group, gender, level of education, field of employment, role/job position and years of work experience. The second section included 14 questions regarding AI awareness and understanding, perceived threats to job, perceived benefits and opportunities of artificial intelligence, stress-related emotional responses and intentions to learn and use AI-powered technologies and tools. The second section of the questionnaire consisted of statements using a five-point Likert scale, with response options ranging from strongly disagree to strongly agree. The questions from both sections were

close-ended, each allowing respondents to select only one answer. The collected survey data were cleaned and prepared for analysis using Power BI. The responses from the second section of the questionnaire were coded into numerical values ranging from 1 to 5, allowing subsequent statistical analysis in Python. The coded data were used to calculate Spearman's rank-order correlation coefficients to examine the relationships between the AI-related variables.

The survey was completed by 123 respondents, but only 121 participants provided full responses which were used for analysis. The survey indicated that the responses were anonymous and that the collected data would be used only to analyse the overall sample, not individual participants

# 6 Analysis and Interpretation of Results

The analysis begins with overview of the demographic characteristics of the respondents. Respondents' awareness, understanding and opinions on artificial intelligence and its impact on their roles/job positions were analysed regarding the demographic characteristics of the respondents. In addition, an analysis was performed among the second section questions i.e. between the AI related variables in order to explore the relationship between AI knowledge, perceived benefits and threats, preparedness for AI integration and stress-related emotional responses.

## 6.1 Demographic analysis

The sample consisted of 121 respondents, of whom 78 were female and 43 were male, regarding the gender. The most represented age group was respondents aged 29 to 39 years, comprising 59 participants. In contrast, respondents from the older age groups, particularly those over 50 years of age, were less represented. The majority of respondents (62) held a bachelor's degree, 39 held a master's degree, 8 held a PhD, and the remaining respondents were high school graduates. The respondent's field of employment showed that most of the participants worked in the sectors finance and IT. In terms of work experience 41 respondents reported having between 4 and 8 years of work experience, followed by respondents with 9 to 15 years of experience.

## 6.2 Analysis of demographic characteristics and AI-related variables

The analysis of familiarity with the concept of artificial intelligence as seen from Fig. 1 below showed that the majority of participants demonstrated a positive level of awareness. When analysed by age group, respondents aged 29-39, reported the highest level of familiarity with artificial intelligence, with 38 respondents agreeing and 10 strongly agreeing.

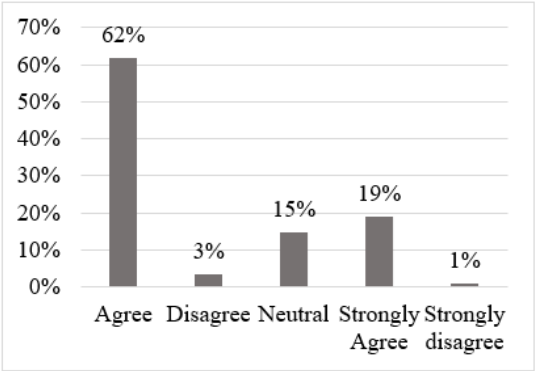


**Figure 1.** Familiarity with the concept of artificial intelligence

The analysis showed that respondents generally understand how artificial intelligence works with 59% agreeing and 17% strongly agreeing. When analysed across fields of employment, respondents from finance and IT showed the highest level of agreement ("agree" and "strongly agree"). The majority of respondents indicated an agreement with the statement that they understand how AI is used for their job position with 60% agreeing and 12% strongly agreeing. When analysed across fields of employment, respondents from finance and IT showed the highest level of agreement ("agree" and "strongly agree").

The results reported that most respondents didn't perceive artificial intelligence as a threat to their job position, with 47% disagreeing and 7% strongly disagreeing. Analysed by age group, participants aged 29-39 showed the highest level of disagreement, with 26 respondents disagreeing and 4 strongly disagreeing, followed by respondents aged 40-50. On the other hand, analysed by years of work experience, respondents with 4-8 years of experience reported highest level of disagreement, with 24 disagreeing and 4 strongly disagreeing, followed by respondents with 16-30 and 9-15 years of experience.

Out of the 121 respondents 40% of them disagreed and 5% strongly disagreed that artificial intelligence will reduce employment opportunities for their job position in the future. When analysed by field of employment, respondents working in finance and IT recorded highest representation in both "agree" and "disagree" responses regarding whether artificial intelligence will reduce employment opportunities for their role in the future. For the statement that artificial intelligence will create new job opportunities in the future, the agreement was notable among respondents working in the fields of finance and IT. Overall, 50% of the respondents agreed and 18% strongly agreed that AI will create new job opportunities in the future.

A total of 55% of the respondents disagreed and 9% strongly disagreed with the belief that their role/job position will be replaced by AI in the future. When

analysed by years of work of experience, respondents with 4-8 years of work experience reported the highest level of disagreement with the statement that their role/job position will be replaced by artificial intelligence in the future. In contrast agreement with the statement was relatively low across all groups indicating limited concern that artificial intelligence will replace respondent jobs in the future.

More than half of the respondents indicated a positive level (50% agreeing and 23% strongly agreeing) of preparedness to adapt to the changes caused by the application and use of artificial intelligence in the workplace. When analysed by level of education, respondents holding a Bachelor's degree showed the highest level of agreement with 34 agreeing and 14 strongly agreeing, followed by respondents with a Master's degree, among who 17 agreed and 11 strongly agreed with the statement.

When analysed by age group, respondents aged 29-39 reported the highest level of disagreement that using artificial intelligence in the workplace will make them feel stressed with 31 disagreeing and 7 strongly disagreeing. Based on the years of experience, the levels of disagreement were notable across respondents with 4-8 years of experience, followed by respondents with 9-15 and 16-30 years of experience. Overall, as seen from Fig. 2 below the results indicate that using artificial intelligence in the workplace is not widely perceived as a source of stress as 50% of the respondents disagreed and 12% strongly disagreed.

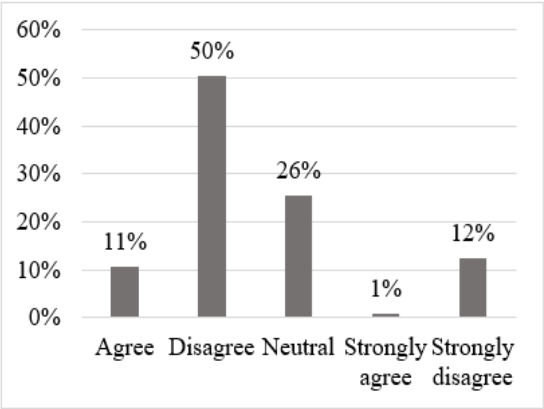


**Figure 2.** Perceptions of stress associated with the use of artificial intelligence in the workplace

Among the participants who believed that artificial intelligence can enhance and increase work productivity and efficiency, agreement was notable among respondents working in finance and IT. Taken together the results showed that the largest portion of respondents were positive (64% agreed and 19% strongly agreed) that artificial intelligence can enhance and increase work productivity and efficiency. When analysed by level of education, respondents across all educational groups (high school graduate, bachelor's degree, master's degree and doctorate degree) believed that artificial intelligence can enhance and increase work productivity and efficiency.

As seen from Fig. 3 the willingness to learn to use technologies and tools enabled by artificial intelligence resulted in positive responses with 55% of the respondents agreeing and 29% strongly agreeing. Based on the analysis by age group, agreement was notable by respondents aged 29-39 and based on the analysis by level of education, agreement was notable among respondents with Bachelor's degree, followed by respondents with a Master's degree.

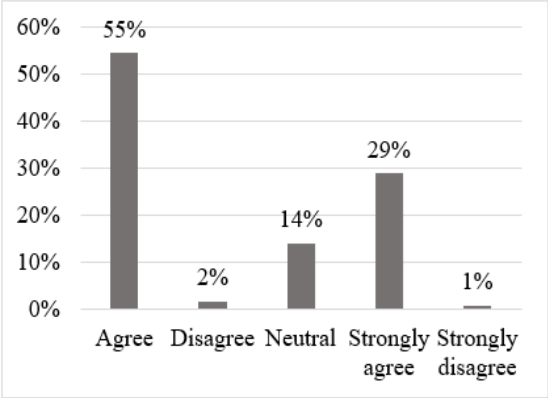


**Figure 3.** Willingness to learn AI-enabled technologies and tools

Based on the analysis by field of employment, respondents working in finance and IT, indicated agreement with both statements that learning AI skills will improve their job performance and that they will use artificial intelligence as a support for their daily activities. Overall, the results showed that 55% of the respondents agreed and 28% strongly agreed that by learning AI skills they will improve their job performance, and as for the statement whether respondents will use AI as a support for their daily activities 51% of the respondents agreed and 29% strongly agreed. Regarding the belief that AI can make biased decisions, respondents expressed mixed opinions, with significant portion of them remaining neutral or 40% of the respondents, followed by 29% who agreed and 20% who disagreed. The remaining respondents showed low percentages of strongly agreeing and strongly disagreeing responses (6% and 5% respectively).

## 6.3 Analysis of AI-related variables

The Spearman's rank-order correlation analysis revealed a significant positive association between understanding how artificial intelligence works and the preparedness to adapt to the changes caused by the application and use of artificial intelligence in the workplace ($\rho = 0.343$, $p < .001$). This indicates that participants with higher understanding of AI tended to report greater preparedness to AI adoption. The magnitude of the correlation suggests a weak-to-

moderate relationship, indicating that AI understanding is associated with preparedness to AI adoption, although other factors may also contribute to adoption behaviours.

The Spearman's rank-order correlation analysis revealed a significant negative association between familiarity with the concept of artificial intelligence and perceived stress from using AI in the workplace ($\rho = -0.210$, $p = .021$). This indicates that participants with greater familiarity with AI tended to report lower agreement that AI contributes to workplace stress. However, the strength of the relationship was weak.

A Spearman's rank-order correlation analysis revealed a significant positive association between perceived AI-related job threat and the belief that AI will replace role/job positions in the future ($\rho = 0.524$, $p < .001$). This indicates that participants who perceived AI as a greater threat to employment were also more likely to believe that AI will replace their job positions in the future. The correlation represents a moderate positive relationship.

The Spearman's rank-order correlation analysis regarding the analysis between perceived stress from using artificial intelligence and feeling prepared to adapt to the changes caused by the application and use of AI in the workplace revealed a significant negative association ($\rho = -0.268$, $p = .003$). This indicates that participants who reported greater stress associated with AI tended to report lower preparedness for adapting to AI-related changes. The relationship was weak in magnitude.

A Spearman's rank-order correlation analysis revealed a significant strong positive association between respondents' willingness to learn to use technologies and tools enabled by artificial intelligence and the statement that learning AI skills will improve job performance ($\rho = 0.785$, $p < .001$). This indicates that participants who expressed greater willingness to learn AI were also more likely to believe that AI-related learning would enhance their job performance.

# 7 Discussion of Results

With the help of the conducted analysis, answers were obtained regarding the defined research problem and the five research questions. From the conducted analysis of the collected database obtained through an anonymous online survey it can be concluded that respondents view artificial intelligence as an opportunity for enhancing and increasing work productivity and efficiency and creating new job opportunities in the future, rather than as a threat to their job. The majority of participants were familiar with the concept of artificial intelligence and understood how AI functions. The negative relationship between AI familiarity and perceived AI-related stress indicates that greater exposure to and understanding of AI may help reduce concerns associated with AI technologies. The willingness to learn to use the technologies and tools enabled by artificial intelligence and to use it as a support for daily activities indicates the motivated side of the respondents to move forward in the rapidly developing world of digitalisation and automation. The analysis of results showed that respondents who perceived artificial intelligence as a threat to their job position tended to think that artificial intelligence will replace their jobs. Overall, the results indicated a relatively low level of perceived job insecurity related to artificial intelligence.

The findings of this analysis can help organizations in preparing their employees in terms of education and acquiring skills for using AI-powered tools.

A limitation of this research is the small group of respondents and the lower participation of respondents from older age groups.

In the future, research can be conducted that will identify the differences and similarities in the application of artificial intelligence in the workplace between employees in the private and public sectors in the Republic of North Macedonia.

# 8 Conclusion

The inevitable need for the adoption of artificial intelligence represents a challenge from which the positive benefits should be accepted and the negative implications minimized. The training and familiarization of employees with the functioning of AI-powered tools will improve trust in the systems and reduce prejudices about their adoption. Daily repetitive work tasks and processing of large databases will help employees devote themselves to work tasks that require a greater degree of management and decision-making skills. It is of great importance that artificial intelligence is applied in a fair, transparent, and ethical manner, because if algorithms are not monitored and controlled, elements of bias may appear. Organizations that use artificial intelligence in combination with the human factor will be in the best position to create a work environment where employees feel motivated to work towards achieving organizational and personal goals.

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