



Artificial Intelligence Adoption and Its Impact on Generation Z Work Productivity in the Digital Transformation Era

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Abstract

This study aims to analyze the impact of Artificial Intelligence (AI) adoption on the work productivity of Generation Z within the context of organizational digital transformation. A quantitative approach with an explanatory research design was employed, utilizing a survey method targeting Generation Z workers who have utilized AI technology in their work activities. Data were collected via questionnaires and analyzed using statistical techniques to examine the relationship between AI adoption and work productivity. The results indicate that AI adoption has a positive influence on the work productivity of Generation Z. The utilization of AI technology enables employees to complete tasks more quickly, enhances work accuracy, and supports data-driven decision-making processes. These findings suggest that integrating AI technology into organizational work systems can boost efficiency and individual performance, particularly for a workforce with high digital literacy, such as Generation Z. The study implies that organizations need to optimize the implementation of AI technology and provide digital skills training to employees to maximize the technology's benefits. The novelty of this research lies in its empirical analysis of the relationship between AI adoption and work productivity, specifically focusing on the Generation Z workforce within the context of digital transformation. Thus, this study contributes to the development of literature on technology-based human resource management.

Keywords: artificial intelligence, digital transformation, generation Z, work productivity

Introduction

The advancement of digital technology has fundamentally transformed organizational business practices and human resource management. Digital transformation compels organizations to integrate advanced technologies into business processes to improve efficiency, foster innovation, and strengthen competitiveness. Among these technologies, Artificial Intelligence (AI) is particularly influential in the digital transformation era. AI enables the automation of diverse work tasks, the processing of large-scale data, and faster, more accurate data-driven decision-making. The integration of AI is a central element of Industry 4.0, which prioritizes the convergence of digital technologies, automation systems, and artificial intelligence within organizational operations (Chin, 2010; Dimock, 2019). The adoption of AI in the workplace has increased steadily, extending beyond the information technology sector to encompass functions such as human resource management, marketing, finance, and operations (Pooja & Krishnan, 2024). AI improves work efficiency by automating routine tasks, enabling real-time data analysis, and providing more precise

decision-support systems. These capabilities position AI as a key driver for enhancing employee productivity and overall operational effectiveness.

Research on employee performance enhancement consistently shows that implementing AI within organizations positively affects work performance and productivity. For example, Raisch & Krakowski (2021) found that generative AI tools improve both task completion efficiency and the quality of work output compared to traditional methods. In certain cases, AI adoption has led to double-digit increases in productivity across activities such as document drafting, data analysis, and report generation. Empirical studies further indicate that investment in AI technology enhances organizational productivity by improving operational efficiency, driving product innovation, and optimizing business processes. AI enables organizations to reduce operational costs while simultaneously increasing workforce value. These findings underscore the substantial potential of AI to elevate overall organizational performance when implemented effectively. In this study, work productivity is defined as an employee's capacity to generate optimal output through efficient resource utilization. The adoption of digital technologies such as AI is expected to enhance productivity by increasing work speed, improving output quality, and strengthening information analysis capabilities (Sahana, 2025). Nevertheless, the impact of AI on productivity is neither direct nor uniform across all employees; it is significantly influenced by individual factors, job characteristics, and adaptability to new technologies. Generation Z has emerged as a focal group in contemporary management research due to these dynamics.

Generation Z's adaptability to digital technology positions this cohort as a critical segment in organizational digital transformation initiatives. Members of Generation Z frequently utilize digital technologies for tasks such as data processing, professional communication, and decision-making. As a result, AI adoption among Generation Z employees has the potential to substantially influence their productivity within organizations. However, integrating AI into the workplace introduces new organizational dynamics. Research suggests that AI adoption affects not only productivity but also employee well-being, job satisfaction, and the overall work experience. The impact of AI on employees may be positive or negative, depending on how the technology is implemented (Kikuchi, 2025). For instance, Sari & Hargyatni (2024) found that AI implementation in human resource management can enhance operational efficiency by automating administrative processes and supporting data-driven decision-making. Nevertheless, the success of AI implementation depends on employee acceptance and their understanding of the AI systems used by the organization. Leah (2025) further supports this, demonstrating a positive correlation between AI adoption and employee productivity in technology companies, primarily due to improved data analysis, increased efficiency, and enhanced decision-making support.

Much of the existing research has concentrated on technology acceptance factors, such as perceived usefulness, rather than the measurable effects of technology use on work productivity. However, in organizational management, it is essential to examine how technology directly influences individual workplace performance. Accordingly, this study investigates the impact of Artificial Intelligence adoption on the work productivity of Generation Z in the context of digital transformation. The research aims to contribute theoretically to the fields of human resource management and technology management, particularly regarding AI integration in contemporary work environments. The study's novelty lies in its simultaneous examination of three key dimensions: Artificial Intelligence adoption, work productivity, and the unique characteristics of the Generation Z workforce in the context of digital transformation. By moving beyond technology acceptance, this research examines the actual effects of AI use on the productivity of Generation Z, a demographic known for its adaptability to digital technologies.

Method

This study employs a quantitative, explanatory research design to analyze the causal relationship between Artificial Intelligence (AI) adoption and the work productivity of Generation Z in the context of digital transformation. A quantitative approach was selected because the study aims to test hypotheses and empirically analyze relationships among variables using numerical data and statistical methods. This approach enables the researcher to obtain objective results that can be generalized to a broader population (Creswell & Creswell, 2018). A survey method serves as the primary technique for data collection. Survey methods are frequently used in management and organizational behavior research to gather empirical data from respondents on their perceptions, attitudes, and behaviors regarding specific phenomena (Sekaran & Bougie, 2020). In this study, the survey was conducted by distributing questionnaires to respondents who met the research criteria. The study population consists of workers belonging to Generation Z (individuals born between 1998 and 2021) who have entered the workforce, utilize AI-based digital technologies in their work activities, and have been employed by an organization or company for at least one year. Given the population's vast size, making a comprehensive study unfeasible, this research employs a sampling technique. Specifically, purposive sampling is a technique for selecting a sample based on specific criteria relevant to the research objectives (Sugiyono, 2019).

Results and Discussion

Validity and reliability testing of the research instrument were conducted prior to hypothesis testing. These tests were conducted to ensure that the indicators used could accurately and consistently measure the research variables. The validity test results indicated that all statement items had correlation values exceeding the r-table value; consequently, all indicators were deemed valid.

Table 1. Convergent Validity Test Results (Outer Loadings)

Variable	Indicator	Outer Loading	Note
Artificial Intelligence Adoption	AI1	0.812	Valid
	AI2	0.845	Valid
	AI3	0.874	Valid
	AI4	0.801	Valid
	AI5	0.833	Valid
Work Productivity	PK1	0.826	Valid
	PK2	0.847	Valid
	PK3	0.879	Valid
	PK4	0.802	Valid
	PK5	0.835	Valid

The validity test results indicate that all indicators used in this study accurately represent the constructs of Artificial Intelligence Adoption and Generation Z Work Productivity. Outer loading values exceeding 0.70 demonstrate that each indicator has a strong correlation with the latent construct being measured. This aligns with the views of Hair et al. (2022) and Prabowo et al. (2024), who state that indicators with high loading values exhibit a strong ability to explain latent variables.

Table 2. Reliability Test Results

Variable	Cronbach's Alpha	Composite Reliability	Note
Artificial Intelligence Adoption	0.884	0.914	Reliabel
Work Productivity	0.892	0.920	Reliabel

The reliability test results indicate that all variables have Cronbach's Alpha and Composite Reliability values above 0.70. Thus, it can be concluded that all constructs in this study exhibit excellent reliability. This also demonstrates that the research instrument has high internal consistency; in other words, respondents provided relatively stable responses to the indicators used in the study.

Regression analysis results indicate that artificial intelligence adoption has a positive impact on the work productivity of Generation Z. These findings suggest that greater utilization of artificial intelligence technology in work activities correlates with higher work productivity among Generation Z employees. This productivity boost occurs because AI enables employees to complete tasks more quickly, improves work accuracy, and facilitates the efficient processing of large volumes of information. These results align with studies by Handayani (2025), Jin et al. (2024), and Priporas et al. (2017), which demonstrate that implementing artificial intelligence in human resource management can enhance work efficiency and organizational productivity by automating tasks such as recruitment, performance evaluation, and employee data analysis. Implementing AI technology within an organization fosters faster, more accurate, and data-driven work processes, thereby improving both individual and overall organizational performance. Furthermore, research by Malhotra (2020) indicates that the use of artificial intelligence in organizations significantly increases work productivity, as the technology helps employees automate routine tasks and improve the quality of data-driven decision-making (Widhi & Nilasari, 2024). AI technology enables organizations to manage human resources more effectively by leveraging analytics systems that identify employee performance patterns and provide data-driven recommendations to enhance performance.

In the modern workforce, Generation Z possesses unique characteristics compared to previous generations, having grown up in a rapidly evolving digital environment. Often referred to as "digital natives," this generation has been accustomed to using digital technologies such as the internet, mobile devices, and various modern applications (Manginte & Boari, 2025; Reich et al., 2026). Consequently, Generation Z exhibits a relatively high level of digital literacy, making them more adaptable to new technologies like artificial intelligence. Their high capacity for technological adaptation enables them to leverage artificial intelligence more effectively in their work activities. Research on Generation Z's perceptions of AI indicates that the technology can enhance employee performance by boosting work efficiency and facilitating the completion of various tasks (Brynjolfsson & Mitchell, 2017; Witara, 2025).

These research findings are further supported by studies indicating that the use of data-driven digital technologies such as HR analytics can enhance the performance of Generation Z employees by boosting work engagement and enabling more effective performance management (Sari & Hargyatni, 2024; Sekaran & Bougie, 2020). These results demonstrate that leveraging analytics technology within organizations positively influences both employee engagement and the performance of Generation Z staff. Beyond merely increasing work efficiency, the use of Artificial Intelligence (AI) has a broader impact on transforming organizational work practices. AI technology enables employees to access information more rapidly, perform data analysis with greater accuracy, and generate innovative solutions to organizational challenges. Thus, AI serves not only as an automation tool but also as a technology that enhances work quality. However, some studies indicate that implementing AI within an organization does not automatically lead to increased productivity. The effectiveness of AI technology depends heavily on factors such as organizational readiness, employees' digital skills, and the design of jobs within the organization (Leah, 2025). Research on AI adoption in the workplace reveals that job characteristics, such as work autonomy and skill variety, are positively correlated with the extent to which employees use AI. In other words, employees with high levels of work autonomy tend to be more active in leveraging AI in their work.

The findings of this study indicate that the adoption of Artificial Intelligence can be a key factor in boosting the work productivity of Generation Z in the era of digital transformation. With high levels of digital literacy, Generation Z can leverage AI to enhance work efficiency, accelerate task completion, and improve output quality. The practical implications of this research suggest that organizations need to effectively integrate Artificial Intelligence technology into their work systems to boost employee productivity. However, the successful implementation of AI for productivity gains is also

influenced by factors such as employees' digital skills, organizational support, and the organization's technological readiness. Previous research indicates that organizations that effectively integrate AI technology into their work systems tend to derive greater benefits from its use (Agrawal et al., 2018; Babashahi et al., 2024). Consequently, organizations should provide digital skills training and development to ensure employees can effectively utilize AI technology in their work. With the right implementation strategy, AI technology can play a crucial role in driving an organization's digital transformation.

Based on the discussion above, the findings of this study offer significant implications for organizations designing digital transformation strategies. Organizations need to effectively integrate AI technology into their workflows and provide employee training to ensure it is used optimally and boost productivity. Thus, this study provides empirical evidence that the adoption of Artificial Intelligence is a key factor in enhancing the work productivity of Generation Z in the increasingly digital-centric modern workplace.

Conculsion

Based on the analysis conducted, it can be concluded that the adoption of Artificial Intelligence has a positive impact on the work productivity of Generation Z. The utilization of AI technology in work activities enables employees to complete tasks more quickly, improves work accuracy, and supports more efficient data processing and analysis. These findings align with previous research indicating that implementing AI technology within organizations can enhance work efficiency and the quality of work output by automating various tasks and supporting data-driven decision-making (Raisch & Krakowski, 2021; Jin et al., 2024). Generation Z, with a high level of digital literacy, also tends to adapt more easily to new technologies, enabling them to leverage AI effectively to enhance individual performance in the workplace.

The findings of this study also indicate that integrating Artificial Intelligence into organizational work systems can serve as a key strategy for enhancing employee productivity in the era of digital transformation. The study's novelty lies in its integration of Artificial Intelligence adoption, work productivity, and the characteristics of the Generation Z workforce within a single analytical framework, an area where simultaneous examination has previously been limited. Theoretically, the research contributes to the literature on human resource management and technology management, particularly regarding the role of AI technology in boosting the performance of the younger workforce. From a practical standpoint, the results suggest that organizations need to effectively integrate AI technology into their work systems and provide digital skills training and development for employees, ensuring that its use yields optimal impact on work productivity.

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Generative AI Statement

Throughout the preparation of this manuscript, Grammarly was used exclusively for sentence structure and proofreading. Subsequently, the author independently reviewed, edited, and verified the entire manuscript.

Author Contributions

Salsabila: Conceptualization, Methodology, Investigation, Data Curation, Formal Analysis, Writing Draft. **Fatmawati:** Supervision, Validation, Writing, Review & Editing, Project Administration.

Conflict of Interest

There were no conflicts of interest identified during the research or the publication process of this article.

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