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WORKER ANXIETY ABOUT ROLE DISPLACEMENT FROM ARTIFICIAL INTELLIGENCE APPLICATION IN HUMAN RESOURCE MANAGEMENT

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Abstract

Artificial intelligence adoption in recruitment, performance evaluation, and task automation generates worker anxiety about role displacement. This literature synthesis examines psychological mechanisms linking AI implementation to career anxiety. Findings indicate recruitment AI creates anxiety through loss of evaluative control and work experience objectification. Performance evaluation AI generates anxiety through continuous surveillance, activity quantification, and supervisor subordinate relationship erosion. Task automation produces anxiety through job loss fear and professional identity erosion. These anxiety sources mutually reinforce, creating entrapment feelings within unaccountable algorithms. Technology self efficacy, peer support, communication quality, participation opportunities, and ethical governance moderate anxiety levels. Moderate anxiety can motivate positive adaptation, while excessive anxiety risks cynicism, citizenship behavior decline, and best talent attrition. Organizations must design AI implementation with psychological considerations including algorithm transparency, appeal mechanisms, and worker participation.

Keywords**:** artificial intelligence, worker anxiety, job displacement, agorithmic management, psychological well being

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Introduction

Artificial intelligence has entered various operational aspects of modern organizations at an unprecedented speed. AI systems are now capable of performing functions that previously required human judgment, such as screening job applications, evaluating employee performance, and automating complex administrative tasks. The development of responsible and ethical technology is a fundamental foundation in ensuring these applications remain fair for all organizational elements (Radjawane & Mardikaningsih, 2022). While these developments bring significant efficiency to organizations, they also raise fundamental questions about the future of human workers' roles. Various industry reports indicate that AI adoption in human resource management functions is increasing rapidly, particularly in algorithm-based recruitment processes and automated performance appraisal systems (Tewari & Pant, 2020). This transformation demands innovation in human resource management to enhance organizational competitiveness amidst the current of competitive globalization (Abdulah et al., 2021). Natural language processing technology allows systems to analyze thousands of applications in a short time, identifying patterns that might be missed by human recruiters. In the service and manufacturing sectors, AI-driven robotics are beginning to take over repetitive tasks with precision that exceeds human capability. This condition creates an employment landscape where the line between work suitable for humans and work better left to machines is becoming increasingly blurred. Workers at various organizational levels are beginning to question whether their roles will remain relevant in the next five to ten years. This uncertainty is not mere theoretical speculation but a reality faced by millions of workers every day.

The application of AI in the recruitment process is one of the areas causing the most anxiety among job seekers and existing employees (Khatri et al., 2020). Employee experience in the digital workplace is heavily influenced by how this technology is integrated into the perspective of human resource management (Putra et al., 2022). AI-based recruitment systems use algorithms to screen resumes, assess candidate suitability based on specific keywords, and even conduct initial interviews through chatbots. This process takes place without meaningful human intervention, so candidates often never interact with a real recruiter. The

resulting anxiety stems not only from the potential for rejection but also from the feeling that assessments are made by machines that do not understand the nuances of human experience. A worker with complex career enrichment may not be able to translate that experience into a format optimized for algorithms. Furthermore, concerns arise regarding how personal data is used in automated selection processes and whether algorithms possess unconscious biases. Existing employees in an organization also feel anxious knowing that the recruitment of new colleagues is handled by AI, as this signals that the organization entrusts critical decisions about workforce composition to machines. This anxiety is exacerbated by a lack of transparency regarding how recruitment algorithms work, which are often trade secrets of technology vendors. Workers become uncertain about how they are evaluated and what the organization is actually looking for in an employee.

The use of AI in employee performance appraisal raises different but equally significant dimensions of anxiety (Tiwari & Tjprc, 2020). Automated performance appraisal systems can track various productivity metrics in real time, such as the number of transactions processed, response time to emails, or schedule compliance. The reliance on digital tools like email in the contemporary marketing communication mix shows how digital metrics have permeated various lines of work (Sinambela & Darmawan, 2021). This data is then processed by algorithms to generate performance scores without the need for subjective evaluation from human supervisors. For workers, continuous monitoring by digital systems creates a feeling of being permanently watched, which can disrupt concentration and creativity. Anxiety also arises from the inability to understand how various metrics are weighted within the appraisal algorithm. An employee may feel that qualitative contributions, such as mentoring junior colleagues or proposing process innovations, are not reflected in the quantitative data collected by the system. Consequently, workers alter their behavior to chase measurable metrics, even if those actions do not always align with long-term organizational goals. When performance appraisals are used to determine promotions, bonuses, or even termination, the anxiety felt by workers becomes very acute. They feel that their career fate is determined by a machine that does not understand

the complexity of human work. This condition creates psychological tension that can decrease the overall well-being of workers.

Task automation through AI threatens the sustainability of worker roles in the most direct and visible way (Cheng et al., 2022). Gaps in technology access and digital skills remain a crucial challenge in bridging employment opportunities in the age of Technology 4.0 (Arifin & Darmawan, 2021). When a task that was previously the responsibility of a worker can be performed by an AI system, questions about the necessity of that position become inevitable. Various professions such as junior data analysts, data entry clerks, tier-one customer service operators, and even simple news journalists have experienced pressure from the ever-evolving capabilities of AI. The resulting anxiety is not limited to workers whose positions are directly impacted but spreads throughout the entire organization. A marketing manager might see how AI is beginning to generate decent promotional content, while an architect sees how AI is starting to design floor plans. No profession is completely immune to the observation that at least part of their work can be automated. Anxiety about role replacement is exacerbated by temporal uncertainty; when automation will reach a level that makes certain roles uneconomical to maintain. Workers face a dilemma between investing in new skills that might also be automated or sticking to the skills they have already mastered. This psychological condition is often described as an existential threat to one's professional identity, which is not easily addressed simply through retraining programs.

The primary problem facing organizations and workers is the lack of a systematic understanding of the psychological mechanisms linking AI implementation to role replacement anxiety. Many companies adopt AI with a focus on efficiency and cost savings, without accounting for the psychological impact on their workforce (Gaikwad et al., 2023). The development of adaptive pedagogical standards and AI policies is highly necessary to create a safe and fair environment within both learning and professional ecosystems (Darmawan, 2023). Management is often surprised when they encounter passive resistance, decreased productivity, or increased turnover following AI implementation. The root of this problem is the assumption that workers will rationally accept AI as a tool that helps them, whereas the psychological response to role threats is far

more complex. Anxiety is not always proportional to the actual probability of someone being replaced; high-performing workers may be more anxious because they are more aware of how their work can be measured and compared. Additionally, anxiety can spread through social interactions in the workplace, creating a climate of collective uncertainty that exceeds objective threats. Organizations lack a framework to measure anxiety levels, identify key triggering factors, and design appropriate interventions. As a result, policies implemented are often reactive and ineffective, such as merely sending communications stating that AI is not intended to replace workers, without being accompanied by concrete evidence or plans. The gap between technological reality and worker perception needs to be understood more systematically.

Another issue lies in the variability of individual responses to AI implementation, which has not yet been adequately explained by existing literature. Inclusivity aspects in technology-based services also face major challenges regarding accessibility and the mastery of diverse individual skills (Ramle & Mardikaningsih, 2022). Two workers in identical roles can show vastly different levels of anxiety when their organization implements an AI system. Some workers see AI as an opportunity to break free from routine tasks and focus on more meaningful work, while others see AI as a direct threat to their status and job security (Stieglitz et al., 2023). This variability is thought to be influenced by factors such as technological self-efficacy, previous experience with organizational change, social support in the workplace, and personality disposition. However, the interaction between these factors and the specific characteristics of the implemented AI system has not been well mapped. An AI system that is transparent and gives control to the worker may elicit lower anxiety compared to an opaque and continuously monitoring system. Similarly, AI implemented through a participatory process with two-way communication may be more acceptable than top-down implementation. Without an understanding of this variability, organizations tend to apply a one-size-fits-all approach that is ineffective for the majority of workers. A more systematic mapping of the factors that moderate the relationship between AI implementation and worker anxiety is required.

This study aims to provide a theoretical foundation for organizations in managing worker anxiety resulting from the implementation of AI

across various human resource management functions. The continuously increasing rate of AI adoption leaves no room for organizations to learn from mistakes through trial and error. Every AI implementation that fails to consider psychological aspects risks causing financial losses due to turnover, decreased productivity, and damage to the employer's reputation. This research is necessary to identify the specific mechanisms by which AI in recruitment, performance appraisal, and task automation triggers anxiety regarding role replacement. The theoretical contribution of this research is the enrichment of industrial and organizational psychology literature with a focus on AI technology, while its practical contribution is the availability of guidelines for organizations to design AI implementations that minimize negative psychological impacts.

Based on the problem description above, the research problem for this study is: how does the application of artificial intelligence in recruitment, performance appraisal, and task automation generate anxiety among workers regarding their role replacement? The objective of this research is to analyze the psychological mechanisms through which AI implementation in three human resource management functions—namely recruitment, performance appraisal, and task automation—causes anxiety about role replacement. This study aims to identify the dimensions of anxiety that emerge as well as the factors that influence its severity. The research results are expected to contribute to the development of worker anxiety theory in the digital age and provide practical recommendations for organizations in managing the AI transition.

Method

This research utilizes a qualitative literature study approach to address the research problem regarding the relationship between AI implementation and worker anxiety. As explained by Baronov (2015), exploratory social research on topics such as this requires the synthesis of knowledge from various sources to build an initial understanding before conducting large-scale empirical research. The literature study method was chosen because the topic of AI-induced anxiety is still relatively new, and available empirical research remains limited and scattered across various disciplines such as psychology, management, and computer science. This approach allows the researcher to integrate findings from these diverse fields into a

coherent framework. The procedure followed aligns with the principles outlined by Crano, Brewer, and Lac (2014) regarding systematic social research, beginning with the identification of clear research questions, followed by a structured literature search using academic databases. Keywords used in the search include artificial intelligence anxiety, job displacement fear, algorithmic recruitment, automated performance evaluation, and technology-induced stress. Collected sources include peer-reviewed journal articles, book chapters from leading academic publishers, and research reports from institutions such as the OECD and ILO that discuss the psychological aspects of AI adoption in the workplace.

Data analysis in this literature study is conducted through a systematic thematic approach as recommended in social research methodology literature. Singleton and Straits (2018) emphasize that credible library research must undergo a process of data reduction, data presentation, and the drawing of verifiable conclusions. The researcher performs repetitive readings of the selected sources to identify major themes related to worker anxiety caused by AI. These themes are categorized based on the source of anxiety: AI in recruitment, AI in performance appraisal, and AI in task automation. For each theme, the researcher identifies the psychological mechanisms proposed by various authors, such as uncertainty about the future, loss of control, threats to professional identity, and concerns about algorithmic bias. Kalof and Dan (2008) remind that synthesis in a literature study must go beyond merely summarizing individual findings, but also identify patterns that may not be visible in a single study. Therefore, the researcher conducts cross-study comparisons to find consensus and contradictions within the literature. Bailey (2008) adds that good social research must consider the temporal and spatial contexts of the synthesized findings, as responses to technology can vary across generations and cultures. In this study, attention is given to differences in findings between studies conducted in developed versus developing countries, as well as between digital native workers versus previous generations.

Result and Discussion

The implementation of AI in the recruitment process generates worker anxiety through the mechanism of losing control over the self-evaluation

process. In traditional recruitment systems, candidates interact with human recruiters who can capture nuances, read body language, and consider explanations for weaknesses in the application. Technical and ethical dimensions in digital visibility management become crucial so that algorithms do not unfairly limit individual opportunities (Arifin et al., 2021). Candidates have the control to present themselves in the best light through interviews and the negotiation of meaning. In contrast, AI systems operate based on technically established rules that are often opaque to candidates. A worker who knows that their recruitment was previously handled by AI cannot know why their application was accepted or rejected, or how the algorithm weighted various attributes. This lack of transparency creates a feeling that career fate is determined by a black box that cannot be influenced. Anxiety is exacerbated when workers learn that recruitment algorithms can have systematic biases against certain demographic groups, yet there is no mechanism for individuals to file objections or request a re-review. In organizations already using AI for recruitment, existing employees may be anxious about how they will be assessed if they apply for internal positions. They may also be concerned about the characteristics of new colleagues recruited by AI, fearing that the algorithm will select individuals who are homogeneous in terms of thought or background. This anxiety is reinforced by media reports about AI recruitment system failures that disqualified qualified candidates for trivial reasons, such as unsuitable resume formats or the use of certain fonts.

AI in recruitment also causes anxiety through the mechanism of objectifying work experience (Salo et al., 2023). This digital transformation has even expanded into crucial sectors, demonstrating the great power of artificial intelligence in thoroughly reshaping the professional landscape (Khayru, 2022). Rich human work experiences, filled with unstructured learning, interpersonal relationships, and handling unique situations, must be translated into formats that can be processed by algorithms. Workers feel that the most important aspects of their careers cannot be measured and compared fairly by machines. A candidate with experience leading a team through an organizational crisis may not be able to translate those leadership qualities into keywords that the algorithm will recognize. Conversely, a candidate with shallow experience that perfectly matches the keywords in the job description

may be prioritized. This condition creates anxiety that AI recruitment systems encourage the standardization of work experience, punishing those with non-linear career paths or unique experiences. Employees who already have jobs are also anxious about their future career mobility; they feel pressured to build a portfolio of experiences recognizable by algorithms rather than pursuing truly meaningful development. This anxiety is more acute for workers from non-traditional backgrounds, such as those who entered a profession through certification paths rather than formal degrees, or those with international work experience involving different job structures. AI systems that are not designed with diverse career paths in mind tend to perpetuate existing biases, creating a cycle where candidates from dominant backgrounds continue to be selected because the algorithm learns from biased historical data.

The implementation of AI in performance appraisal generates anxiety through the mechanism of continuous monitoring and the quantification of work activities (eydzadeh, 2023). AI-based performance appraisal systems can track every mouse click, every email sent, every minute spent on a task, and compare these metrics among employees in real time. Workers feel that they are never free from surveillance, where even using the restroom or getting a drink of water can be recorded as non-productive time. The resulting anxiety is not merely due to the surveillance itself, but also because of the lack of clarity regarding which metrics most significantly influence the final evaluation. A worker might be highly productive in qualitative tasks such as designing creative solutions, yet the system's metrics only capture quantitative aspects like the number of documents processed. Consequently, workers shift their behavior to maximize metrics visible to the system, even if it is not optimal for the organization. This phenomenon is known as "gaming the metric," where workers focus on what is measured rather than what is valuable. The tendency to commodify digital interactions for specific performance reflects a shift toward an increasingly mechanistic work culture (Hariani & Mardikaningsih, 2022). Anxiety arises from the feeling that substantial contributions are not valued while superficial but easily measured activities are rewarded. Furthermore, real-time comparisons between employees create unhealthy competition that undermines collaboration. Workers become reluctant to help struggling

colleagues because the time spent assisting would lower their individual metrics. This collective anxiety can rapidly transform an organizational culture from collaborative to individualistic.

AI in performance appraisal also causes anxiety through the threat to the relationship between superiors and subordinates (Park et al., 2021). Ethics and accountability in AI-based managerial decision-making must be a primary concern to maintain organizational integrity (Gani & Darmawan, 2022). In traditional systems, performance appraisals involve discussions between superiors and subordinates, where both can exchange perspectives, provide clarification, and reach a mutual understanding of expected performance. Although these systems are imperfect and prone to personal bias, there is at least human interaction that allows for correction and the negotiation of meaning. With AI, evaluations are generated by algorithms that cannot be engaged in discussion. A worker who receives a low performance score from AI cannot ask for an explanation as to why the score was given or provide additional information that might alter the assessment. Superiors also lose their evaluative function, changing from mentors into mere messengers of AI assessment results. Sentiments of nationalism or strong social identity at the domestic level often emerge as a reaction to the pressures of rigid global integration (Fariz, 2021). Anxiety arises from the loss of the opportunity to be heard and understood. Workers feel that no one is advocating for them or understanding the specific circumstances that might affect their performance. An employee going through a difficult time in their personal life cannot explain to the AI that a drop in productivity is temporary. An employee who takes on an extra role to help another team might be punished by the AI because the metrics of their own role decline. This anxiety is exacerbated when AI assessments are used for crucial decisions such as promotions, bonuses, or terminations. Workers feel there is no effective appeal path, as AI-generated decisions are considered final and cannot be contested by human management who might better understand the complexity of the situation.

Task automation through AI raises the most immediate anxiety, namely the fear of losing the job itself (Cheng et al., 2022). Unlike AI in recruitment and performance appraisal which threaten the evaluative

aspects of the employment relationship, task automation threatens the very existence of the worker's role. Job design changes due to automation bring profound consequences for human resource management practices in the modern era (Darmawan, 2023). When a company implements AI that can perform work previously the responsibility of a worker, questions about the necessity of that position become very real. The resulting anxiety is not always rational in the sense that full automation of a role rarely happens in a short time; usually, only a portion of the tasks are automated. However, worker perception often exceeds objective reality due to the influence of media coverage about AI replacing workers and the collective experience of previous waves of automation that did indeed eliminate entire job categories. Workers who see their colleagues losing jobs due to automation will experience increased anxiety even if their own roles have not yet been directly impacted. This anxiety is contagious and can create a climate of distrust toward management. Workers begin to hide knowledge, become reluctant to share best practices, or even actively sabotage AI implementation because they view AI as an existential threat. Ironically, this defensive behavior makes them appear less adaptive in the eyes of management, which then reinforces the decision to automate even more tasks. This negative cycle can be avoided if management is more proactive in managing the psychological aspects of automation, yet many organizations fail to do so.

Task automation also generates anxiety through threats to professional identity and a sense of meaning in work (Krishnamoorthy & Bhattacharyya, 2023). The integration of change management with technology strategy is highly necessary to ensure a smooth digital transformation without sacrificing the mental well-being of employees (Sinambela, 2023). Most workers build their identity in part from what they do in their jobs. An accountant takes pride in their ability to prepare accurate financial reports, a designer is proud of their visual design results, and a teacher takes pride in the direct interaction that changes a student's understanding. When AI begins to perform some of these tasks, workers question who they are if they are no longer the primary actors in the work they pursue. This identity anxiety is deeper than just the fear of losing income; it is a crisis of meaning. A worker whose tasks are reduced to monitoring and verifying AI output may feel that their work has lost its

purpose and significance. The sense of meaning in work, known in psychology as an intrinsic motivator, is eroded when workers feel that their contributions are peripheral. Anxiety arising from the erosion of work meaning can lead to depression, emotional exhaustion, and the desire to leave the organization even if they are not financially pressured. Workers experiencing this identity crisis may make irrational career decisions, such as moving to an organization with less advanced technology just to maintain a sense of meaning. Organizations that ignore the aspect of identity in AI implementation risk losing their best workers, who are often the ones most capable of adapting to new technology but the least tolerant of the erosion of work meaning.

Worker anxiety resulting from AI in recruitment, performance appraisal, and task automation does not stand alone as an individual response, but rather mutually reinforces each other within an integrated system (Gödöllei & Beck, 2023). Digital human resource practices are crucial in supporting the effectiveness of remote work systems that are increasingly common today (Mardikaningsih & Darmawan, 2022). A worker who knows they were recruited through AI, has their performance evaluated through AI, and sees their tasks automated by AI will experience a synergistic effect far greater than the sum of each individual anxiety. Integrated AI systems create a feeling that the entire employment relationship has been reduced to algorithms, leaving no room for human uniqueness to be recognized. Workers feel trapped in a system they cannot influence, cannot negotiate, and cannot understand. This feeling of being trapped triggers chronic stress responses that impact both physical and mental health. Workers may experience sleep disturbances, increased blood pressure, weakened immune systems, and symptoms of depression or clinical anxiety. These health impacts will ultimately affect productivity and increase health insurance costs for the organization. However, a more damaging long-term impact is the erosion of trust between workers and the organization. Workers who feel treated as commodities that can be measured or replaced by machines will lose loyalty and commitment. They will work according to minimum requirements, nothing more, because extra effort is not valued by AI systems that only measure narrow metrics. Organizations may enjoy

short-term efficiencies from AI adoption but lose long-term value from a workforce with high commitment and discretionary effort.

Individual factors such as technological self-efficacy moderate the relationship between AI implementation and worker anxiety (Malik et al., 2021). The role of digital leadership becomes a decisive factor in building employee readiness to face workplace automation (Mardikaningsih & Darmawan, 2023). Workers with high technological self-efficacy the belief that they can learn and master new technologies tend to show lower anxiety when facing AI. They view AI as a tool they can control and utilize, rather than an alien force that threatens them. Conversely, workers with low technological self-efficacy feel much more intense anxiety because they are unsure of their ability to adapt. Contemporary popular culture and digital content also help shape the values and attitudes of the younger generation toward technological progress (Kurniawan & Khayru, 2021). This gap has the potential to widen existing inequalities in the workplace. Younger workers who grew up with digital technology may have an advantage in self-efficacy compared to older workers who must learn technology from scratch. Similarly, workers with higher formal education may have greater access to learning resources that build self-efficacy. Organizations need to realize that uniform AI implementation without regard for differences in self-efficacy will disproportionately impact vulnerable groups. Interventions such as tailored technology training, mentoring, and the creation of learning communities can help build self-efficacy in all workers, not just those who are already confident. Without such interventions, AI can exacerbate intergenerational tensions and conflicts between educational groups in the workplace, ultimately damaging the organization's social cohesion.

Social support in the workplace also moderates the relationship between AI implementation and worker anxiety (Xia, 2023). Workers who have supportive colleagues and caring supervisors tend to be more resilient to the anxiety posed by AI compared to socially isolated workers. The reinforcement of digital literacy through social interaction becomes an important means for individuals to understand rapidly evolving technological narratives (Kurniawan et al., 2021). Social support functions as a buffer that absorbs the psychological impact of technological change. Discussions with colleagues about experiences using AI systems can

normalize anxiety and provide practical coping strategies. Superiors who show empathy and a willingness to listen to worker concerns can reduce the feeling that workers are facing the threat of AI alone. Conversely, competitive and individualistic work environments exacerbate anxiety because workers feel unsafe expressing their concerns. They fear that admitting anxiety about AI will be interpreted as a sign of weakness or an inability to adapt. As a result, anxiety is suppressed and reinforced in silence, creating more severe psychological pressure. Organizations can build social support through various mechanisms such as creating safe spaces for discussions about AI, forming cross-departmental study groups, and training managers to provide emotional support during technological transitions. Investment in this social capital is just as important as investment in AI technical infrastructure, yet it is often overlooked because the results are less measurable in the short term. In fact, the absence of social support can thwart even the most sophisticated AI implementations due to unaddressed psychological resistance from workers.

Organizational communication regarding the plans and objectives of AI implementation has a significant influence on the level of worker anxiety (Zhong, 2023). Appropriate technology strategies in product development are essential to maintaining sustainable innovation in a dynamic global market (Mardikaningsih & Hariani, 2023). Organizations that engage in transparent communication from the outset about why AI is being adopted, which tasks will be affected, and how workers will be supported during the transition tend to experience lower levels of anxiety. In contrast, organizations that keep AI plans secret until the moment of implementation or provide incomplete information will trigger speculation and rumors that are far more threatening than the actual reality. Workers who hear about AI through office gossip or media reports tend to have more negative perceptions compared to workers who receive information directly from management. The quality of communication is also important; one-way communication in the form of memos or mass emails is less effective than two-way communication that allows workers to ask questions and express concerns. Discussion forums, Q&A sessions with technical teams, and anonymous channels for conveying concerns are better communication practices. However, communication alone is not enough if not accompanied by concrete

action. Workers will quickly lose trust if management says that AI will not replace workers, only for layoffs to occur a few months later. Consistency between communication messages and management actions is key to building credibility. Organizations that are honest about the potential impacts of AI, including acknowledging that some roles may change significantly, will be more trusted than organizations that provide empty guarantees that later prove to be false.

Worker participation in the AI implementation process has proven to be a factor that substantially reduces anxiety. When workers are involved in decisions regarding which tasks will be automated, how AI systems will be designed, and what metrics will be used for evaluation, they develop a sense of ownership over the change. Supply chain management optimization through digital transformation such as Big Data and AI requires the active involvement of all operational lines to run effectively (Putra & Arifin, 2021). Participation provides workers with a better understanding of AI's capabilities and limitations, thereby reducing irrational fears about superhuman AI abilities. Participation also creates channels for workers to voice their concerns and propose modifications that make AI more acceptable. For example, workers involved in designing the interface of an AI system for performance appraisal can ensure that the metrics used reflect aspects of the work that are truly valuable, not just those that are easy to measure. However, participation must not be merely symbolic, where workers are invited to discuss but all decisions have already been predetermined. Authentic participation requires a willingness from management to actually change plans based on worker input. This requires significant time and resources, but the investment is proportional to the benefits of reduced resistance and increased voluntary adoption of AI systems. Organizations that apply a participatory approach tend to view AI as a joint project between management and workers, rather than a threat imposed from above. In the long term, participation builds organizational capacity to change more seamlessly because workers have developed the skills to engage constructively with new technology.

The role of middle management in managing worker anxiety due to AI is crucial yet often overlooked (Stieglitz et al., 2023). Middle managers are in a difficult position because they themselves may also be anxious about the relevance of their roles in the AI era, yet they are

expected to calm their subordinates. The new paradigm in post-human human resource management emphasizes the importance of collaboration between humans and generative AI within organizational structures (Darmawan, 2022). When organizations implement AI for performance appraisal, middle managers may lose part of their evaluative authority. When AI is used for task automation, middle managers may lose team members whose tasks have been automated. In this situation, middle managers can become a conduit for anxiety or part of the solution, depending on how the organization treats them. Organizations that train middle managers on how to support anxious subordinates, provide them with accurate information about AI plans, and involve them in implementation design will transform middle managers into effective agents of change. Conversely, organizations that ignore middle managers, providing them with information as limited as that of regular workers and failing to provide specialized training, will find middle managers becoming an additional source of anxiety. Middle managers who are anxious and lack support tend to convey their anxiety to subordinates, inadvertently reinforcing a climate of uncertainty. They may also defensively hinder AI implementation because they feel threatened. Therefore, interventions to manage worker anxiety must begin with middle managers, providing them with the tools and support needed before they are asked to support their subordinates.

Generational differences in responses to AI are an important factor that organizations need to understand (Stieglitz et al., 2023). An analysis of algorithmic bias and automated justice is crucial to ensuring an inclusive social transformation for all generations (Mardikaningsih & Oluwatoyin, 2023). Workers from the Baby Boomer generation who are approaching retirement may show different anxieties compared to Millennials or Generation Z workers who are in the early to mid-stages of their careers. Older workers may be more anxious about their ability to learn new technologies, worrying that the time investment for learning is not proportional to their remaining years of work. They may also be more concerned about losing the status and recognition they have built over decades, as AI could make their long-standing work experience less relevant. Conversely, younger workers might be more anxious about long-term career prospects; they fear that traditional career paths will vanish

before they have the chance to rise to senior positions. They may also be anxious about competing with AI in the external labor market, as they have many more working years ahead during which technology will continue to evolve. These generational differences require different approaches to communication and intervention. For older workers, an approach that values their experience and demonstrates how AI can be a tool to help them work better might be effective. For younger workers, an approach focusing on developing skills complementary to AI and emerging new career paths may be more relevant. Organizations that apply a generic generational approach risk failing to effectively reach a significant portion of their workforce.

The long-term impact of AI-induced worker anxiety on organizational health requires serious attention (Krishnamoorthy & Bhattacharyya, 2023). Unmanaged anxiety can crystallize into cynical attitudes toward management and change, which are difficult to alter once formed. Cynical workers will respond to every change initiative with the assumption that it will ultimately harm them. They become a source of continuous passive resistance, eroding organizational energy from within. Anxiety can also lead to a decrease in organizational citizenship behavior voluntary actions that help the organization function better but are not listed in job descriptions. Anxious workers will focus on tasks explicitly measured by AI systems, ignoring behaviors such as helping new colleagues, participating in voluntary team activities, or providing ideas for process improvement. The loss of this citizenship behavior may not be immediately visible in short-term productivity metrics, but in the long run, it will damage the organization's capacity to innovate and adapt. Furthermore, chronic anxiety increases voluntary turnover, where the best workers who have the most options in the labor market will leave the organization first. They do not need to stay in an environment that makes them anxious because they can easily find employment elsewhere. This phenomenon is known as "attrition of the best," where organizations lose their most valuable talent precisely when they need adaptation the most. The cost of replacing workers who leave due to AI anxiety can be substantial, not to mention the loss of institutional knowledge that cannot be replaced.

Ethical considerations in AI implementation have a direct relationship with the level of worker anxiety (Cheng et al., 2022). Organizations that implement AI in a transparent, fair, and accountable manner tend to elicit lower anxiety compared to organizations that ignore ethical principles. The principle of transparency means that workers have the right to know how AI systems work, what data is collected about them, and how decisions are made based on that data. The principle of fairness means that AI systems must not discriminate against certain groups of workers, whether intentionally or unintentionally through bias in training data. The principle of accountability means there must be a mechanism for workers to question decisions generated by AI and request a human review. Organizations that violate these principles will face higher anxiety because workers feel powerless against an opaque system that cannot be held accountable. In extreme cases, ethical violations can trigger legal action from workers who feel aggrieved by AI decisions. Some jurisdictions have begun to enforce regulations on the use of AI in human resource management, such as requirements to conduct periodic bias audits or provide meaningful appeal mechanisms. Organizations that proactively adopt the highest ethical standards not only reduce worker anxiety but also minimize legal and reputational risks. Investment in ethical AI governance is an investment in the psychological capital of workers, which is just as important as investment in technical infrastructure.

Worker anxiety due to AI is not entirely negative and can be utilized as a catalyst for positive change. Anxiety in moderate amounts can motivate workers to develop new skills, seek information about technology, and proactively redefine their roles. Workers who are slightly anxious about AI may be more motivated to attend training, explore new ways of working, and collaborate with colleagues to find innovative solutions. The challenge for organizations is to maintain anxiety at a motivating level without crossing the threshold into becoming maladaptive. This requires careful monitoring of the organization's psychological climate and timely intervention when anxiety begins to rise to damaging levels. Organizations can also use anxiety as an early signal of problems in the AI implementation design. If workers in a particular unit show very high anxiety, this may indicate that the AI system in that unit is poorly designed, or that communication about AI is inadequate,

or that available support is insufficient. Rather than ignoring or suppressing anxiety, mature organizations will investigate the root causes and take corrective actions. With this approach, anxiety is no longer seen as a problem to be eliminated, but as valuable data about the worker experience that can be used to refine AI implementation. Organizations that learn from their workers' anxiety will develop the capacity to better implement new technologies in the future, creating a sustainable competitive advantage.

Conclusion

The implementation of artificial intelligence in recruitment generates anxiety through the loss of control over the evaluation process and the objectification of work experience. The application of AI in performance appraisal causes anxiety through continuous monitoring, the quantification of activities, and threats to the superior-subordinate relationship. Task automation generates anxiety through the fear of job loss and the erosion of professional identity. These three sources of anxiety mutually reinforce each other within an integrated system, creating a feeling of being trapped in algorithms that cannot be influenced. Individual factors such as technological self-efficacy, social factors such as peer support, organizational factors such as communication and participation, and ethical factors such as transparency and accountability moderate the level of anxiety experienced by workers. Anxiety in moderate amounts can motivate positive adaptation; however, excessive anxiety risks causing cynicism, a decrease in citizenship behavior, and the loss of top talent.

The practical implications of this research are that organizations need to design AI implementations while paying attention to the psychological aspects of workers, including transparency regarding how algorithms work, appeal mechanisms for AI decisions, and the involvement of workers in the system design process. Organizations are advised to build workers' technological self-efficacy through gradual training programs and mentoring, create safe discussion spaces to express concerns, and train middle managers to provide emotional support during transitions. Further research is suggested to empirically test the model of the relationship between AI system characteristics, individual

and organizational moderating factors, and the outcomes of worker anxiety and behavior. Longitudinal studies are needed to understand how anxiety evolves over time and which interventions are most effective in the long run.

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