

The Impact of Artificial Intelligence Adoption on Job Satisfaction and Productivity of Healthcare Workers in Hospitals

Employee Engagement
and Artificial
Intelligence

Mochammad Isa Anshori
Universitas Trunojoyo; Bangkalan, Indonesia
E-Mail: isa.anshori@trunojoyo.ac.id

Ari Akbar
Universitas Trunojoyo; Bangkalan, Indonesia
E-Mail: ariakbar989@gmail.com

Djamaliyah
Universitas Trunojoyo; Bangkalan, Indonesia
E-Mail: djamaliyah123@gmail.com

Nur Aisyah
Universitas Trunojoyo; Bangkalan, Indonesia
E-Mail: na7622386@gmail.com

5901

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ABSTRACT

The integration of artificial intelligence in healthcare is transforming hospital operations, particularly in enhancing employee satisfaction and productivity. While AI offers opportunities to reduce administrative burden, foster teamwork, and improve patient care, it also introduces challenges related to technology adaptation and employee concerns about automation. This study aims to investigate how artificial intelligence adoption influences hospital staff's job satisfaction and productivity, linking its application not only to efficiency but also to employee engagement and service outcomes. This research employs a qualitative methodology using a case study approach. Data were collected through semi-structured interviews, observation, surveys, and document analysis to capture healthcare workers' perceptions of artificial intelligence in daily work and its influence on work-life balance. Findings reveal that artificial intelligence enhances job satisfaction by simplifying documentation, supporting skill development, improving decision-making, and creating opportunities for innovation. Productivity improvements include faster clinical decisions, better time management, effective human-technology collaboration, and higher-quality patient care. Artificial intelligence adoption contributes significantly to operational success in hospitals by fostering innovation, supporting staff development, and balancing technological advancement with human needs, provided continuous training and transparent communication are ensured.

Keywords: Artificial Intelligence, Healthcare Workers, Hospital Performance, Job Satisfaction, Productivity.

ABSTRAK

Integrasi kecerdasan buatan dalam layanan kesehatan mentransformasi operasional rumah sakit, terutama dalam meningkatkan kepuasan dan produktivitas karyawan. Meskipun kecerdasan buatan menawarkan peluang untuk mengurangi beban administratif, mendorong kerja sama tim, dan meningkatkan perawatan pasien, kecerdasan buatan juga menghadirkan tantangan terkait adaptasi teknologi dan kekhawatiran karyawan tentang otomatisasi. Studi ini bertujuan untuk menyelidiki bagaimana adopsi kecerdasan buatan memengaruhi kepuasan kerja dan produktivitas

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staf rumah sakit, menghubungkan penerapannya tidak hanya dengan efisiensi tetapi juga dengan keterlibatan karyawan dan hasil layanan. Penelitian ini menggunakan metodologi kualitatif dengan pendekatan studi kasus. Data dikumpulkan melalui wawancara semi-terstruktur, observasi, survei, dan analisis dokumen untuk menangkap persepsi tenaga kesehatan terhadap kecerdasan buatan dalam pekerjaan sehari-hari dan pengaruhnya terhadap keseimbangan kehidupan kerja. Temuan menunjukkan bahwa kecerdasan buatan meningkatkan kepuasan kerja dengan menyederhanakan dokumentasi, mendukung pengembangan keterampilan, meningkatkan pengambilan keputusan, dan menciptakan peluang untuk inovasi. Peningkatan produktivitas mencakup keputusan klinis yang lebih cepat, manajemen waktu yang lebih baik, kolaborasi manusia-teknologi yang efektif, dan perawatan pasien yang lebih berkualitas. Adopsi kecerdasan buatan berkontribusi signifikan terhadap keberhasilan operasional rumah sakit dengan mendorong inovasi, mendukung pengembangan staf, dan menyeimbangkan kemajuan teknologi dengan kebutuhan manusia, asalkan pelatihan berkelanjutan dan komunikasi yang transparan terjamin.

Kata kunci: Kecerdasan Buatan, Tenaga Kesehatan, Kinerja Rumah Sakit, Kepuasan Kerja, Produktivitas.

INTRODUCTION

Workplace satisfaction and productivity are two interrelated elements that determine organizational success, including in the healthcare sector, such as hospitals. Job satisfaction reflects employees' positive feelings toward their jobs, including aspects such as the work environment, relationships with coworkers and superiors, and appreciation for contributions (Akinwale & George, 2020). In hospitals, where demands and pressures are high, satisfaction increases the motivation and commitment of medical and non-medical staff to provide quality services. Productivity, in turn, measures efficiency in completing medical and administrative tasks and achieving organizational goals such as improved service quality and patient satisfaction (Gosnell et al., 2020). Employees who are satisfied tend to be more productive, enthusiastic, and engaged in contributing to organizational success (Arifin et al., 2019). Thus, creating a supportive work environment is a strategic step to improve both productivity and the overall quality of healthcare services.

Despite its importance, dissatisfaction and productivity issues remain a major challenge in healthcare organizations. Employee dissatisfaction often arises from high workloads, lack of work-life balance, and stressful environments, which can reduce the quality of service and increase staff turnover. According to Quek et al. (2021), only 20% of workers worldwide feel engaged and satisfied, a condition that contributes to high turnover. In Indonesia, this issue is more pronounced, with only 27% of employees engaged at work (Rahmadani et al., 2019; Rahman et al., 2019). Low engagement in hospitals not only threatens service quality but also increases operational costs related to recruitment and training. Several factors contribute to this condition. A report by the Central Bureau of Statistics shows that Indonesia's job satisfaction rate is still below the global average of 57%. Low engagement is frequently linked to inadequate work-life balance, insufficient appreciation, and limited career development opportunities (Sarker, 2021). Al Kurdi et al. (2020) and Stankevičiūtė et al. (2021) indicate that dissatisfaction reduces productivity by up to 20%, resulting in economic losses, while high satisfaction can boost productivity by 25%. Conversely, unresolved dissatisfaction leads to lower motivation, absenteeism, high turnover, and additional costs for replacement and training (Shatila & Alozian, 2019). It also undermines teamwork, collaboration, and innovation, ultimately threatening competitiveness (Crane, 2020).

In this context, Artificial Intelligence (AI) emerges as a promising factor that can enhance employee satisfaction and productivity (Bibi, 2019; Budiherwanto, 2025). AI applications such as chatbots and virtual assistants can handle routine administrative tasks, freeing staff for strategic work (Stone et al., 2020; Bhargava et al., 2021). AI also supports decision-making through real-time data analysis, enables personalized training

and career development, and optimizes recruitment to improve employee–job fit (Malik et al., 2023). Beyond efficiency, AI can contribute to well-being, creativity, and engagement when integrated into HR practices (Ruel & Njoku, 2021; Çolak, 2023). Nevertheless, concerns such as resistance to change, job insecurity, and stress due to technological adoption need careful management through training and skill development (Kuru, 2023).

Understanding how AI can enhance workplace engagement and productivity has become an increasingly important area of research. AI has a good effect on both employee effectiveness on the job and inventive behavior, according to studies by Chen et al. (2024) and Valeriya et al. (2024). In addition, AI influenced organizational behavior and communication dynamics, revealing diverse employee perceptions of AI integration, highlighting the importance of understanding and addressing issues for a positive organizational ecosystem (Gabelaia et al., 2024). In addition, research by Kalaivani and Venkatachalam (2023) adopting Machine Learning (ML) through strategies such as Bring Your Own Device (BYOD) results in increased worker productivity, trust, satisfaction, and transparency within organizations, emphasizing the positive effects of AI on employee engagement. Increased productivity, better communication, and a more collaborative work environment are all possible outcomes of integrating AI into employee engagement efforts. This exemplifies how AI has the ability to enhance job satisfaction and efficiency (Abdullah et al., 2021; Mittal et al., 2023).

This study aims to investigate how AI integration influences hospital employees' satisfaction and productivity. The contribution lies in linking AI adoption not only to efficiency and engagement but also to job satisfaction and service outcomes. By exploring how AI can support healthcare staff in managing work demands while fostering motivation and commitment, this research provides insights for designing strategies that improve both employee well-being and organizational performance.

LITERATURE REVIEW

Workplace Satisfaction and Workplace Productivity

Workplace contentment is a multifaceted notion that includes different elements of employment, such as job responsibilities, the work environment, and interactions with colleagues and superiors. Studies indicate that job satisfaction significantly influences employee performance, productivity, and retention rates (Arifin et al., 2019). Wahyudi (2018) defines job satisfaction as a favorable emotional condition arising from an evaluation of one's employment or work experience. Determinants of employment happiness encompass remuneration, professional advancement prospects, workplace environment, and work-life equilibrium. Lee et al. (2022) highlighted motivators and hygienic aspects as critical components in assessing job satisfaction under their two-factor approach. Elevated job satisfaction correlates with improved mental health, less absenteeism, and heightened employee loyalty (Mayfield et al., 2020; Chatterjee et al., 2023).

Productivity in the workplace is often measured based on the efficiency and effectiveness of employees in completing workplace tasks, as well as their impact on achieving organizational goals. According to Bulińska and Bagieńska (2021) workplace productivity is not only influenced by technical skills and experience, but also by factors such as motivation, job satisfaction, and mental health. Intrinsic motivation, which comes from internal drives such as personal interest and satisfaction with work, has been shown to be an important factor in improving productivity (Yusuf, 2021). In addition, job satisfaction, which reflects the extent to which employees are satisfied with their working environment and conditions, also plays a significant role in influencing productivity (Ashraf, 2019; Muzaini et al., 2025). Organizational factors, such as team structure and management, also contribute to employee effectiveness in achieving optimal work results (Atatsi et al., 2019). Furthermore, the mental health and well-being of employees is also an important concern, as stress and burnout can negatively impact performance (Mahmoud & Rothenberger, 2019; Enholm et al., 2022). An understanding of the various

factors that influence productivity in the workplace is essential to devising effective strategies to improve individual and team performance.

The Role of Artificial Intelligence

The relationship between Workplace satisfaction and productivity has been widely discussed in organizational and healthcare research. Job satisfaction is generally understood as employees' positive feelings toward their work, encompassing workplace environment, recognition, and interpersonal relationships (Akinwale & George, 2020). High satisfaction has been shown to increase motivation and organizational commitment, which in turn enhances productivity and quality of service delivery (Arifin et al., 2019; Gosnell et al., 2020). Conversely, dissatisfaction caused by excessive workload, lack of work-life balance, or limited development opportunities often results in decreased performance, absenteeism, and turnover (Shatila & Alozian, 2019; Crane, 2020). Empirical studies also indicate that dissatisfied employees may experience up to a 20% decline in productivity, while higher levels of satisfaction can generate productivity improvements of around 25% (Al Kurdi et al., 2020; Stankevičiūtė et al., 2021).

Within the Indonesian context, workplace engagement remains below the global average, with only 27% of employees engaged (Rahmadani et al., 2019). This challenge is critical in the hospital sector, where low satisfaction and productivity not only impact organizational efficiency but also directly affect patient care outcomes. Thus, scholars emphasize the need for innovative approaches to strengthen engagement and well-being in healthcare organizations.

AI has increasingly been recognized as a strategic tool to address these challenges. AI enables automation of routine tasks, decision-making through advanced analytics, and personalization of employee experience (Stone et al., 2020; Bhargava et al., 2021; Malik et al., 2023). Studies highlight AI's potential to enhance trust, communication, and collaboration, thereby improving both satisfaction and productivity (Kalaivani & Venkatachalam, 2023; Mittal et al., 2023). AI adoption also positively influences organizational behavior, with employees perceiving improvements in efficiency and engagement, though concerns regarding job displacement and stress remain (Kuru, 2023; Gabelaia et al., 2024). Chen et al. (2024) and Valeriya et al. (2024) further confirm AI's role in fostering innovative behavior and work effectiveness, indicating its transformative role in employee management systems.

RESEARCH METHODS

This study employs qualitative research methodologies utilizing a case study approach at ITSK Dr. Soepraoen Hospital. This research methodology employs a survey that integrates semi-structured interviews, observation, and document analysis as the primary data collection techniques. In this study, qualitative methods were used to explore the understanding of how AI plays a role in improving employee engagement in the digital era. The method uses observation and semi-structured interviews to collect data from staff and employees in a company.

The population in this study was all employees and staff at ITSK Dr. Soepraoen Hospital. The sampling technique used was a purposive sampling technique, so that 10 informants were obtained. The use of the purposive sampling technique is necessary because this research aims to collect data from the most suitable and informative sources, which can provide deep insight into how AI affects employee satisfaction and productivity in the workplace.

Table 1 displays the characteristics of the 10 study participants, who represented various roles within the hospital, including operations managers, HRD, IT staff, medical records staff, and administrative staff. Of the total participants, six were female, and four were male, with varying lengths of service ranging from 3 to 12 years. The distribution of positions demonstrates a diversity of roles, ranging from managerial to support staff, reflecting diverse perspectives on job satisfaction and productivity in the hospital environment.

Table 1. Research Informants

No.	Position	Participant Code	Gender	Length of Service
1	Operations Manager	M1-AFI	Woman	12 Years
2	Hospital HRD	HRD-IDA	Woman	7 Years
3	IT Staff	IT1-FRA	Man	10 Years
4	IT Staff	IT2-ALI	Man	6 Years
5	Medical Records Staff	RM1-NAN	Man	11 Years
6	Medical Records Staff	RM2-NIN	Man	9 Years
7	Medical Records Staff	RM3-TIA	Woman	3 Years
8	Medical Records Staff	RM4-NAI	Woman	5 Years
9	Administration Staff	SA1-LIA	Woman	8 Years
10	Administration Staff	SA2-NIT	Woman	4 Years

The data collection methods used involved, first, semi-structured interviews with stakeholders, totaling 10 informants. Semi-structured interviews were conducted to gain an in-depth understanding from the perspective of the employees and staff involved. Second, an observation was conducted to see first-hand how AI is used in improving employee satisfaction and productivity in the workplace. This observation provides empirical data that allows researchers to understand the real impact of AI on employee engagement. Third, documentation is an instrument to dig up in-depth information related to how AI affects employee engagement in the workplace. This data collection technique was used to understand healthcare workers' perceptions of AI's role in work routines, task management, and its impact on work-life balance.

Data analysis in this study using the Miles and Huberman (1984) interactive model provides significant benefits in exploring in-depth and contextual understanding related to analyzing the role of AI in improving employee satisfaction and productivity. The first stage, data collection, involved semi-structured interviews, observation, and documentation. After data collection, the second stage, data condensation, required the researcher to group and summarize the interviews, observations, and documents into relevant categories. This process helped to simplify the information for further processing. The third stage, data display, involves the visual presentation of findings through tables, graphs or diagrams. This display provides a clearer picture of the patterns and relationships in AI's role in improving employee satisfaction and productivity. In the fourth stage, the researcher draws conclusions and verifies the results of the analysis. These conclusions are based on the patterns that emerge from the data display and can be used to identify the relationship between employee engagement and the application of AI in the workplace.

RESULTS

Artificial Intelligence Implementation

Based on the results of research on employee engagement in the era of AI, it was found that implementing AI in the workplace has a significant impact on employee satisfaction and productivity. Figure 1 illustrates the conceptual relationship between AI and employee satisfaction, speed of decision making, and employee productivity. AI plays a role in increasing the efficiency of routine tasks, transparency, accountability, and better team relationships, which overall strengthen employee job satisfaction (Kalaivani & Venkatachalam, 2023). Furthermore, AI also accelerates the decision-making process through collaboration between humans and technology, resulting in work efficiency and innovation (Wamba-Taguimdje et al., 2020). Consequently, employee productivity increases through process automation, reduced errors, and more effective time management. However, the figure also highlights challenges such as difficulty adapting to technology and job anxiety, which need to be addressed for AI implementation to truly provide optimal benefits to organizations (Kuru, 2023).

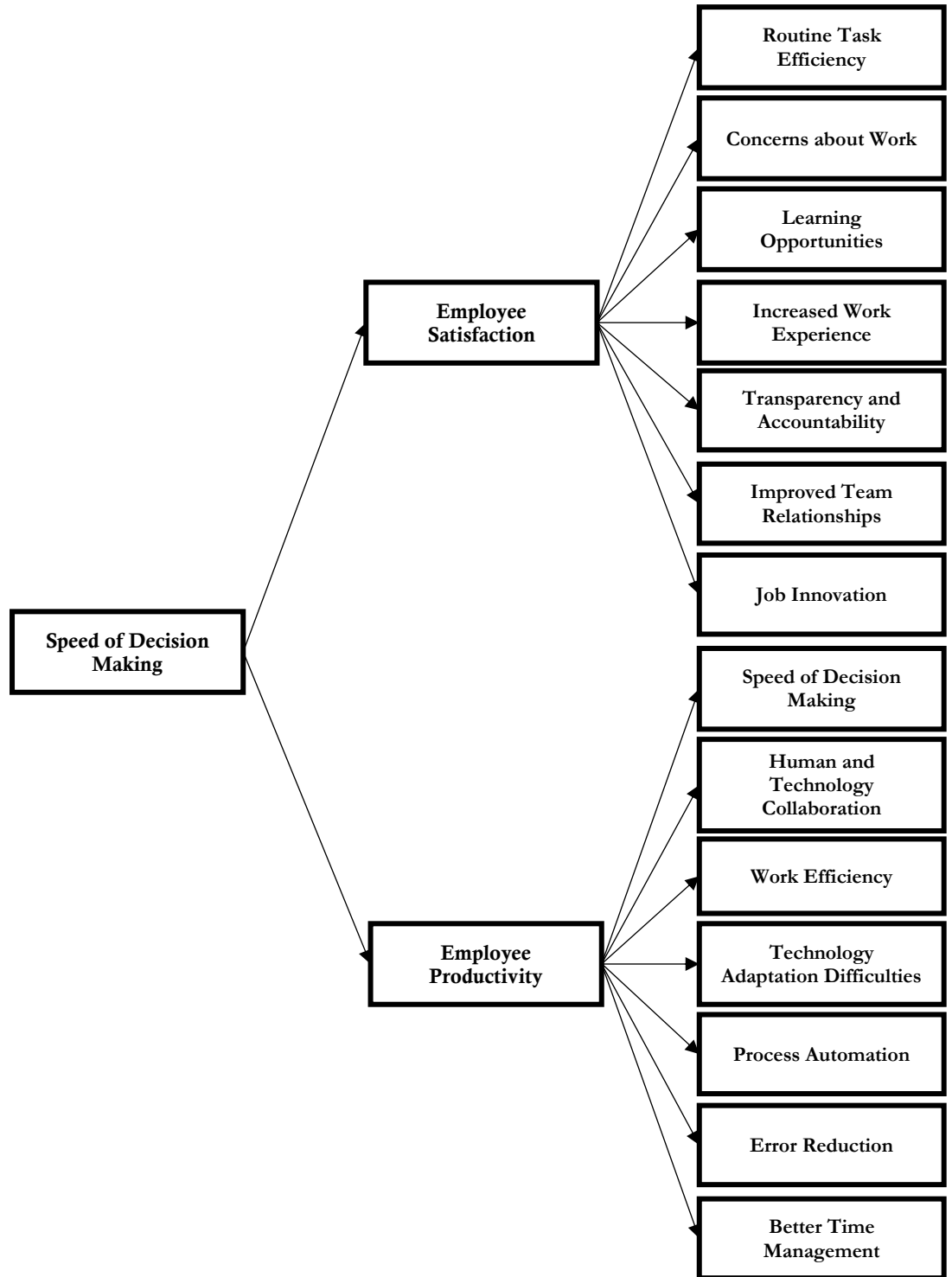


Figure 1. Impact of AI Implementation in the Workplace

The Impact of Artificial Intelligence on Satisfaction and Productivity

Using a qualitative approach, data were collected through interviews with employees from various divisions to understand their experiences in interacting with AI technologies. The findings in Table 2 illustrate how AI impacts various important aspects of daily work, from employee satisfaction to productivity.

Table 2. Findings on the Impact of Artificial Intelligence on Employee Satisfaction

Aspects	Research Findings	Informant
Routine Task Efficiency	1. AI speeds up the medical administration process which previously took a long time.	M1-AFI, RM2-NIN, RM3-TIA, RM4-NAI
	2. The use of AI reduces the error rate in recording patient data.	IT2-ALI, RM3-TIA, RM4-NAI, SA1-LIA, SA2-NIT
	3. AI-based systems enable automation in medical reporting.	RM4-NAI, SA1-LIA
Concerns about Work	1. Employees feel insecure for fear of AI replacing their roles, especially in administrative processes.	IT2-ALI, RM1-NAN, RM4-NAI, SA2-NIT
	2. Lack of hospital management communication on the role of AI in hospital operations.	M1-AFI, HRD-IDA, IT1-FRA, IT2-ALI, RM1-NAN, RM4-NAI
	3. Employees consider AI to be more beneficial to the hospital's efficiency than to their well-being.	SA2-NIT
Learning Opportunities	1. AI training provides opportunities for hospital staff to develop new technology skills.	HRD-IDA, IT1-FRA, RM3-TIA, RM4-NAI, SA1-LIA, SA2-NIT
	2. Some staff find AI-based training difficult to understand.	SA2-NIT
	3. Staff feel more confident after mastering the use of AI to support healthcare.	M1-AFI, RM2-NIN, RM3-TIA, RM4-NAI, SA2-NIT
Increased Work Experience	1. AI allows staff to focus on more complex and challenging clinical tasks.	IT2-ALI, RM1-NAN, SA1-LIA, SA2-NIT
	2. The use of AI increases the sense of staff engagement in technology-based patient management.	RM3-TIA, RM4-NAI
	3. Staff felt AI provided support tools to improve the quality of healthcare.	M1-AFI, HRD-IDA, IT1-FRA
Transparency and Accountability	1. AI supports more objective performance evaluation based on accurate medical data.	IT2-ALI, RM1-NAN, RM4-NAI, SA1-LIA, SA2-NIT
	2. The AI system provides accurate reports on the performance of the medical team.	RM1-NAN, RM2-NIN
	3. Some staff are uncomfortable with AI-based close supervision of clinical activities.	M1-AFI, HRD-IDA, IT1-FRA, IT2-ALI
Job Innovation	1. The presence of AI motivates staff to innovate new medical work methods.	RM4-NAI, SA1-LIA, SA2-NIT
	2. AI creates new opportunities for cross-departmental collaboration in hospitals.	IT1-FRA, IT2-ALI, RM1-NAN, RM4-NAI, SA1-LIA, SA2-NIT
	3. Some staff find it difficult to keep up with the acceleration of technological innovation in the hospital.	HRD-IDA, IT1-FRA, RM1-NAN, RM2-NIN, RM3-TIA, SA1-LIA, SA2-NIT

Based on Table 2, the implementation of AI in hospitals has had a significant impact on the satisfaction of healthcare workers, especially in improving the efficiency of routine tasks. AI-based systems help speed up previously time-consuming medical administration processes, reduce error rates in tasks such as medical record-keeping, and enable the automation of patient reports (Soori et al., 2023). This allows healthcare workers to focus on more critical and complex tasks, increasing their sense of engagement and job satisfaction (Rožman et al., 2022). However, many healthcare workers are anxious about AI replacing their roles, concerns commonly found in workplaces adopting automation technologies (Ahimaz et al., 2024).

In addition, the application of AI opens up great opportunities for healthcare workers to develop new skills through training and the use of technology. While most feel more confident after mastering AI, some find AI-based training difficult to understand, especially those unfamiliar with digital systems. This is consistent with prior research noting that inadequate training is a major barrier to AI adoption (Nurlia et al., 2023). On the other hand, AI improves work experience by providing clinical decision support and enabling staff to focus on high-value healthcare tasks (Ameen et al., 2021).

However, while AI supports transparency and accountability in performance measurements, its data-driven monitoring can create feelings of pressure among staff. Similar concerns have been documented in research emphasizing the emotional impact

of automated supervision (Robinson et al., 2019). On the positive side, AI motivates staff to innovate, supporting collaborative medical workflows (Ruel & Njoku, 2021). Still, rapid technological change remains challenging for employees who struggle with digital adaptation (Rotz et al., 2019).

Table 3. Findings on the Impact of Artificial Intelligence on Employee Productivity

Aspects	Research Findings	Informant
Speed of Decision Making	1. AI accelerates the analysis of medical data to support diagnoses and strategic service decisions.	IT1-FRA, IT2-ALI, RM1-NAN, RM4-NAI, SA1-LIA, SA2-NIT
	2. AI-processed data is more accurate and relevant, helping to make more informed clinical decisions.	HRD-IDA
	3. Some clinical decisions still require intuition and empathy from healthcare workers, which AI lacks.	IT2-ALI, RM1-NAN, RM2-NIN, SA1-LIA, SA2-NIT
Human and Technology Collaboration	1. The combination of AI and health workers improves patient outcomes.	M1-AFI, RM2-NIN, RM3-TIA, SA1-LIA, SA2-NIT
	2. AI technology provides new insights into the early detection of diseases that are difficult to reach manually.	M1-AFI, HRD-IDA, IT1-FRA, SA1-LIA, SA2-NIT
	3. Some healthcare workers find it difficult to understand how to utilize AI in clinical practice.	SA1-LIA, SA2-NIT
Work Efficiency	1. AI reduces the time spent on administrative tasks such as filling out medical records.	RM1-NAN, RM2-NIN, RM3-TIA, SA2-NIT
	2. Healthcare workers can focus more on patient care as administrative tasks are automated by AI.	HRD-IDA, IT1-FRA, IT2-ALI, RM1-NAN
	3. AI increases the speed of task completion without decreasing the accuracy of medical data.	IT2-ALI, RM1-NAN, RM4-NAI
Technology Adaptation Difficulties	1. Senior healthcare workers find it difficult to adapt to AI-based technology.	RM2-NIN, SA1-LIA, SA2-NIT
	2. Lack of training causes some health workers to be slow to understand the use of AI	IT2-ALI, RM1-NAN, RM2-NIN, RM3-TIA, SA2-NIT
	3. Some healthcare workers feel anxious about working with AI for fear of being replaced by technology.	IT1-FRA, IT2-ALI, RM1-NAN, RM2-NIN, RM3-TIA, SA2-NIT
Process Automation	1. Automation of work processes such as patient data processing improves service speed.	RM1-NAN, SA2-NIT
	2. AI reduces manual work such as time-consuming analysis of laboratory reports.	SA2-NIT
	3. Automation helps healthcare workers avoid errors due to work fatigue.	M1-AFI, RM2-NIN
Error Reduction	1. AI helps minimize errors in diagnosing and processing patient data.	HRD-IDA, IT1-FRA, IT2-ALI, RM3-TIA, RM4-NAI, SA1-LIA
	2. The AI-based system provides automatic correction of medical data input errors.	IT2-ALI, RM1-NAN, RM2-NIN, SA1-LIA, SA2-NIT
	3. Reduced errors lower revision rates on medical reports or clinical procedures.	IT1-FRA, IT2-ALI
Better Time Management	1. AI helps healthcare workers manage patient care schedules in a more organized manner.	M1-AFI, HRD-IDA, IT1-FRA, RM4-NAI, SA1-LIA, SA2-NIT
	2. Automated notifications from AI alert health workers to prioritized procedures or check-ups.	M1-AFI
	3. Health workers feel less pressure as work time becomes more effective and planned.	M1-AFI, HRD-IDARM4-NAI, SA1-LIA, SA2-NIT

Table 3 shows that AI has had a significant positive impact on healthcare worker productivity, especially in clinical decision-making. AI enables faster and more accurate data analysis, supporting diagnostic and treatment decisions (Wamba-Taguimdje et al., 2020). However, some clinical decisions still require human judgment and empathy, highlighting the continuing importance of human–technology collaboration (Chen et al., 2024). AI technologies also enhance teamwork by offering clinical insights unattainable through manual processes alone (Mittal et al., 2023). AI plays a crucial role in efficiency improvement by automating administrative tasks and minimizing manual burdens. This aligns with findings showing that automated systems reduce error risk and enhance service quality (Soori et al., 2023). Nonetheless, adaptation challenges persist, especially for senior staff with limited technological exposure (Kuru, 2023). Continuous training becomes essential to help workers effectively use AI in clinical workflows (Nalgozhina et al., 2023). AI also improves time management by supporting patient scheduling, sending automatic notifications, and helping healthcare workers prioritize clinical tasks. These features reduce pressure and enhance productivity, consistent with evidence that AI increases workflow efficiency and lowers worker fatigue (Mahmoud & Rothenberger, 2019). Overall, AI implementation in hospitals enhances operational efficiency, delivering faster, more accurate, and safer patient services.

DISCUSSION

The application of AI in hospitals has had a significant impact on the satisfaction of healthcare workers, especially in terms of administrative work efficiency. AI enables the automation of tasks such as processing patient data, scheduling medical actions, and generating medical reports (Ghamrawi et al., 2024). With this automation, healthcare workers can focus more on patient care and clinical tasks that require specialized skills and closer attention. Research by Tschang and Almirall (2021) showed that automation can reduce the burden of repetitive tasks on healthcare workers, thereby increasing their productivity. As a result, medical personnel feel that their time and energy are more directed towards work that directly impacts patient care, which in turn increases job satisfaction. However, the application of AI also raises concerns among healthcare workers, such as the fear of being replaced by technology in some tasks or feeling that their work has become less relevant (Ahimaz et al., 2024). This can lead to dissatisfaction and anxiety, especially if hospitals do not adequately explain the integration of AI technologies and how these technologies support, rather than replace, human roles. Research by Robinson et al. (2019) underscores the importance of clear communication to reduce medical personnel’s anxiety about the impact of AI on their work, as well as to build a sense of security in the work environment.

The application of AI in healthcare creates new learning opportunities, enabling hospitals to offer training in medical data analysis, AI diagnostics, and automation management (Nalgozhina et al., 2023). According to Nurlia et al. (2023), this enhances competency, broadens career paths, and increases confidence and job satisfaction among doctors, nurses, and staff. However, unfamiliarity with advanced technology presents challenges for adaptation, necessitating comprehensive training and mentoring. Furthermore, AI enhances the work experience by shifting focus to high-value tasks such as clinical decisions and patient interactions, providing data for diagnosis, treatment planning, and monitoring (Rožman et al., 2022). Wijayanti and Hamami (2024) also argue that AI reduces administrative burdens, encourages engagement in meaningful work, and increases satisfaction. However, AI-based performance monitoring offers objective feedback but can create pressure from data-driven standards.

The implementation of AI in hospitals has also had a significant impact on the productivity of healthcare workers. One of the key contributions of AI is its ability to accelerate clinical decision-making through fast and accurate data analysis. AI systems such as Clinical Decision Support Systems (CDSS) can assist doctors in diagnosing diseases based on patient symptoms, medical history, and integrated laboratory results. Research by Wamba-Taguimdje et al. (2020) showed that the use of AI in medical data

analysis enables faster and more informed decisions, ultimately improving service efficiency in hospitals. In addition, AI also plays an important role in process automation, such as medication inventory management, surgery scheduling, and hospital logistics organization. Research by Soori et al. (2023) revealed that this automation reduces the risk of human error, such as errors in medication recording or inefficient schedule setting. With these errors reduced, healthcare workers can focus more on their core tasks, which increases overall productivity.

AI enhances healthcare productivity by reducing administrative burdens and enabling time efficiency. Through Natural Language Processing (NLP), doctors can record diagnoses or treatment plans via voice commands, which are automatically stored in medical records, minimizing manual reporting stress. AI also supports personalized care through predictive analytics that utilize genetic data and disease patterns, providing tailored treatment recommendations and saving time in decision-making (Ameen et al., 2021). However, challenges remain in adapting to new technologies. Rotz et al. (2019) highlight that some health workers struggle with learning AI systems, especially those who are less familiar with technology. Therefore, continuous training and mentoring are crucial. AI improves productivity through efficiency, automation, and personalization, provided hospitals apply effective change management.

CONCLUSION

The adoption of AI in hospitals significantly affects healthcare worker satisfaction and productivity. AI enhances job satisfaction by automating routine tasks, enabling focus on meaningful clinical work, and offering skill-building opportunities, which boost confidence and motivation. However, challenges such as adaptation difficulties and fears of job loss require comprehensive training and transparent communication to emphasize AI's supportive role. In terms of productivity, AI accelerates clinical decision-making, streamlines administrative processes, and facilitates collaboration through real-time patient data access. AI improves care quality, time management, and hospital performance, fostering innovation while balancing technology use with human needs. AI contributes to improved patient care quality and better time management. With the right approach, AI can create an efficient and innovative work environment, while supporting the development of hospital employees and ensuring a balance between technology use and human needs.

This study has important implications for hospitals in integrating AI to improve productivity without compromising health worker satisfaction. Hospitals need to ensure that the implementation of AI is done wisely, by automating routine administrative tasks while allowing healthcare workers to engage in more strategic clinical tasks and provide better care to patients. This approach can minimize technology-related anxiety and build a sense of trust in the workplace. However, this study has limitations, particularly the use of a qualitative case study within a single hospital, which may limit the generalizability of the findings. The relatively small number of informants and the focus on perceptions rather than measurable performance indicators also restrict the extent to which conclusions can be extended to broader contexts. For future research, it is recommended to conduct longitudinal studies to understand the long-term impact of AI implementation in hospitals, explore its effect on specific groups of healthcare workers (such as doctors, nurses, and administrative staff), and analyze its impact on other aspects such as collaboration between medical professions, innovation in patient care, or the mental well-being of healthcare workers. In addition, further research could compare AI implementation in hospitals of different sizes and facilities, and develop a strategic framework to help hospitals effectively optimize AI integration and ensure the long-term sustainability of this technology.

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