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Artificial Intelligence (AI) and its Role in Enhancing the Well-Being of Employees in the Public Sector: A Systematic Review

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Abstract

Artificial intelligence (AI) is increasingly transforming the public sector, offering opportunities to enhance employees by streamlining processes, reducing workload, and fostering a supportive work environment. AI-powered tools handle rapid administrative tasks like data entry, document processing, and report generation. This reduces workload and frees up time for public sector employees to focus on meaningful, citizen-facing tasks. It has benefits for well-being, such as lower task monotony, decreased burnout, and increased satisfaction. AI analytics provide data-driven insights for tasks like resource allocation, case management, and policy planning. Tools like predictive analytics help employees prioritize high-impact tasks. By reducing decision fatigue and uncertainty, AI empowers employees to work more confidently and efficiently, lowering stress levels. AI-driven platforms offer tailored wellbeing support, such as mental health chatbots, personalised training programs, or workload management tools. These systems can detect signs of stress and recommend interventions. Thus, employees feel supported, leading to improved mental health and engagement. Flexible AI-supported remote work tools also enhance work-life balance.

Powered learning platforms deliver customized training modules, helping employees upskill in areas like digital literacy or policy analysis. Virtual reality (VR) and AI simulation provide hands-on training for high-pressure roles. Consequently, skill development boosts confidence and career satisfaction, reducing anxiety about job obsolescence. Engaging training formats also increase motivation.

In contrast to all these benefits, AI automation may create anxiety about job security, particularly in roles with repetitive tasks. Transparent communication and reskilling programs are essential to mitigate this. Excessive dependency on role employee autonomy leads to disengagement. Human oversight and balanced implementation are critical.

The present paper focuses on all these issues in the light of recent studies in detail.

Keywords: *Artificial Intelligence, Wellbeing, Public Sector, Work Life, Artificial Intelligence Automation*.

I. INTRODUCTION

Artificial Intelligence (AI) refers to computer-based systems that simulate human intelligence – for example, machines that can learn, reason, perceive, plan, predict, and make decisions like humans (Xu et al., 2021). The field of AI dates back to the 1956 Dartmouth conference, where John McCarthy coined the term and launched the first wave of AI research (Xu et al., 2021). Early successes (such as Newell and Simon's Logic Theorist) generated optimism, but progress proved uneven. After periods of "AI winter," rapid advances in machine learning and computing power have reignited AI's potential in the 21st century. Today, AI encompasses technologies from expert systems and natural language processing to deep learning and generative AI.

The conceptual roots of AI can be traced back to classical philosophers' attempts to describe human thinking as a symbolic system. However, the formal birth of AI as a field occurred in 1956 at the Dartmouth Conference, where pioneers like John McCarthy, Marvin Minsky, Nathaniel Rochester, and Claude Shannon conceptualized "thinking machines" (McCarthy et al.,

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1956). Over the decades, AI has evolved from basic computational models to sophisticated machine learning, deep learning, and natural language processing systems capable of autonomous decision-making.

- *Artificial Intelligence (AI) and Well-Being:*

AI has profound implications for employees' well-being, a broad concept encompassing physical, psychological, and social health, job satisfaction, autonomy, and sense of purpose (Koch, M., Lodefalk, M.,2025). By automating routine tasks and providing decision support, AI can improve efficiency and relieve cognitive and administrative burdens on workers (Koch, M., Lodefalk, M.,2025). For example, digital "scribes" and automated billing in healthcare can free doctors from paperwork, potentially reducing burnout (Pavuluri et al., 2024). At the same time, AI can introduce new stresses: workers may fear job displacement, face higher work pace or skill demands, and experience reduced autonomy (Soulami et al., 2024)(Kim & Lee, 2024). As one review notes, "AI allows some employees to focus on strategic and reflective tasks…while others view these changes with concern, fearing job loss and instability"(Soulami et al., 2024). Thus, AI's impact on well-being is complex and mixed, necessitating careful study.

- *Contribution of AI in the Public Sector*

In the public sector, AI is being deployed at a rapid pace. Governments worldwide use AI to improve public services, from healthcare diagnostics and crop management to fraud detection and citizen chatbots. For instance, India's National Strategy on AI highlights AI's potential to address social challenges in agriculture, health and education (Satish et al., 2021). In Bangladesh, AI initiatives in healthcare, education and agriculture have improved diagnostics, personalized learning, and crop yield forecasting, thereby enhancing service efficiency (Makhdum, 2024). In administrative services, AI-driven data analytics can automate routine processes and speed up case handling, "enabling public officials to devote more time to complex decision-making"(Makhdum, 2024). These contributions promise better public outcomes and can free employees from drudgery.

For public employees, AI can offer clear benefits. By taking over mundane or error-prone tasks, AI may increase job satisfaction and productivity (Soulami et al., 2024) (Koch & Lodefalk, 2025). Transitioning from repetitive duties to more stimulating work has been shown to "significantly enhance job satisfaction and operational efficiency"(Soulami et al., 2024). AI may also support continuous learning and career growth; one recent survey found 94% of Indian professionals believe AI skills will accelerate career advancement. Furthermore, the U.S. Department of Labor emphasizes that when responsibly adopted, AI can *lift up* workers by expanding opportunities and improving job quality (*News Release*, n.d.).

- *Rationale of the Study*

As India advances toward Viksit Bharat@2047, the need to modernize public sector operations is more critical than ever. However, the focus must not be solely on technological advancement but equally on human-centric development. Understanding the impact of AI on employee well-being is thus crucial to ensuring a psychologically sustainable digital transformation.

However, the rationale for this study is clear: public-sector employees already face high levels of stress and burnout, and the full impact of AI on their well-being is poorly understood. Recent surveys suggest nearly half of government workers report burnout (often due to workload and staff shortages)(Online Bureau et al., 2023). Yet many public employees are unfamiliar or anxious about AI, even as governments push digital transformation. Understanding how AI affects employee well-being, in both positive and negative ways, is essential. We thus undertake a systematic review of recent literature (last ten years) on AI and employee well-being in the public sector, to identify opportunities, challenges, and evidence-based recommendations.

- *Justification of the Study*

Despite the increasing deployment of AI in public administration, empirical explorations on its effects on employee well-being in India remain sparse. This study systematically reviews the current evidence to identify patterns, challenges, and opportunities in leveraging AI to enhance the work experiences of public sector employees.

II. REVIEW OF LITERATURE

The literature on AI and employee well-being spans multiple disciplines and contexts. Table 1 summarizes ten recent, high-impact studies from around the world. These include empirical analyses of workplace data, thematic reviews, and sector-specific case studies. Key findings reveal a nuanced picture: AI can reduce stress by automating tasks, but it can also introduce stressors, especially if adoption is abrupt or opaque. (PSHRA et al., 2024) (Soulami et al., 2024).

Table 1 Review of Literature

Author (Year)	Methodology	Key Findings	Variables
Jin et al. (2024)	Survey of 349 employees in China; structural equation modeling (SEM)	Awareness of automation (STARA) is associated with higher job stress, which in turn lowers work-related affective well-being. Psychological resilience buffers this effect.	STARA awareness, job stress, well-being, resilience
Soulami et al. (2024)	Bibliometric and systematic review (25 articles, 2015–2024)	Identified thematic clusters: ethics, work autonomy, employee stress, mental health. Recommends supportive strategies (training, mental health resources) to mitigate AI's adverse effects and leverage autonomy/satisfaction.	N/A (review of literature themes)
Pavuluri et al. (2024)	Literature review/commentary (healthcare focus)	AI tools (e.g. digital scribes, automated billing) can reduce administrative burdens that contribute to burnout, but may risk job displacement and skill atrophy. Emphasizes human-centric implementation to "re-humanize" work	N/A (conceptual analysis)
Giuntella et al. (2023)	Longitudinal panel data (Germany, 2000–2020); diff-in-diffs	Since 2015, workers in AI-exposed occupations report significantly lower life and job satisfaction, and more concern about job security and personal economy. No large effect on mental health or anxiety.	Occupation-level AI exposure; life/job satisfaction; concern about future
Koch & Lodefalk (2025)	Cross-sectional surveys (Germany, 2012 & 2018); linking AI/robot exposure	Higher AI/robot adoption correlates with *lower* worker stress. Workers in tech-adopting jobs report less increased work stress, suggesting AI/robots can alleviate pressure by automating certain tasks.	AI/robot exposure; self-reported stress
Kim & Lee (2024)	Three-wave survey (416 S. Korean professionals); SEM (mediation/moderation)	AI adoption increases job stress, which in turn raises burnout. However, self-efficacy in AI learning attenuates this effect: employees confident in AI skills experience less stress. Recommends stress-management and AI training strategies.	AI adoption; job stress; burnout; AI self-efficacy
Fleischer & Wanckel (2024)	Survey of civil servants in Germany, Italy, Norway; SEM	"Digital overload" (heavy ICT use) reduces employees' autonomy, which partly mediates lower job satisfaction. In other words, excess technology can hurt well-being by undermining control over work. Emphasizes micro-level work design.	ICT usage ("digital overload"); job autonomy; job satisfaction
Nurski (2023)	Case study (European public agency; interviews & document analysis)	Successful AI adoption relied on a human-centered approach: involving workers early, aligning HR/IT/processes, and targeted support. Barriers included outdated workflows and skill mismatches. Worker involvement improved acceptance.	N/A (qualitative factors: involvement, processes, skills)
Makhdum (2024)	Descriptive review (Bangladesh public sector)	AI in health (predictive diagnostics), education (intelligent platforms), agriculture (yield forecasting) and admin has improved service efficiency. For example, AI analytics automate routine tasks and shorten processing times, freeing officials for complex work.	N/A (sectoral initiatives, outcomes)
Rumi et al. (2024)	Review article (South Asia context)	Similar global/South-Asian consensus that AI improves public service (efficiency, transparency) but adoption barriers include infrastructure and skills gaps. (Citation [90] lists related works including Sri Lanka etc.) Variables like e-government maturity and human capital influence impact.	N/A (contextual factors: tech adoption)

In summary, studies report mixed results. Jin *et al.* (2024) found that fear of automation (STARA awareness) increased stress and reduced well-being, unless resilience was high (Jin et al., 2024). Kim & Lee (2024) similarly found that AI adoption leads to stress-driven burnout, but boosting workers' confidence with AI training reduces harm (Kim & Lee, 2024). In contrast, large-scale survey analysis by Koch & Lodefalk (2025) suggests that AI and robots may reduce stress at work by substituting for tedious tasks (Koch & Lodefalk, 2025). Similarly, recent German panel data indicates that while AI exposure made workers worry more about job security, the advent of AI coincided with an overall drop in reported stress and increased autonomy (Koch & Lodefalk, 2025).

A thematic review by Soulami *et al.* (2024) highlights four clusters in the literature – *ethics*, *autonomy*, *stress*, and *mental health* (Soulami et al., 2024) – and finds

that organizations must "implement supportive strategies" to cushion AI's adverse effects and enhance positive ones (Soulami et al., 2024). Fleischer & Wanckel (2024) focus on public servants and show that too much technology ("digital overload") can diminish employees' autonomy and satisfaction (Fleischer & Wanckel, 2024). Pavuluri *et al.* (2024) emphasize that without a human-centered rollout, AI in healthcare could *distance* workers from their core roles, even as it has potential to "re-humanize" practice by removing paperwork (Pavuluri et al., 2024).

Few of these studies are specific to India, but policy documents reinforce the dual nature of AI. India's national strategy highlights both AI's promise for social good and the need for responsible deployment (Satish et al., 2021). Evidence from South Asia (e.g. Makhdum 2024) shows that AI applications in government (e.g. AI diagnostics, intelligent learning platforms, data analytics) have yielded efficiency gains, yet adoption is limited by infrastructure and skills gaps (Makhdum, 2024).

- *Case Study (EU Public Agency):*

For example, Nurski's (2023) case study of a European government agency found that engaging employees in AI system design was critical. Workers participated in pilot tests and co-designed processes, which built trust. Conversely, legacy IT and rigid work practices slowed adoption (*Artificial Intelligence Adoption in the Public Sector: A Case Study*, 2022). In this case, AI tools succeeded in reducing workload for junior staff, but only after managers reallocated tasks so that employees handled more creative or oversight roles. The key lesson was that people-centered implementation (worker involvement, training, cultural change) was as important as the technology itself (*Artificial Intelligence Adoption in the Public Sector: A Case Study*, 2022).

III. CONCLUSION

The literature paints a nuanced, balanced picture. AI offers clear opportunities to enhance public-sector employees' well-being by streamlining work and enabling focus on meaningful tasks. Studies show that when AI replaces monotony, it can boost job satisfaction, autonomy and productivity (Soulami et al., 2024)(Koch & Lodefalk, 2025). In healthcare, for instance, AI-driven solutions can free clinicians from paperwork (Pavuluri et al., 2024); in government services, AI can shorten processes and reduce errors (Makhdum, 2024). Such efficiency gains may translate to lower stress and greater fulfillment – indeed, some evidence suggests that AI adoption has coincided with declines in reported work stress (Koch & Lodefalk, 2025).

At the same time, challenges and risks are prominent. Many workers view AI adoption with anxiety over job loss, skill obsolescence, and increased work pace (Soulami et al., 2024) (Kim & Lee, 2024). Research indicates that if AI is implemented abruptly or opaquely, employee stress can rise. For example, awareness of automation correlated with higher stress and lower well-being in one study (Jin et al., 2024). Heavy ICT use without controls ("digital overload") also reduces well-being (Fleischer & Wanckel, 2023). Ethical issues – algorithmic bias, privacy invasions, and fairness – can further erode trust and morale.

In the current context (late 2025), AI is rapidly expanding in government. Global reports and surveys show widespread plans to introduce AI tools in public agencies. At the same time, departments of labor and HR associations emphasize well-being: the U.S. Department of Labor's new AI guidelines explicitly call for centering "workers' rights, job quality, [and] well-being" in AI deployments (*News Release*, n.d.). India's policymakers similarly stress "AI for All," which benefits citizens and employees alike (Satish et al., 2021). Overall, the literature and policy dialogue agree that the way AI is adopted, not just its existence, determines whether it will help or harm employee well-being.

IV. SUGGESTIONS FOR IMPLEMENTATION WITH EMPLOYEE WELL-BEING IN MIND

Based on the evidence and best practices, the following recommendations aim to maximize AI's benefits for public-sector workers while safeguarding their psychological health:

- *Engage Employees Early and Transparently:*

Involve staff and unions in AI planning and design, so that systems reflect real work needs (Nurski, L.,2023). Clearly communicate how AI will be used and how it complements (rather than replaces) human work (*News Release*, n.d.) (Soulami et al., 2024).

- *Provide Comprehensive Training and Upskilling:*

Implement robust training programs that strengthen both technical skills *and* psychological readiness (Soulami et al., 2024). Teaching employees how to work with AI tools (and understand their limitations) builds self-efficacy – studies show this confidence can markedly reduce AI-related stress (Kim & Lee, 2024). Training should be ongoing (not one-off) as AI evolves (Soulami et al., 2024).

- *Maintain Ethical Standards and Oversight:*

Establish clear governance for AI projects – including algorithmic audits and bias checks – and ensure human oversight for critical decisions (*News Release*, n.d.) (Soulami et al., 2024). Protect workers' privacy and data, and uphold labor rights (e.g. collective bargaining) even when automating processes (*News Release*, n.d.).

- *Monitor Workloads and Adjust Processes:*

Use AI to redistribute tasks thoughtfully. Avoid simply piling more work on employees. Instead, realign job roles: for example, shift routine tasks to AI and give workers more autonomy over meaningful tasks (Soulami et al., 2024). Incorporate policies that prevent overwork, such as capping overtime and allowing flexible hours. Many public workers report that schedule flexibility significantly alleviates burnout (Online Bureau et al., 2023).

- *Support Mental Health and Work-Life Balance:*

Complement AI adoption with wellness initiatives. Offer mental health first-aid training, counseling services, and peer-support groups (PSHRA et al., 2024) (Soulami et al., 2024). Encourage a culture where managers discuss stress openly and model healthy behaviors – employees "can't be what they can't see"(PSHRA et al., 2024). In tech rollouts, include stress-management resources (e.g. mindfulness programs) as standard.

- *Promote Meaningful Work and Recognition:*

Ensure that AI frees employees for higher-value work, not simply speeds up existing tasks. Recognize and reward the new creative or supervisory roles that employees take on with AI. Building self-efficacy – for instance by giving autonomy and acknowledging AI-augmented achievements – can further mitigate anxiety (Kim & Lee, 2024) (Soulami et al., 2024).

- *Ensure Fairness and Inclusion:*

Train managers to mitigate any bias in AI tools (for recruitment, performance reviews, etc.) to protect minority groups (Thakur et al., 2025) (Soulami et al., 2024). Provide equal access to AI literacy programs so that all employees (including older or lower-education staff) are prepared. This inclusive approach prevents social disparities and boosts overall well-being.

- *Plan for Transitions:*

Anticipate skill gaps and reassignments. The Bruegel case showed that workers needed time and training to adapt to new workflows (Nurski, L.,2023). Implement gradual rollouts, pilot projects, and feedback loops, so employees can acclimate. Where roles change significantly, offer career counseling or pathways into new positions.

By following these practices, many of which are echoed in recent policy guidelines and research reviews, public organizations can harness AI to improve job quality and well-being. As the U.S. Labor Department puts it, AI should be used to "expand opportunity and improve job quality… ensure workers are lifted up, not left behind" (*News Release*, n.d.).

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