

Artificial Intelligence in Employee Learning Process: Insights from Generation Z

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Abstract

Artificial intelligence, as a field of computer science focused on developing technologies that simulate intelligent behaviours and human cognitive functions, undoubtedly has huge potential to transform all business activities, including the process of employee learning. However, different generations have varying attitudes toward the rapid advancement of technology and the increasing possibilities offered by artificial intelligence. The general purpose of this research is to gain insights into the attitudes of Generation Z regarding the use of AI in the context of the employee learning process. Empirical research was conducted on a sample of 264 respondents from Slovenia and Bosnia and Herzegovina. In addition to descriptive statistics, Cronbach's alpha, Shapiro-Wilk, and Mann-Whitney tests were used to test hypotheses. Generally, the research findings indicate that the upcoming generation of the workforce considers artificial intelligence a significant factor in improving the employee learning process. The study contributes to human resource management literature because it brings new insights into Generation Z attitudes, whose participation in the active workforce will significantly increase in the coming years.

Introduction

Employee learning has become a key human resource management strategy in contemporary business environments. Employee learning is a multidimensional concept, a general term used for all organizational activities aimed at developing employees' knowledge and skills. It is not just the result of individual efforts of employees but also a collective process in which the organization plays a significant role in creating an environment that encourages knowledge sharing, innovation, and continuous improvement of training and development programs.

The importance of continuous employee learning can be explained in various ways. In this paper, it is examined in the context of technological changes and the evolution of the workforce. Information technologies (IT) are rapidly evolving and transforming all aspects of

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business, including employee learning. The connection between technological development and employee learning can be characterized as a two-way relationship. On the one hand, the development of technology affects the obsolescence of employees' knowledge and skills, making continuous learning a necessity. Continuous training and the general encouragement of a learning culture become the only way to ensure organizational flexibility and success. On the other hand, technological development affects the way how organizations conduct training and development programs. Modern technologies affect the manner in which employees gain new knowledge and skills, enabling innovative and more efficient learning methods. In general, technological tools enhance interactivity in the learning process and make the learning process more dynamic and personalized.

One of the most significant advances in this area is offered by the implementation of technologies from the domain of artificial intelligence (AI). For example, adaptive learning systems use AI to dynamically tailor content based on the individual progress of each employee (Capuano & Caballé, 2020). Additionally, data analytics powered by AI enables the analysis of large datasets to identify patterns and predict future training needs (Kataria, 2023). Also, via augmented reality (AR) or virtual reality (VR), artificial intelligence allows employees to learn in realistic but safe environments, trying different scenarios, operating devices, and developing practical skills without risk (Holuša et al., 2023). Overall, AI enhances training programs' efficiency, personalization, and adaptability (Guan, 2021; Maity, 2019).

Although the use of AI-enabled systems offers many benefits for the field of employee learning, it also raises several challenges. For instance, there are concerns about the possibility of misinformation and biased content, which echoes the existing literature on the ethical challenges posed by AI (Gillissen et al., 2022; Jha et al., 2022). Moreover, the limited emotional intelligence and empathy of technology, or lack thereof, and the over-reliance on statistics leads to resistance from staff (Chan & Lee, 2023). It is important to note that modern technologies are not a substitute for human instructors and educators, but rather a mere support, which is important to consider when implementing them (Chan & Tsi, 2023).

Different generations have varying attitudes toward the rapid advancement of technology and the increasing capabilities offered by artificial intelligence. Generations

can be defined as groups of individuals born within the same period, experiencing similar socio-cultural circumstances and challenges. These shared experiences result in common values, beliefs, expectations, and behaviours among individuals from the same generation (Taş et al., 2017; Lyons et al., 2012).

In the context of discussing different generational attitudes towards modern technologies, it can generally be said that older generations may often exhibit resistance due to fear of the unknown, lack of technical skills, or simply a preference for methods they have used for years to acquire new knowledge and skills (Shakina et al., 2021). On the other hand, younger workforce populations naturally embrace digital innovations and adapt more quickly to new technological environments (Greener, 2019). Generation Z, which is the focus of this research, is not yet fully integrated into the labour market but is anticipated to be the next significant cohort in the workforce.

While a lot of research explores how AI is transforming various human resource management functions, there is still a limited understanding of specific generational preferences for AI-powered training methods and how each generation responds to them. This gap in knowledge underscores the need for more research in this area. The focus on Generation Z and their key sociodemographic characteristics, such as gender, area of education, and work experience, additionally highlights their attitudes and potential concerns towards AI. This contributes to the expansion of the literature on the role of AI in the future of employee training and development. The aim of the conducted empirical research is to provide insights into the attitudes of the upcoming workforce generation towards contemporary training models, regardless of their sociodemographic characteristics.

The data used in the analysis were collected in a study conducted in two countries, Slovenia and Bosnia and Herzegovina. We applied appropriate statistical methods to test the defined hypotheses on a sample of 264 respondents. Cronbach's alpha, Shapiro-Wilk test, Mann-Whitney test and descriptive statistical methods were applied. Research of this kind can help identify and understand the specific impacts of sociodemographic characteristics on respondents' attitudes toward future employment and technology acceptance.

The structure of this paper follows the IMRAD format. After the introduction, the first section provides a theoretical overview of the research, focusing on

elaborating on employee learning, the opportunities provided by artificial intelligence, and generational differences in the application of modern technologies. The second part describes in detail the research methodology, the research instrument, the sample, and the methods used to test the hypotheses. This is followed by the presentation of research results, discussion and conclusions.

Theoretical Background

Employee learning is a broad term encompassing all organizational activities aimed at enhancing and developing employees' knowledge and skills, and it is considered one of the most important areas of human resource development (HRD) and also human resource management (HRM). It should be emphasized that learning involves not only the cognitive process of assimilating information in symbolic form but also includes an affective and behavioural process (Gruber et al., 2020). In organizations, the process of employee learning or education occurs for various purposes. Depending on the purpose of learning, we distinguish two fundamental components of this process: employee training and career development (Zolak Poljašević, 2021). Through training programs, employees are prepared for their current job roles or other related tasks. Additionally, training helps employees to expand their knowledge and adapt to potential job changes (Chaudhuri & Mehra, 2020; Poongavanam, 2017). In contrast to training, development focuses on future job requirements or career advancement. Development involves enhancing employees' knowledge to perform more complex tasks in the future and to align with future organizational needs.

The importance of continuous employee learning is best illustrated through the dynamic changes in the business environment (Sivakami et al., 2023; Singh & Malhotra, 2020). In today's business environment, organizations face constant and rapid changes that require adaptability and ongoing acquisition of new knowledge and skills. This is certainly influenced by technological progress that causes rapid obsolescence of existing knowledge (Kling, 1996). This issue becomes more complex when we connect the extremely fast development of technology with the fact that educational systems in many countries are too rigid and often fail to adapt to rapid changes in the labour market (Ilić & Zolak Poljašević, 2013).

This creates a gap between the knowledge acquired in schools and universities and the actual needs of

employers, thereby transferring the responsibility for training and developing new employees to employers (Ilić & Zolak Poljašević, 2013). Organizations that invest in employee training and development programs not only enhance the competence and flexibility of their workforce but also motivate employees, increase job satisfaction, and foster loyalty to the company (Riyanto et al., 2023; Talwar & Thakur, 2016). Considering all the above, it can be concluded that employee learning is necessary, as knowledge has become the most critical factor distinguishing successful from unsuccessful organizations.

As already mentioned in the elaboration of the importance of employee learning, information technologies are developing rapidly and affect all business activities and processes. The connection between technological development and employee training and development is particularly interesting, especially when discussing technologies that can be brought into the field of artificial intelligence (AI).

AI is a field of computer science focused on developing technologies that simulate intelligent behaviours and human cognitive functions, including human cognitive functions such as problem-solving, language understanding, reasoning, pattern recognition, and many other abilities possessed by humans (Budhwar et al., 2022; Das et al., 2015). Historically, AI has evolved through diverse subfields like robotics, computer vision, speech processing, natural language processing, neural networks, evolutionary computing, expert systems, and machine learning. Today, the term 'artificial intelligence system' encompasses all these domains, reflecting how modern technology integrates them into a cohesive framework (Ćormarković et al., 2022). AI has enormous potential to transform the way work processes are designed and executed. By integrating AI-based systems into business organizations, significant impacts can be expected across various dimensions, including job characteristics, employer-employee relationships, human-technology interactions, customer experience, and competitive advantage in a dynamic market environment (Connely et al., 2021; Malik et al., 2022). Kaplan and Haenlein (2019) propose a tripartite classification of AI systems: analytical, human-inspired, and humanized artificial systems.

When it comes to employee learning, AI can reshape this field in various ways. Firstly, AI supports the personalization of the learning process. By analyzing each individual's learning data, systems can customize content and training methods to meet each employee's

specific needs and preferences (Jian, 2023). For instance, machine learning algorithms can monitor employees' progress, identify their strengths and weaknesses, and suggest customized courses or materials that will be most beneficial to them (De Mauro et al., 2022; Jordan & Mitchell, 2015). Personalization enables more efficient learning by focusing on individual needs. Moreover, AI can improve the learning experience through tools such as virtual assistants and chatbots. Such tools can offer immediate support to employees by simulating human interactions (Adiguzel et al., 2023), addressing various questions, and minimizing the necessity for constant instructor presence (Dimitriadis, 2020). With the help of big data and analytical tools, AI enables advanced analytics and evaluation of employee learning processes. The identification of patterns in employee learning enables resource optimization and customization of training approaches. Additionally, administrative aspects of training, such as attendance tracking, performance evaluation, and certification, can be automated. Automating these administrative tasks allows managers to focus on creating higher-quality training content.

Certainly, the most interesting aspect of AI is its capability to introduce innovations into training processes. Among other things, this includes employee learning through simulations and augmented reality (AR) or virtual reality (VR). These technologies allow employees to learn in realistic but safe environments, where they can try different scenarios, operate devices and develop practical skills without risk (Holuša et al., 2023). Such methods not only improve practical skills but also increase the engagement of employees during the learning process (Papanastasiou et al., 2018; Allcoat & Mühlenen, 2018), because they are designed with a clear learning goal, but at the same time, they are enjoyable for participants. In this manner, employees' readiness to learn and practice increases, as does their active participation and knowledge transfer.

Generative AI technologies, particularly large-scale language models such as ChatGPT, have the potential to influence employees' training and coaching through new and innovative approaches and methods (Hu, 2023). To create human-like text based on the input data, new technologies use deep learning techniques and advanced natural language processing. Since the latter allows them to be context-aware, these technologies are ideal for the development of AI-powered virtual mentors that can provide employees with the necessary information, personalized guidance, and feedback on a

variety of topics (Alam, 2022; Celik et al., 2022; Goodfellow et al., 2020; Terzopoulos & Satratzemi, 2019). Furthermore, this can support employees' learning, enhance their level of understanding, help eliminate confusion, and enable them to access it anywhere and at any time. Generative AI-powered systems can also be integrated into various communication platforms to promote interdisciplinary collaboration, knowledge sharing, and group problem-solving (McLaren et al., 2010). This represents a significant innovation in the field of employee training and development and can contribute to the development of a more dynamic and inclusive learning community (Chan & Lee, 2023).

All these possibilities indicate that AI can significantly improve the employee learning processes, making them more efficient, adaptable, and interactive. Regardless of the aforementioned, it should be emphasized that not all generations in the workforce are equally receptive to the use of AI in work processes, including employee learning. Older generations, who are used to traditional learning methods, may show resistance to new technologies. This resistance is often due to fear of the unknown, lack of technical skills (Shakina et al., 2021), or simply a preference for methods they have used for years in acquiring new knowledge and skills. On the other hand, younger generations, who have grown up with digital technologies, are already familiar with many tools and platforms, making them more adaptable to new learning systems (Greener, 2019). Members of the younger workforce are commonly referred to as Generation Z. Although they are not yet fully integrated into the active workforce population, they have attracted considerable attention from researchers, who largely believe their integration into the workforce will pose a significant challenge for employers. This is due to significant differences in behaviour and approach to work that they demonstrate. It may be stated that Generation Z brings 'unique characteristics to the workplace' (Pichler et al., 2021). Generation Z is the first generation that grew up with digital technologies and a globally connected world, which significantly shaped their habits, values, expectations, and also their educational experiences (Hernández-de-Menéndez et al., 2020). They are used to instant access to information, and they can adopt new technologies and digital tools quickly. They are used to multitasking (Chillakuri & Mahanandia, 2018) since they can simultaneously use the phone, laptop, and tablet for different activities. These skills enable them to manage time and tasks efficiently.

Due to their lifelong exposure to technology, several academics believe Generation Z possesses a distinctive learning style (Hernández-de-Menéndez et al., 2020). Regarding the format of the content they consume, members of Generation Z prefer video and image content (Szymkowiak et al., 2021) over textual information. They also prefer visual communication on various platforms and use their 'tech language' to think and communicate (Ajman, 2020). However, due to the large amount of information they are exposed to, Generation Z often has a short attention span. They prefer concise, direct information and content that quickly captures their attention (Moreno et al., 2023). Members of Generation Z are open to new ideas and can swiftly apply any useful innovation to their daily lives. These innovations include mobile communication, social media, wearable technology, and AI. Therefore, Generation Z individuals are also called digital natives (Kayıkç & Bozkurt, 2018).

Some research indicates that the majority of Generation Z believes that the development of AI has and will continue to positively influence society (Dióssy, 2021). Generally, they are optimistic about future changes that AI may bring (Jyothyachandra & Sulaimann, 2022). It is certain that the digital literacy of Generation Z members, along with their pragmatic approach, will bring innovations and changes in many fields. At the same time, it can be said with great certainty that even among Generation Z members, there may be a need for additional education and training to use most of the advantages that AI provides in the HRD segment. Considering the existing knowledge about Generation Z and the fact that a large part of this population still lacks significant work experience, the research conducted for this paper assumed that a certain number of respondents are not familiar with the possibilities of applying AI in the employee learning process. This was taken into account during the development of the scale to assess the significance of various aspects of AI in employee learning. The attitudes of Generation Z towards the use of AI in employee training and development were examined through the prism of several sociodemographic characteristics of the respondents. The first sociodemographic characteristic examined in this research was the gender of the respondents. Social norms and educational systems can shape the interest of different genders in technology and artificial intelligence (Gant & Gill, 2018; Craiut & Iancu, 2022). Traditionally, men have been encouraged to pursue careers in science, technology, engineering, and mathematics (STEM), while women have been underrepresented in these fields (Stewart-Williams &

Halsey, 2020). These trends are slowly changing, and an increasing number of women are becoming interested in technology and AI. However, patterns of technology use can vary by gender. If we consider the assertion that "men prefer working with things while women prefer working with people" (Su et al., 2009) in the context of technology use, it could be said that men often show more interest in the technical aspects of devices and tools and in playing video games, while women may be more focused on communication apps and social networks (Kimbrough et al., 2013). Also, women may be more sceptical about the use of AI and more concerned about ethics, privacy, and its impact on jobs (Fietta et al., 2022). These differences are not strictly defined and can overlap with many other factors, such as socioeconomic status, education, cultural context, and individual preferences (Ameen et al., 2023). So, there is limited evidence that gender alone directly and significantly affects Generation Z's attitudes and interest in technology and AI (Halpern & Lamay, 2000). Based on these considerations, the following hypotheses have been formulated:

H1.1 Members of Generation Z consider AI as a significant tool for the employee learning process, regardless of their gender.

H1.2 Members of Generation Z have positive attitudes regarding the use of AI in the employee learning process, regardless of their gender.

Students in fields like computer science or engineering naturally lean towards AI education due to their interest in the subject and its relevance to their future career opportunities. Regarding the study field, there is some evidence that students studying in different fields have more positive perceptions of AI and its applications (Gherheş & Obrad, 2018; Chan & Hu, 2023). This is explained by the fact that students in technical faculties more frequently interact with AI technologies during their education, contributing to their greater confidence and positive attitude towards these technologies both academically and professionally (Chan & Hu, 2023). However, overall, students from other fields show a less pronounced but still positive attitude toward AI (Gherheş & Obrad, 2018). Additionally, some studies show no significant differences in attitudes towards AI between different study fields, indicating the need to teach about AI in all disciplines, not just computer science (Latto et al., 2020). Considering these conclusions, we defined hypotheses that indicate a positive attitude of all respondents towards the use of AI in the context of their future employment and the employee learning process. The hypotheses are as follows:

H2.1 Members of Generation Z consider AI as a significant tool for the employee learning process, regardless of their study field.

H2.2 Members of Generation Z have positive attitudes regarding the use of AI in the employee learning process, regardless of their study field.

The next factor we used to examine differences in respondents' attitudes is their work experience. Respondents lacking work experience often have an abstract, theoretical understanding of AI applications in business processes, while its practical use may be unclear to them. On the other hand, respondents with work experience are more exposed to technological tools, which can shape their positive or negative attitudes toward the use of AI in employee learning. Although some research indicates that students with more work experience tend to be open and positive towards the application of AI in learning and work processes because they have seen firsthand the benefits that AI can bring (Chou, 2022), it is reasonable to assume that influence of work experience may vary depending on other individual factors such as technical literacy, personal affinity towards technology, socioeconomic status, and so on. Certainly, it also depends on the type of work experience gained during the study period. Students with work experience in jobs and roles that involve advanced technologies may have greater confidence in AI tools and their benefits for employee learning. In contrast, students who gained experience in more traditional work environments may be more sceptical or less enthusiastic about new technologies. Taking into account the varying perspectives on this issue and the fact that students traditionally perform simpler contract-based jobs for a limited time and do not have access to all training and development programs designed for permanent employees, the following hypotheses have been defined:

H3.1 Members of Generation Z consider AI as a significant tool for the employee learning process, regardless of their work experience.

H3.2 Members of Generation Z have positive attitudes regarding the use of AI in the employee learning process, regardless of their work experience.

Finally, the country of origin can influence respondents' attitudes toward the use of AI in employee learning. This is influenced by factors such as cultural norms and values, educational systems, level of economic development, media and public opinion, as well as access to modern technologies. Although Slovenia and Bosnia and Herzegovina share a common socialist

heritage as part of the former Yugoslavia, there are several factors suggesting that students from these countries may have different attitudes toward using AI in employee learning. For example, Slovenia is a member of the European Union and has a more stable political and social system compared to Bosnia and Herzegovina. Slovenia also has greater access to international funds, investments, and technological innovations. Additionally, the higher economic stability and more developed technological infrastructure in Slovenia may contribute to greater openness among respondents towards the importance and application of artificial intelligence. Therefore, the following hypotheses have been defined:

H4.1 Members of Generation Z consider AI as a significant tool for the employee learning process, depending on their origin country.

H4.2 Members of Generation Z have positive attitudes regarding the use of AI in the employee learning process, depending on their origin country.

The defined hypotheses were tested using the appropriate statistical analysis, which is presented in the methodology segment.

Methodology and Sample

The primary objective of this research is to delve into Generation Z's attitudes towards the use of AI in the context of the employee learning process. In this study, two constructs were investigated. The first refers to the significance of different possibilities of applying AI in the employee learning process, while the second concerns the general attitudes of respondents towards the use of AI in these processes. For each researched construct it was developed an appropriate scale.

In developing the first scale, it was assumed that a certain number of respondents were not familiar with the possibilities of applying AI in the process of training and development of employees, and the collected data confirmed this. Specifically, only 41.08% of respondents stated that they are familiar with the possibilities of applying AI in the employee learning process. Therefore, a set of nine statements was created to describe various ways AI can improve training and development activities. For instance, "AI tools can recommend customized learning paths, including workshops, courses, and development opportunities, based on performance metrics and identified employee skill gaps". All statements within this scale are positive, highlighting the beneficial aspects of applying artificial intelligence

in employee training and development programs. The statements were formed based on theoretical knowledge about various applications of artificial intelligence in employee learning processes, taking into account their interdependence and creating a cohesive scale. Using a five-point scale, ranging from "not important at all" to "extremely important", the respondents expressed their attitudes regarding the significance of each of the nine formulated statements. The reliability of this scale was assessed using Cronbach's alpha coefficient, which is 0.902. This coefficient value indicates high internal consistency of the scale, reflecting a high level of stability and reliability in measurement.

The second scale used in the research aimed to assess respondents' overall attitudes regarding the application of AI in employee training and development. In this scale, we included seven positive statements (e.g., "AI improves employee experience during the learning and development process") and three negative statements (e.g., "AI dehumanizes the learning and development process"). Respondents expressed their attitudes using a five-point scale, ranging from "strongly disagree" to "strongly agree". To prevent biased responses, the order of questions was randomized. Due to the opposite direction of scoring for positive and negative statements, they were aligned to contribute correctly to the overall scale score. For this purpose, the negative statements were recoded. After recoding, all statements (both positive and negative) were aligned so that higher ratings consistently indicated higher values of the same construct measure.

Although recoding can align statements in terms of scoring direction, it cannot eliminate differences in how respondents react to positive and negative statements. As a result, the inclusion of both positive and negative statements within this scale led to a lower Cronbach's alpha coefficient value of 0.598. This coefficient value indicates the low internal consistency of the scale. Such impact on the Cronbach's alpha coefficient value is often due to respondents interpreting positive and negative statements differently, leading to more significant response variability. Negative statements may require additional thought and reverse interpretation by respondents, which can increase cognitive load and lead to inconsistent responses. This especially happens when positive and negative statements are not evenly represented, as is the case with this scale. After excluding the negative statements from the analysis, Cronbach's alpha coefficient obtained a value of 0.766, which is considered an acceptable level of internal consistency for the scale.

Data were collected using an online questionnaire. In addition to the described scales for expressing respondents' attitudes towards the application and significance of AI in the context of employee training and development, other questions in the questionnaire were closed-ended and focused on identifying respondents' sociodemographic characteristics and general understanding of artificial intelligence. Data collection was carried out in January 2024. A total of 264 respondents from Slovenia and Bosnia and Herzegovina participated in the research. These participants are students, i.e., young individuals who belong to Generation Z by their age. While some respondents have work experience, it is anticipated that this group will fully integrate into the labour market within a few years.

Table 1

The structure of the sample according to sociodemographic characteristics

Sample Characteristic	Frequency	Percent
Gender		
Male	68	30.68%
Female	170	71.43%
Study Field		
Social Science	211	79.92%
Technical and Natural Science	54	20.45%
Employment Status		
Employed	98	37.12%
Unemployed	166	62.88%
Country		
Slovenia	129	48.86%
Bosnia and Herzegovina	135	51.14%

Source: Authors

Table 1 shows that respondents from Bosnia and Herzegovina (51.14%) and Slovenia (48.86%) are almost equally represented in the sample. In terms of sociodemographic structure, there is a notably higher proportion of women in the sample, constituting more than two-thirds or 71.43% of the respondents. Furthermore, respondents studying social sciences (79.92%) are significantly more represented in the sample compared to those studying technical and natural sciences (20.45%). Regarding employment status, students with permanent, temporary, or occasional employment accounted for 37.12% of the sample.

Initially, the intention was to use the t-test for hypothesis testing, as it is a commonly used statistical method to determine the presence of statistically significant differences between two independent groups. However, an important precondition for applying this test is the

normal distribution of data. The data distribution was assessed using the Shapiro-Wilk test, assuming that the data in the sample were normally distributed. The results of testing both scales are identical. All items in the scales have a p-value less than the defined level of significance ($p=0.00$; $p<0.05$), indicating that the data are not normally distributed. Therefore, instead of the t-test, the non-parametric Mann-Whitney test was used in further analysis. The data were processed using the statistical software SPSS.

Results

Research results indicate that respondents have a moderate understanding of AI. The level of understanding was estimated using a five-point scale, with an average value of 3.09 (the midpoint value is 2.5).

Table 2

Significance of AI for improvement of employee learning - descriptive statistic

	N	Min.	Max.	Mean	Std. Deviation
AI_Possibil_Using_in_learning_1	264	1	5	3.83	0.872
AI_Possibil_Using_in_learning_2	264	1	5	4.05	0.858
AI_Possibil_Using_in_learning_3	264	1	5	4.14	0.931
AI_Possibil_Using_in_learning_4	264	1	5	4.16	0.875
AI_Possibil_Using_in_learning_5	264	1	5	3.74	0.992
AI_Possibil_Using_in_learning_6	264	1	5	3.76	0.924
AI_Possibil_Using_in_learning_7	263	1	5	3.88	0.933
AI_Possibil_Using_in_learning_8	264	1	5	3.95	0.888
AI_Possibil_Using_in_learning_9	264	1	5	3.91	0.945
Valid N (listwise)	263				

Source: Authors

This result is not surprising because only 47.35% of the respondents have had the opportunity to learn about AI through formal and informal learning practices. Despite

the mentioned results, Generation Z shows great interest in AI, which is confirmed by the fact that 82.58% of respondents stated that they search for information and learn about AI on their initiative. Additionally, 88.26% of respondents believe that every student, regardless of their field of study, should learn about AI.

As explained in the methodology section, respondents' attitudes toward the application of AI in employee learning processes were examined using two five-point scales. The first scale includes nine items related to potential applications of AI in employee training and development programs. Table 2 displays the average-rated level of perceived significance for each of the nine items.

It can be observed that, on average, respondents consider all nine items to be significant, as the mean values for each item are above the neutral midpoint. The standard deviation for all items indicates a moderate variation in respondents' answers.

Table 3

General attitudes regarding the use of AI in employee learning - descriptive statistic

	N	Min.	Max.	Mean	Std. Deviation
AI_in_learning_General_Attitudes_1	264	1	5	3.80	0.894
AI_in_learning_General_Attitudes_2	264	1	5	3.75	0.897
AI_in_learning_General_Attitudes_3	264	1	5	3.70	0.909
AI_in_learning_General_Attitudes_4	264	1	5	3.87	0.980
AI_in_learning_General_Attitudes_5	264	1	5	3.54	0.938
AI_in_learning_General_Attitudes_6	264	1	5	3.74	1.073
AI_in_learning_General_Attitudes_7	264	1	5	2.67	1.334
Valid N (listwise)	264				

Source: Authors

On average, respondents' level of agreement with the statements is higher than the neutral mean. However, there is a significantly lower level of agreement (2.67)

with statement seven, which refers to the possibility of AI completely replacing humans (trainers, instructors, mentors) in the employee learning and development process. The standard deviation value for this item (1.334) indicates a higher degree of variation in

respondents' answers.

In the next step of the analysis, the defined hypotheses were tested using the Mann-Whitney test, and the results are presented in the following tables.

Table 4

Significance of AI for improvement of employee learning - differences by gender

Ranks					Test Statistics ^a	AIPU_Average
AIPU_Average	Gender	N	Mean Rank	Sum of Ranks	Mann-Whitney U	7353.000
	0	81	131.78	10674.00	Wilcoxon W	10674.000
	1	183	132.82	24306.00	Z	-0.102
	Total	264			Asymp. Sig. (2-tailed)	0.918

a. Grouping Variable: Gender

Source: Authors

Regarding the first construct (the significance of various applications of AI in employee learning processes), the results of the Mann-Whitney U test ($p=0.918$; $p>0.05$; $Z=-$

0.102) show that there is no statistically significant difference in attitudes between men and women in the analyzed sample, thus confirming hypothesis H1.1.

Table 5

General attitudes regarding the use of AI in employee learning - differences by gender

Ranks					Test Statistics ^a	AIPU_Average
AIGA_Average	Gender	N	Mean Rank	Sum of Ranks	Mann-Whitney U	6724.000
	0	81	140.99	11420.00	Wilcoxon W	23560.000
	1	183	128.74	23560.00	Z	-1.206
	Total	264			Asymp. Sig. (2-tailed)	0.228

a. Grouping Variable: Gender

Source: Authors

In the case of the second construct (general attitudes towards the use of artificial intelligence in employee learning processes), the p-value exceeds the defined level of significance. The test results ($p=0.228$; $p>0.05$;

$Z=-1.206$) indicate that the difference in attitudes between the observed groups is not large enough to be considered statistically significant, thus confirming hypothesis H1.2.

Table 6

Significance of AI for improvement of employee learning - differences by study field

Ranks					Test Statistics ^a	AIPU_Average
AIPU_Average	St_field	N	Mean Rank	Sum of Ranks	Mann-Whitney U	4978.500
	0	211	135.41	28570.50	Wilcoxon W	6409.500
	1	53	120.93	6409.50	Z	-1.236
	Total	264			Asymp. Sig. (2-tailed)	0.216

a. Grouping Variable: Study_field

Source: Authors

Regarding the second socio-demographic characteristics of respondents (study field) and first construct (the significance of various applications of AI in employee learning processes), the test results presented in Table 6 ($p=0.216$; $p>0.05$; $Z=-1.236$) show that there is no

statistically significant difference in attitudes between respondents studying social sciences compared to those studying natural and technical sciences. These results confirm hypothesis H2.1.

Table 7*General attitudes regarding the use of AI in employee learning - differences by study field*

Ranks					Test Statistics ^a	AIPU_Average
AIGA_Average	St_field	N	Mean Rank	Sum of Ranks	Mann-Whitney U	5328.000
	0	211	131.25	27694.00	Wilcoxon W	27694.000
	1	53	137.47	7286.00	Z	-0.532
	Total	264			Asymp. Sig. (2-tailed)	0.595

a. Grouping Variable: Study_field

Source: Authors

The results shown in Table 7 ($p=0.595$; $p>0.05$; $Z=-0.532$) lead to the same conclusion regarding the second construct (general attitudes towards the use of artificial intelligence in employee learning processes). As there is

no statistically significant difference in attitudes between respondents studying social sciences compared to those studying natural and technical sciences, hypothesis H2.2 is also confirmed.

Table 8*Significance of AI for improvement of employee learning - differences by employment status*

Ranks					Test Statistics ^a	AIPU_Average
AIPU_Average	Em_stat	N	Mean Rank	Sum of Ranks	Mann-Whitney U	7346.000
	0	166	137.25	22783.00	Wilcoxon W	12197.000
	1	98	124.46	12197.00	Z	-1.317
	Total	264			Asymp. Sig. (2-tailed)	0.188

a. Grouping Variable: Employment_status

Source: Authors

The third socio-demographic characteristic analyzed in this study relates to respondents' work experience. Depending on whether they have work experience or not, respondents are divided into two groups (respondents with and without permanent, temporary, or occasional employment). Regarding the first construct (the

significance of various applications of AI in employee learning processes), the results of the Mann-Whitney U test ($p=0.188$; $p>0.05$; $Z=-1.317$) show that there is no statistically significant difference in attitudes between the observed groups of respondents in the analyzed sample, confirming hypothesis H3.1.

Table 9*General attitudes regarding the use of AI in employee learning - differences by employment status*

Ranks					Test Statistics ^a	AIPU_Average
AIGA_Average	Em_stat	N	Mean Rank	Sum of Ranks	Mann-Whitney U	8113.500
	0	166	132.38	21974.50	Wilcoxon W	21974.500
	1	98	132.71	13005.50	Z	-0.034
	Total	264			Asymp. Sig. (2-tailed)	0.973

a. Grouping Variable: Employment_status

Source: Authors

The results shown in Table 9 ($p=0.973$; $p>0.05$; $Z=-0.034$) lead to the same conclusion regarding the second construct (general attitudes towards the use of artificial intelligence in employee learning processes). As there is

no statistically significant difference in attitudes between the defined groups of respondents, hypothesis H3.2 is also accepted.

Table 10

Significance of AI for improvement of employee learning - differences by country

Ranks					Test Statistics ^a	AIPU_Average
AIPU_Average	Country	N	Mean Rank	Sum of Ranks	Mann-Whitney U	7155.000
	0	135	144.00	19440.00	Wilcoxon W	15540.000
	1	129	120.47	15540.00	Z	-2.508
	Total	264			Asymp. Sig. (2-tailed)	0.012

a. Grouping Variable: Country

Source: Authors

In the final segment of the analysis, we examined whether there are differences in attitudes between respondents from Slovenia and Bosnia and Herzegovina. Regarding the first construct (the significance of various applications of AI in employee learning processes), the

research results presented in Table 10 ($p=0.012$; $p<0.05$; $Z=-2.508$) show that there are statistically significant differences in attitudes between the observed groups of respondents in the analyzed sample, confirming hypothesis H4.1.

Table 11

General attitudes regarding the use of AI in employee learning - differences by country

Ranks					Test Statistics ^a	AIPU_Average
AIGA_Average	Country	N	Mean Rank	Sum of Ranks	Mann-Whitney U	8645.000
	0	135	132.96	17950.00	Wilcoxon W	17030.000
	1	129	132.02	17030.00	Z	-0.101
	Total	264			Asymp. Sig. (2-tailed)	0.919

a. Grouping Variable: Country

Source: Authors

In the case of the second construct (general attitudes towards the use of artificial intelligence in employee learning processes), the results of the Mann-Whitney U test differ ($p=0.919$; $p>0.05$; $Z=-0.101$), indicating that there is no statistically significant difference in attitudes between respondents from Slovenia and Bosnia and Herzegovina in the analyzed sample. Based on these test results, hypothesis H4.2 is rejected.

Discussion and Conclusions

The rapid development of modern technology, especially in AI, is revolutionizing our world. Generation Z, commonly known as digital natives, was born and raised in an era of widespread access to the internet and other technologies. Consequently, Generation Z individuals are defined by their strong dependence on and use of technology in every aspect of their daily lives. Also, the upcoming generation of the workforce that was born, educated and formed in the era of digital technologies has specific expectations from employers regarding the application of modern technologies in the workplace (Gričnik et al., 2024). Generation Z's use of technology in education can foster or develop additional skills and competencies (Hernández-de-Menéndez et al., 2020). Additionally, findings suggest that while the majority of

Generation Z members see great potential in AI and believe it will positively influence society, there are also some concerns, mainly regarding its potential to eliminate some jobs and reduce opportunities for interpersonal interactions (Schroth, 2019). Also, ethical considerations of AI are raised (Jyothyachandra & Sulaimann, 2022).

Understanding the perspectives of the next generation of employees regarding the use of AI in training and development is essential for the effective adoption of modern technologies as well as meeting the needs of younger generations (Chan & Lee, 2023). Organisations need to understand the specific characteristics of generation Z to provide them with effective support, guidance and satisfaction (Linnes and Metcalf, 2017). By understanding and adapting to the preferences of each generation, organizations can integrate modern technologies into their training and development programs, thus improving their quality as well as meeting the needs of their employees (Chan & Lee, 2023).

The rapidly evolving technology that has surrounded them since birth has had a significant impact on both the learning characteristics and preferences of Generation Z. The latter is closely connected to their need for

immediate feedback. Employers need to adapt AI-related training and development programs in their organizations and introduce new approaches to increase the level of engagement and satisfaction of the next generation of the workforce. Training and development programs must focus on the visual and interactive aspects. For this purpose, employers should combine creative lectures with digital simulations and case studies, which can be supported by videos, visual graphics, or virtual reality. It is also recommended for employers to make the most of the opportunities offered by the digital learning and learning environment. It is also advisable to give Generation Z instant employees access to materials and to include the use of social media in the teaching and learning programs on a regular basis (Cilliers, 2017; Vizcaya-Moreno & Pérez-Cañaveras, 2020).

Regarding the application of AI in learning processes, the majority of research focuses on the formal learning processes of young individuals, such as those in higher education. Such research indicates that members of Generation Z are "generally optimistic about the potential benefits of AI, including enhanced productivity, efficiency, and personalized learning, and expressed intentions to use AI for various educational purposes" (Chan & Lee, 2023). However, there is not much research that considers members of Generation Z as the upcoming workforce and thus examines their attitudes through the prism of future employment. In terms of employee learning programs, it is quite certain that there will be integration between traditional learning approaches and new approaches based on AI in the future, which may not be equally acceptable for all generations of employees (Zolak Poljašević et al., 2024). The research results presented in this paper provide additional insights into Generation Z regarding their attitudes toward the significance of various applications of AI in employee training processes and the general views of this specific group of respondents on the use of artificial intelligence in employee learning processes. Overall, the results of this research showed that the upcoming generation of the workforce considers AI a significant factor in improving employees' learning process. Generally, they have positive attitudes regarding the use of AI in the employee learning process. Interestingly, all respondents have positive attitudes towards AI, although some were not familiar with the possibility of applying AI in the process of training and development of employees. As expected, such results are aligned with the results of similar research (Andrschchuk et al., 2022; Hernández-de-Menéndez et al., 2020; Persada et al., 2019) and previous knowledge about Generation Z.

A deeper analysis of the collected data provides answers to the research questions in the context of four sociodemographic characteristics of the respondents: gender, field of education, work experience, and country of origin. The statistical test applied in this research showed a difference in respondents' attitudes towards the significance of various applications of AI in employee training processes, depending on whether the respondents come from Slovenia or Bosnia and Herzegovina. In all other tested relationships, no statistically significant difference was found among the defined sociodemographic differences of the respondents, confirming all defined hypotheses except hypothesis H 4.2. Therefore, the research results align with existing knowledge regarding the impact of gender (Ameen et al., 2023; Halpern & Lamay, 2000) and field of study (Latto et al., 2020; Gherheș & Obrad, 2018), as well as the initial assumptions regarding the impact of work experience on respondents' attitudes towards the application of AI in employee training processes.

One of the primary limitations of the presented research is the small sample size, in which respondents are unevenly distributed across the three observed sociodemographic characteristics. There is a significantly higher proportion of women compared to men, respondents studying in the field of social sciences compared to those in natural and technical sciences, and significantly higher participation of students with work experience compared to those without work experience, which constitutes a limitation of the observed sample. Additionally, testing the internal consistency of the applied scales revealed a low level of reliability for the scale assessing the general attitudes of respondents towards the use of AI in employee training processes. This limitation arose due to the uneven distribution of positive and negative statements that make up the content of this scale. This limitation was addressed by removing three statements from the data analysis process that were affecting the reliability of the measurement scale.

Despite the small research sample and the disproportionate structure of the sample based on sociodemographic characteristics, which are major limitations of this study, research that considers Generation Z as the upcoming workforce can have multiple benefits. Firstly, it contributes to the expansion of the literature on the role of AI in the employee learning process. Additionally, it provides a better understanding of the young generation's perspective towards AI and helps organizations design training and development programs that align with Generation Z's needs.

Additionally, organizations could use this knowledge to attract and retain young professionals, which is currently one of the major challenges in human resources management. For future research, it would be useful to explore how attitudes toward AI differ across generations. It would be interesting to see how AI is received by younger generations who were born and raised with ICT compared to older generations who have had to learn how to use it. Such a direction for further research is significant because successful implementation of AI in learning processes relies on

analyzing different generational perspectives and choosing the right approach, which may involve a combination of traditional and modern learning methods, gradual adoption of new technologies, providing continuous support for all employees, and creating an inclusive environment that fosters acceptance of new technologies and enables all employees, regardless of generational differences, to leverage the benefits that AI brings. Only a holistic approach can help organizations realize significant benefits from AI while enabling all employees to develop and advance.

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Umetna inteligenca v procesu učenja zaposlenih: pogled generacije Z

Izvleček

Umetna inteligenca kot področje računalništva, ki se osredotoča na razvoj tehnologij, ki simulirajo inteligentno vedenje in človeške kognitivne funkcije, ima nedvomno velik potencial za preoblikovanje vseh poslovnih dejavnosti, vključno s procesom učenja zaposlenih. Kljub temu imajo različne generacije različen odnos do hitrega napredka tehnologije in vse večjih možnosti, ki jih ponuja umetna inteligenca. Glavni namen raziskave je pridobiti vpogled v odnos generacije Z do uporabe umetne inteligence v okviru procesa učenja zaposlenih. Empirična raziskava je bila izvedena na vzorcu 264 anketirancev iz Slovenije ter Bosne in Hercegovine. Poleg opisne statistike so bili za preverjanje hipotez uporabljeni tudi Cronbachov alfa, Shapiro-Wilkov in Mann-Whitneyjev test. Na splošno ugotovitve raziskave kažejo, da prihajajoča generacija zaposlenih meni, da je umetna inteligenca pomemben dejavnik za izboljšanje procesa učenja zaposlenih. Raziskava prispeva k literaturi s področja managementa človeških virov, saj prinaša nova spoznanja o stališčih generacije Z, katere udeležba v aktivni delovni sili se bo v prihodnjih letih bistveno povečala.

Ključne besede: učni proces, umetna inteligenca, zaposleni, generacija Z, sociodemografske značilnosti