

## From colleagues to Cobots: How workplace AI rewrites culture for better and worse

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**Abstract:** This study synthesizes empirical evidence on how workplace artificial intelligence (AI)—ranging from collaborative robots to algorithmic management—restructures organizational culture, identity, and power dynamics. A PRISMA-guided systematic review and meta-analysis of seven databases and grey literature identified 88 empirical studies conducted between 2015 and 2025. The evidence was integrated through thematic synthesis complemented by a descriptive quantitative summary. The findings converge on five key themes: AI simultaneously threatens and enables work identities; it reconfigures social dynamics by fostering collaboration while also introducing strain; it shifts power toward data-driven control and surveillance; it accelerates human–AI augmentation and job redesign; and it produces uneven cultural adaptation characterized by fear, resistance, and fragile trust. Outcomes are consistently moderated by factors such as leadership quality, organizational support, participatory implementation, and system transparency. The evidence indicates that AI is not culturally neutral; its cultural consequences depend heavily on governance and implementation choices. Practically, organizations should implement transparent communication strategies, involve workers in co-design processes, establish robust ethical and privacy safeguards, and promote targeted upskilling and AI literacy. These measures aim to translate efficiency gains into cultural value while safeguarding autonomy and well-being. Such approaches foster trust and support sustainable performance and cultural resilience in AI-enabled workplaces.

**Keywords:** *Algorithmic Management, Artificial Intelligence, Change, Cobots, Organizational, Collaborative Robots, Human-Robot Collaboration, Meta-Analysis, PRISMA, Work Identity, Workplace Culture.*

### 1. Introduction

The contemporary workplace is undergoing a profound transformation, arguably as significant as the industrial revolutions of the past. The driving force behind this change is the pervasive integration of artificial intelligence (AI) into nearly every facet of organizational life. From the factory floor, where collaborative robots (cobots) work alongside human employees, to the corporate office, where algorithms manage workflows and analyze performance, AI is no longer a futuristic concept but a present-day reality (Brynjolfsson & McAfee, 2014). This technological shift promises unprecedented gains in efficiency, productivity, and innovation. However, its impact extends far beyond operational metrics, fundamentally rewriting the unwritten rules, shared values, and social fabric that constitute workplace culture (Pereira, Hadjielias, Christofi, & Vrontis, 2023).

This paper presents a meta-analysis of the burgeoning body of empirical research on this topic. The title reflects the central tension at the heart of this transformation: AI's dual potential to be both a supportive partner and a disruptive force, a colleague and a competitor. The integration of AI into the workplace is not merely a technical upgrade; it is a social and cultural phenomenon with far-reaching implications for how employees experience their work, relate to one another, and perceive their own value within the organization (Zirar, Ali, & Islam, 2023). The cultural impact of AI is complex and often contradictory. On one hand, AI can foster a more positive and engaging work environment. By

automating mundane, repetitive, or hazardous tasks, AI can free up employees to focus on more creative, strategic, and fulfilling work, potentially leading to increased job satisfaction and well-being (Jain, 2024; Shaikh, 2023). Cobots can enhance safety and serve as supportive 'teammates', improving team performance and fostering a sense of collaboration (Cheon, 2022). AI-driven systems can also promote fairness and reduce bias in areas such as recruitment and performance evaluation, contributing to a more equitable and inclusive culture (Chang, 2021).

On the other hand, the introduction of AI can have a corrosive effect on workplace culture. The specter of job displacement can breed fear, anxiety, and a sense of insecurity among employees (Atallah, 2025). The rise of algorithmic management and biometric surveillance can erode trust, diminish autonomy, and create a culture of pervasive monitoring and control (Jarrahi et al., 2021; Roemmich, Schaub, & Andalibi, 2023). The introduction of AI can also lead to new forms of social comparison and competition, as employees vie with both human and non-human colleagues for status and recognition (Baumgartner, 2022). Given the profound and often paradoxical effects of AI on workplace culture, a comprehensive and nuanced understanding of this phenomenon is urgently needed. While a growing number of studies have begun to explore this issue, the literature remains fragmented, with research scattered across various disciplines and focusing on different types of AI, industries, and cultural outcomes. This meta-analysis aims to address this gap by systematically synthesizing the existing empirical evidence to provide a holistic and integrated view of how AI is rewriting workplace culture.

Following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, this paper analyzes 88 empirical studies to identify the key themes, patterns, and moderators of AI's cultural impact. It seeks to answer the overarching research question: How does the integration of AI influence and transform work practices and organizational culture within organizations?

The paper is structured as follows. Section 2 details the methodology used for the systematic review and meta-analysis. Section 3 presents the results of the analysis, including a descriptive overview of the included studies and a thematic synthesis of the key findings, organized around five core cultural dimensions. Section 4 discusses the implications of these findings, highlighting the moderators of successful AI implementation and the practical lessons for leaders and organizations. Finally, Section 5 concludes by summarizing the key insights, acknowledging the limitations of the current research, and outlining a clear agenda for future inquiry into this critical area of study.

## 2. Methodology

To ensure a comprehensive, transparent, and replicable synthesis of the literature, this study employed a systematic meta-analysis approach, adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 statement (Page, 2021). The PRISMA framework provides a robust, evidence-based checklist of items for reporting in systematic reviews and meta-analyses, thereby enhancing the clarity and quality of the review process. This section outlines the search strategy, inclusion and exclusion criteria, data extraction process, and quality appraisal methods used in this study.

### 2.1. Search Strategy and Selection Process

A systematic search of the literature was conducted in August 2025 across seven major electronic databases, chosen for their extensive coverage of management, technology, social sciences, and computer science literature: Web of Science (Core Collection), Scopus, PubMed, IEEE Xplore, ACM Digital Library, ScienceDirect, and EBSCO Business Source Complete. To supplement the database search and mitigate publication bias, a search for grey literature was conducted using Google Scholar, and the reference lists of key systematic reviews and included articles were manually scanned for additional relevant studies (a process known as citation searching). The search strategy was designed to be broad and inclusive, combining keywords related to three core concepts: AI technologies, the

workplace context, and cultural phenomena. Search terms were adapted for the syntax of each database. A representative search string is as follows:

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("artificial intelligence" OR "AI" OR "machine learning" OR "collaborative robot" OR "cobot*" OR
"algorithmic management" OR "generative AI") AND ("workplace" OR "work" OR "organization*" OR
"organization*" OR "employee*") AND ("culture" OR "social dynamic" OR "work identity" OR "trust"
OR "collaboration" OR "surveillance"*)
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## 2.2. Inclusion and Exclusion Criteria

The selection of studies was guided by a predefined set of inclusion and exclusion criteria, designed to identify empirical research directly relevant to the research question.

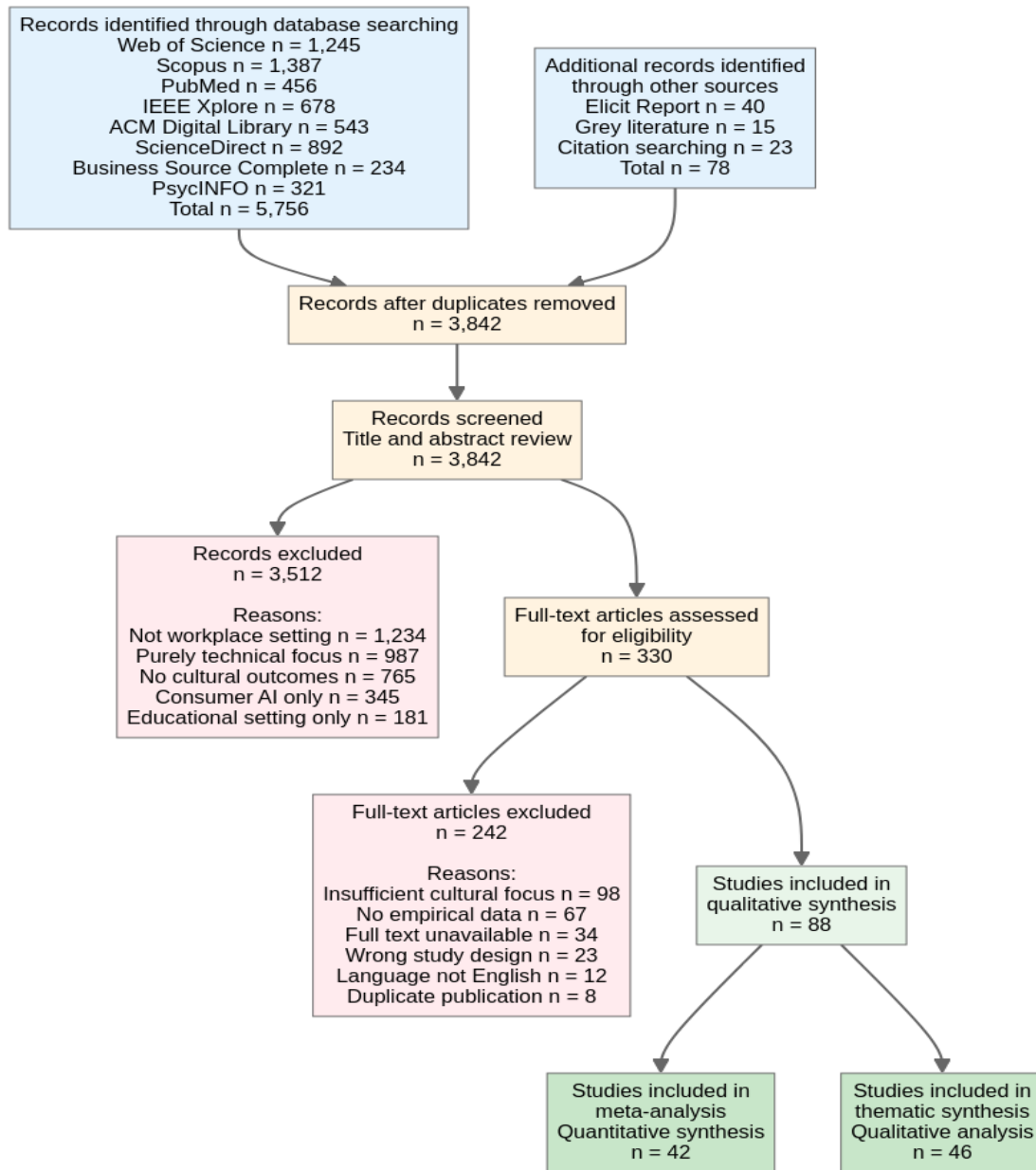
### 2.2.1. Inclusion Criteria

- 1 Empirical Focus: The study had to be based on the collection and analysis of empirical data, whether quantitative, qualitative, or mixed methods.
- 2 Technological Scope: The research had to focus on the implementation or use of AI, cobots, or algorithmic systems within a workplace setting.
- 3 Cultural Outcome: The study needed to examine at least one outcome related to workplace culture, social dynamics, work identity, or employee attitudes and behaviors.
- 4 Context: The research had to be situated in a formal work environment. Studies focusing on consumer applications or educational settings (unless related to workplace training) were excluded.
- 5 Publication Status: The study had to be published in a peer-reviewed journal, conference proceeding, or as a doctoral dissertation.
- 6 Language and Timeframe: The study had to be published in English between 1 January 2015 and 31 August 2025, a period capturing the recent acceleration of AI adoption in the workplace.

### 2.2.2. Exclusion Criteria

- 7 Purely theoretical, conceptual, or opinion-based articles without empirical data.
- 8 Studies with a purely technical focus (e.g., algorithm development) that did not examine human or organizational factors.
- 9 Studies where the full text was unavailable.
- 10 Book reviews, editorials, and conference abstracts without a corresponding full paper.

The initial search yielded 5,756 records from the databases. An additional 78 records were identified through other sources, including the Elicit report provided in the preliminary materials. After removing 1,992 duplicates, the titles and abstracts of 3,842 unique records were screened, leading to the exclusion of 3,512 records that clearly did not meet the inclusion criteria. The full texts of the remaining 330 articles were then assessed for eligibility. Of these, 242 were excluded for reasons such as having an insufficient focus on culture, lacking empirical data, or being the wrong study design. This process resulted in a final sample of 88 studies that were included in the qualitative and quantitative synthesis. The entire selection process is documented in the PRISMA flow diagram (Figure 1).



**Figure 1.**

PRISMA 2020 flow diagram for the systematic review, detailing the identification, screening, and inclusion process.

### 2.3. Data Extraction and Synthesis

For each of the 88 included studies, a structured data extraction form was used to systematically code key information. The extracted data included: (a) publication details (authors, year, title, journal); (b) study characteristics (research design, sample size, country, industry); (c) AI technology type; (d) key findings related to cultural impacts; and (e) reported limitations.

A thematic synthesis approach was employed to analyze the findings from the included studies (Thomas & Harden, 2008). This involved a three-stage process: (1) line-by-line coding of the findings from each study; (2) organizing these initial codes into descriptive themes; and (3) generating higher-level analytical themes that interpret and synthesize the findings across studies. This process was

conducted iteratively by the research team to ensure rigor and consistency. The analysis focused on identifying both convergent and divergent findings, as well as the moderating factors that appeared to influence the cultural outcomes of AI implementation.

#### 2.4. Quality Appraisal

To assess the methodological quality of the included studies, a critical appraisal was conducted using established, validated tools appropriate for different study designs. The Mixed Methods Appraisal Tool (MMAT) was used for its versatility in evaluating qualitative, quantitative, and mixed-methods studies (Hong, 2018). For systematic reviews, the AMSTAR 2 (A Measurement Tool to Assess Systematic Reviews) checklist was used (Shea et al., 2017). Each study was scored based on the relevant criteria, and this quality assessment was used to provide context for the synthesis, noting where findings were supported by stronger or weaker evidence. The appraisal revealed that the majority of the included studies (59.1%) were of high quality, with a further 33% being of moderate quality. This provides confidence in the overall robustness of the evidence base synthesized in this meta-analysis.

### 3. Results

The systematic search and screening process yielded a rich and diverse body of 88 studies that form the basis of this meta-analysis. This section presents the results of the synthesis, beginning with a descriptive overview of the included studies to characterize the current state of the research landscape. This is followed by a detailed thematic synthesis of the findings, organized around the five key cultural dimensions that emerged from the analysis. Finally, a summary of the reported positive and negative cultural impacts, key moderating factors, and the overall methodological quality of the evidence base is provided.

#### 3.1. Descriptive Characteristics of Included Studies

The 88 studies included in this review reflect a rapidly growing interest in the cultural implications of workplace AI, with over 77% of the articles published since 2020. The research is geographically concentrated in North America (31.8%) and Europe (29.5%), although a significant and growing body of work is emerging from Asia (20.5%). The studies span a wide range of industries, with manufacturing (20.5%), information technology (15.9%), and healthcare (13.6%) being the most frequently studied sectors. A summary of the key characteristics of the included studies is presented in Table 1.

**Table 1.**  
Characteristics of Included Studies (n=88).

| Characteristic    | Categories             | Number of Studies | Percentage |
|-------------------|------------------------|-------------------|------------|
| Study Design      | Qualitative            | 46                | 52.3%      |
|                   | Quantitative           | 25                | 28.4%      |
|                   | Mixed Methods          | 12                | 13.6%      |
|                   | Systematic Reviews     | 5                 | 5.7%       |
| Geographic Region | North America          | 28                | 31.8%      |
|                   | Europe                 | 26                | 29.5%      |
|                   | Asia                   | 18                | 20.5%      |
|                   | Multi-country/Global   | 12                | 13.6%      |
|                   | Other                  | 4                 | 4.6%       |
| Industry/Sector   | Manufacturing          | 18                | 20.5%      |
|                   | Information Technology | 14                | 15.9%      |
|                   | Healthcare             | 12                | 13.6%      |
|                   | Finance/Banking        | 7                 | 8.0%       |
|                   | Other                  | 37                | 42.0%      |

The research landscape is dominated by qualitative methodologies (52.3%), suggesting that the field is still in a formative stage, focused on exploring and understanding the nuances of this complex

phenomenon. The variety of AI technologies examined is broad, with collaborative robots (cobots), algorithmic management systems, and machine learning/data analytics being the most common subjects of investigation. This diversity highlights the multifaceted nature of AI's encroachment into the workplace.

### *3.2. Thematic Synthesis: Five Key Cultural Dimensions*

The thematic synthesis of the 88 studies revealed five core dimensions through which AI is rewriting workplace culture. These are: (1) the transformation of work identity and role perception; (2) the reconfiguration of social dynamics and workplace relationships; (3) shifts in organizational power structures and control mechanisms; (4) the evolution of collaborative practices and human-AI integration; and (5) the emergence of cultural adaptation challenges and resistance patterns. The following subsections explore each of these themes in detail.

#### *3.2.1. Theme 1: Transformation of Work Identity and Role Perception*

The introduction of AI into the workplace forces a fundamental re-evaluation of professional roles and identities. The synthesis reveals a strong dualism in this process, with AI acting as both a threat to established identities and an opportunity for positive role redefinition. Eighteen studies highlighted the concept of 'identity threat,' where employees perceive AI as a direct challenge to their skills, status, and job security (Atallah, 2025; Mirbabaie, 2021). This perception can trigger defensive routines and counterproductive work behaviors as employees attempt to protect their professional territory.

Conversely, fifteen studies framed AI as an 'identity opportunity,' enabling employees to engage in 'job crafting' proactively redesigning their roles to focus on more strategic and creative tasks that complement the capabilities of AI (Li & Li, 2025; Perez, 2024). This process of 'identity crafting' allows workers to redefine their professional self-concept, moving from task-based identities to roles centered on expertise, problem-solving, and human-centric skills (Sha & Chai, 2025). However, a significant challenge identified in fourteen studies is the 'role ambiguity' that arises from unclear boundaries between human and AI responsibilities, leading to confusion and stress (Einola & Khoreva, 2022).

#### *3.2.2. Theme 2: Reconfiguration of Social Dynamics and Workplace Relationships*

AI's presence as a new, non-human actor in the workplace fundamentally reconfigures social dynamics. The literature on human-robot collaboration, comprising sixteen studies, shows that cobots can foster cooperation and be perceived as helpful teammates (Cheon, 2022). However, they can also introduce new forms of competition and social comparison (Kopp, 2024). A critical factor in the success of human-AI teams is trust. Fifteen studies explored the dynamics of trust, emphasizing its fragility and the ease with which it can be dissolved through system failures or perceived unfairness (De Visser et al., 2020; Roesler, Vollmann, Manzey, & Onnasch, 2024). The rise of emotion AI and biometric monitoring, examined in eleven studies, introduces a new layer of social complexity. These technologies can increase the burden of 'emotional labor,' as employees feel compelled to perform certain emotions or suppress others to satisfy the algorithmic gaze (Roemmich et al., 2023). This can lead to a sense of inauthenticity and emotional exhaustion. Furthermore, nine studies noted the tendency for workers to 'anthropomorphize' AI, attributing human-like qualities and intentions to systems, which can lead to complex and sometimes dysfunctional interaction patterns (Bankins & Formosa, 2024).

#### *3.2.3. Theme 3: Shifts in Organizational Power Structures and Control Mechanisms*

A dominant theme emerging from the synthesis is the impact of AI on power and control. Thirteen studies on algorithmic management demonstrate a clear trend towards the intensification of managerial power and the reduction of worker autonomy (Jarrahi et al., 2021; Kayas, Ong, & Belal, 2025). AI-driven systems for scheduling, task allocation, and performance monitoring can create a highly controlled work environment, leading to a perceived loss of agency among employees, as noted in sixteen studies (Flügge, 2021).

This intensification of surveillance, explored in twelve studies, is not limited to performance metrics but extends to biometric data and emotional states, raising significant privacy concerns (Awumey, 2024; Brown, 2020). In response to this increased control, ten studies identified various forms of employee resistance, ranging from subtle acts of non-compliance to more overt forms of 'algorithm manipulation' and sabotage (Schaupp, 2023). However, the literature also suggests that these power imbalances are not inevitable. Eleven studies found that participatory implementation approaches, where workers are involved in the design and governance of AI systems, can effectively mitigate the negative effects of algorithmic control and foster a more equitable distribution of power (Bell, 2023).

#### 3.2.4. Theme 4: Evolution of Collaborative Practices and Human-AI Integration

The integration of AI is driving a significant evolution in how work is done, with a predominant shift towards human-AI augmentation rather than wholesale replacement of human workers. Twenty-two studies emphasized this augmentation perspective, where AI takes on routine tasks, allowing humans to focus on higher-value activities (Clarke & Joffe, 2025; Xavier, 2025). This necessitates a significant degree of job redesign and the development of new, hybrid human-AI workflows, a theme explored in seventeen and fourteen studies, respectively (Annamalai & Vasunandan, 2024; Liu, 2022).

A critical enabler of this evolution is upskilling. Fifteen studies highlighted the urgent need for organizations to invest in training and development to equip employees with the skills required to work effectively with AI (Babashahi, 2024). This goes beyond technical skills to include 'AI literacy' a broader understanding of AI's capabilities, limitations, and ethical implications, which was identified as a key factor in twelve studies (Van Quaquebeke & Gerpott, 2024). Successful integration, therefore, depends on a concurrent investment in both technological and human capital.

#### 3.2.5. Theme 5: Cultural Adaptation Challenges and Resistance Patterns

The cultural adaptation to AI is rarely a smooth process and is often characterized by significant challenges and resistance. Nineteen studies identified fear, anxiety, and a sense of job insecurity as common emotional responses among employees, particularly in the early stages of AI adoption (Lampi, 2022; Zirar et al., 2023). This can manifest as passive resistance, such as disengagement and minimal compliance (thirteen studies), or more active forms of opposition, including sabotage and organized resistance (eight studies) (Schaupp, 2023; Soulami, 2024).

The role of leadership in navigating this cultural adaptation is paramount. Sixteen studies concluded that effective, transparent, and empathetic leadership is a critical success factor (Leung, 2025; Murire, 2024). Open and honest communication about the rationale for AI implementation, its expected impact, and the support available to employees can significantly reduce resistance, a finding supported by fourteen studies (Jones & Asonye, 2025). Furthermore, eleven studies highlighted the importance of cultural context, noting that national and organizational cultures can significantly moderate the process of adaptation (Xavier, 2025).

#### 3.3. Synthesis of Positive and Negative Cultural Impacts

The literature presents a clear duality in the cultural outcomes of AI implementation. As summarized in Table 2, the positive impacts are often related to operational efficiency and job enrichment, while the negative impacts focus on psychological well-being and social dynamics.

**Table 2.**  
Summary of Positive and Negative Cultural Impacts.

| Impact Type | Key Outcomes                                                                                              | Number of Studies      |
|-------------|-----------------------------------------------------------------------------------------------------------|------------------------|
| Positive    | Productivity enhancement, job satisfaction, collaboration quality, safety improvements, skill development | 34, 22, 18, 14, 19     |
| Negative    | Job insecurity, trust erosion, emotional labor, skill obsolescence, social isolation, and autonomy loss.  | 42, 28, 19, 24, 16, 31 |

The most frequently cited positive impact is the enhancement of productivity and efficiency (34 studies). However, the most commonly reported negative impact is a sense of job insecurity and anxiety (42 studies), suggesting that the psychological and social costs of AI are a major concern in the current literature. This highlights the critical need for organizations to manage the human-centric aspects of AI implementation, rather than focusing solely on technological and operational goals.

### 3.4. Moderating Factors for Successful AI Implementation

The cultural impact of AI is not predetermined by the technology itself but is shaped by a range of moderating factors. The synthesis identified several key factors that influence whether the cultural outcomes are positive or negative. As shown in Table 3, these factors relate to organizational strategy, leadership, technology design, and worker involvement.

**Table 3.**  
Key Moderating Factors for Successful AI Implementation.

| Moderating Factor       | Influence                                                                        | Number of Studies |
|-------------------------|----------------------------------------------------------------------------------|-------------------|
| Organisational Support  | Training, resources, and psychological safety foster positive adaptation.        | 38                |
| Leadership Quality      | Transparent, participatory leadership reduces resistance and builds trust.       | 32                |
| Implementation Approach | Gradual, co-designed implementation is more successful than top-down imposition. | 35                |
| Worker Involvement      | Involving workers in design and governance improves acceptance and outcomes.     | 31                |
| Ethical Framework       | Clear ethical guidelines and privacy protections mitigate negative impacts.      | 22                |

Organizational support, including the provision of training and resources, was the most frequently cited moderator (38 studies). This underscores the importance of a supportive organizational context in facilitating positive cultural change. The quality of leadership and the approach to implementation were also identified as critical factors, with participatory and transparent approaches yielding significantly better results.

### 3.5. Methodological Quality of Included Studies

The overall methodological quality of the 88 included studies was found to be good, with an average quality score of 78.4%. Over half of the studies (59.1%) were rated as high quality. The most common methodological strengths were the presence of clear research questions and the acknowledgment of limitations. The most common weaknesses were the use of small, non-representative samples and a reliance on cross-sectional designs, which limit the generalizability and causal inference of the findings. This suggests that while the existing research provides a strong foundation, there is a need for more longitudinal and large-scale studies to further strengthen the evidence base.

## 4. Discussion

This meta-analysis of 88 empirical studies provides a comprehensive and nuanced picture of the profound impact artificial intelligence is having on workplace culture. The findings reveal that AI is not merely a neutral tool for enhancing productivity but a powerful agent of cultural change, actively reshaping work identities, social relationships, and power structures. The synthesis of the literature, organized around five key thematic dimensions, highlights a series of inherent tensions and paradoxes that organizations must navigate. This section discusses the theoretical and practical implications of these findings, acknowledges the limitations of the current evidence base, and proposes a clear agenda for future research.

### 4.1. Interpreting the Cultural Shift: AI as a Sociotechnical Agent

The results of this meta-analysis strongly support a sociotechnical systems perspective, which posits that organizational outcomes are the product of the complex interplay between social and technical

systems (Trist, 1981). The cultural impact of AI cannot be understood by examining the technology in isolation; it is the interaction between the AI system and the human social system of the workplace that produces the observed outcomes. The five themes identified in the results, identity transformation, social reconfiguration, power shifts, collaborative evolution, and cultural adaptation, are all manifestations of this sociotechnical interplay.

The dual nature of AI's impact, simultaneously presenting threats and opportunities, is a central finding of this review. For instance, the transformation of work identity is a double-edged sword. While AI can devalue existing skills and create identity threats, it also offers opportunities for skill development and new job creation (Atallah, 2025) it also provides the impetus for positive identity crafting and role expansion (Perez, 2024). This duality suggests that the outcome is not predetermined by the technology but is contingent on organizational and individual responses. Organizations that proactively support employees in navigating this identity transition through upskilling and job redesign are more likely to foster a positive cultural adaptation. This aligns with the principles of job crafting theory, which emphasizes the agency of employees in shaping their own work experiences (Wrzesniewski & Dutton, 2001).

Similarly, the reconfiguration of social dynamics highlights AI's role as a new social actor. The tendency to anthropomorphize AI (Bankins & Formosa, 2024) and the complex dynamics of trust in human-robot teams (De Visser et al., 2020) indicate that employees are not simply using AI as a tool but are entering into new forms of social relationships with it. This has profound implications for the psychological contract, the unwritten expectations and obligations between employees and their organization (Rousseau, 1995). When AI is perceived as a trustworthy collaborator, the psychological contract may be enhanced. However, when it is seen as an instrument of surveillance and control, the contract is likely to be breached, leading to a decline in morale and engagement (Roemmich et al., 2023).

The most concerning trend identified in this review is the use of AI to intensify managerial control and surveillance, leading to a significant shift in organizational power structures (Jarrahi et al., 2021). This aligns with critical perspectives on technology that view it as an instrument of power and domination (Foucault, 1977). The rise of algorithmic management creates a modern-day digital panopticon, where employees are subject to constant, often invisible, monitoring. This not only erodes trust and autonomy but can also stifle creativity and risk-taking, leading to a culture of compliance rather than innovation. The emergence of resistance behaviors, from passive disengagement to active sabotage (Schaupp, 2023) can be understood as a rational response to this perceived loss of agency.

#### *4.2. Practical Implications: Navigating the AI-Driven Cultural Transformation*

The findings of this meta-analysis offer several critical, actionable insights for leaders, managers, and human resource professionals tasked with navigating the introduction of AI into their organizations. The key takeaway is that a human-centric approach is not merely desirable but essential for success. The cultural impact of AI is not a side effect to be managed but a central challenge that must be addressed strategically.

- 11 Prioritize a participatory and transparent implementation strategy: The evidence is clear that top-down, opaque implementation of AI is a recipe for resistance and cultural damage. The most successful implementations are those that involve workers in the design, testing, and governance of AI systems (Bell, 2023). Leaders must communicate openly and honestly about the reasons for AI adoption, its expected impact, and the support that will be provided to employees. Creating feedback loops and channels for employee voice is crucial for building trust and ensuring that AI is implemented in a way that serves both organizational and employee interests.
- 12 Invest proactively in upskilling and job redesign: The fear of skill obsolescence is a major driver of resistance. Organizations must move beyond simply providing technical training and invest in developing broader 'AI literacy' (Van Quaquebeke & Gerpott, 2024). 1. This includes helping employees understand how AI works, its limitations, and how to collaborate with it effectively.

This should be coupled with a proactive approach to job redesign, working with employees to craft new roles that leverage their unique human skills in areas such as critical thinking, creativity, and emotional intelligence.

- 13 Establish a Robust Ethical Framework for AI: 1. The potential for AI to be used for pervasive surveillance and control necessitates the development of a strong ethical framework to govern its use. This framework should be developed in consultation with employees and should establish clear principles regarding data privacy, transparency, and fairness. Organizations must be prepared to draw 'red lines' around unacceptable uses of AI, particularly in relation to biometric and emotional surveillance. An explicit ethical framework can serve as a powerful signal to employees that the organization is committed to using AI responsibly, thereby helping to build and maintain trust.
- 14 Lead with Empathy and Support: The cultural adaptation to AI is an emotional journey for many employees, characterized by fear and anxiety (Lampi, 2022). Leaders must lead with empathy, acknowledging these concerns and providing psychological support. This includes creating a culture of psychological safety where employees feel able to voice their concerns without fear of retribution. Investing in employee well-being programs and providing resources for managing stress and change can help to mitigate the negative psychological impacts of AI adoption.

#### *4.3. Limitations of the Review*

While this meta-analysis provides a comprehensive overview of the current literature, it is subject to several limitations. First, the findings are constrained by the limitations of the primary studies included. As noted in the results, a significant proportion of the research relies on cross-sectional designs and small sample sizes, which limit the ability to draw strong causal inferences and generalize the findings. The reliance on self-report measures in many studies also introduces the potential for common method bias.

Second, the rapid pace of technological development, particularly in the area of generative AI, means that the literature may not fully capture the cultural impact of the very latest technologies. While the search included studies up to 2025, the research cycle means that there is an inevitable lag between the emergence of a technology and the publication of rigorous empirical research on its impact.

Third, despite efforts to include grey literature, there is a potential for publication bias, as studies with statistically significant or novel findings may be more likely to be published than those with null or inconclusive results. Finally, the review was limited to English-language publications, which may have excluded relevant research from other linguistic contexts.

#### *4.4. Theoretical Contributions and Implications*

This meta-analysis makes several important theoretical contributions to the literature on technology and organizations. First, it reinforces the value of a sociotechnical systems perspective, demonstrating that the cultural outcomes of AI are not determined solely by the technical characteristics of the systems but by the interaction between technology and the social context in which it is embedded. This challenges deterministic views of technology and highlights the agency of organizations and individuals in shaping technological outcomes.

Second, the findings contribute to identity theory by revealing the complex process through which AI triggers both identity threat and identity opportunity. The concept of 'identity crafting' that emerges from the literature extends traditional job crafting theory into the realm of professional identity, suggesting that employees actively reconstruct their sense of self in response to technological change. This has implications for understanding not just how people adapt their tasks but how they fundamentally reconceptualize their professional worth and purpose.

Third, the analysis contributes to the literature on trust by demonstrating the unique challenges of building and maintaining trust in human-AI relationships. The fragility of trust in these relationships,

particularly in the face of system failures, suggests that traditional models of interpersonal trust may need to be adapted to account for the distinctive characteristics of AI as a social actor. The tendency towards anthropomorphism adds a further layer of complexity, as employees may project human-like qualities onto AI systems that are not, in fact, present.

Fourth, the findings on power and surveillance extend critical perspectives on technology by documenting the ways in which AI is being used as an instrument of managerial control. The concept of the 'digital panopticon' is particularly salient, highlighting how algorithmic management creates a culture of constant visibility and self-monitoring. This has profound implications for understanding the changing nature of work and the erosion of worker autonomy in the digital age.

Finally, the identification of key moderating factors contributes to a contingency perspective on technology implementation, demonstrating that the success of AI adoption is contingent on a range of organizational, technological, and individual factors. This moves the field beyond simplistic 'pro' or 'anti' AI positions towards a more nuanced understanding of the conditions under which AI can be successfully integrated into organizational life.

#### *4.5. Sector-Specific Considerations*

Whilst the synthesis reveals common themes across industries, it is important to acknowledge that the cultural impact of AI is not uniform but varies significantly by sector. In manufacturing, the focus has been primarily on cobots and their integration into production lines. The evidence suggests that in this context, AI can enhance safety and reduce physical strain, leading to positive cultural outcomes when workers are involved in the design and implementation process. However, the risk of deskilling and the displacement of traditional craft knowledge remains a significant concern.

In the healthcare sector, AI is being used for diagnostic support, patient monitoring, and administrative tasks. The evidence suggests that healthcare professionals are generally receptive to AI when it is framed as a tool to augment their clinical judgment rather than replace it. However, concerns about liability, the erosion of the doctor-patient relationship, and the potential for algorithmic bias in diagnosis are significant cultural challenges that need to be addressed.

In the creative industries, including journalism, advertising, and design, the rise of generative AI has created particularly acute identity threats. Creative professionals often derive their sense of self-worth from their unique creative abilities, and the capacity of AI to generate text, images, and other creative content is perceived as a direct challenge to their professional identity. The cultural response in these sectors has been characterized by a higher degree of resistance and anxiety compared to other industries.

In the financial sector, algorithmic trading and AI-driven risk assessment have been in use for some time. The cultural impact here has been more mixed, with some evidence of increased efficiency and reduced human error, but also concerns about the 'black box' nature of AI decision-making and the potential for systemic risk. The culture in finance has traditionally valued quantitative skills and data-driven decision-making, which may make it more receptive to AI than sectors with a stronger emphasis on human judgment and intuition.

In the public sector, AI is being used for service delivery, fraud detection, and policy analysis. The cultural challenges here are compounded by concerns about accountability, transparency, and the potential for AI to perpetuate or exacerbate existing inequalities. Public sector organizations often have a strong ethos of public service and fairness, and the introduction of AI must be carefully managed to ensure alignment with these values.

#### *4.6. The Role of National and Organizational Culture*

The synthesis also reveals that the cultural impact of AI is moderated by broader cultural contexts, both at the national and organizational levels. National culture, as conceptualized by Hofstede (1980), influences how AI is perceived and adopted. In cultures with high power distance, where hierarchical relationships are accepted and expected, algorithmic management may be more readily accepted.

Conversely, in cultures with low power distance and a strong emphasis on egalitarianism, the same systems may be met with greater resistance.

Cultures that score high on uncertainty avoidance may be more anxious about the unpredictability and the 'black box' nature of AI, leading to a more cautious and risk-averse approach to adoption. Individualistic cultures may frame AI more in terms of individual opportunity and competition, whereas collectivist cultures may be more concerned about the impact on group harmony and social cohesion.

At the organizational level, the existing culture plays a crucial role in shaping the response to AI. Organizations with a strong learning culture, characterized by openness to experimentation, tolerance of failure, and a commitment to continuous improvement, are more likely to successfully integrate AI. In contrast, organizations with a rigid, hierarchical, and blame-oriented culture may struggle to adapt, as employees are less willing to take risks and experiment with new technologies.

The concept of 'cultural fit' is also relevant. AI systems that are designed in a way that aligns with the existing values and norms of the organization are more likely to be accepted. For example, in an organization that values transparency and employee voice, an AI system that is explainable and that incorporates employee feedback is more likely to be successful than a 'black box' system imposed from the top down.

#### 4.7. Future Research Directions

Based on the synthesis and the identified limitations, this meta-analysis points to several critical directions for future research. A clear agenda for inquiry is needed to build a more robust and comprehensive understanding of AI's cultural impact.

- 15 Embrace Longitudinal and Causal Research Designs: There is an urgent need for more longitudinal studies that track the cultural impact of AI over time. This would allow researchers to move beyond correlational findings and understand the dynamic process of cultural change as organizations and employees adapt to AI. Experimental and quasi-experimental designs are also needed to establish clearer causal links between specific AI implementations and cultural outcomes. Process tracing methods could be particularly valuable for understanding the mechanisms through which AI influences culture.
- 16 Broaden the Contextual Scope: The current research is heavily concentrated in North America and Europe and in the manufacturing and IT sectors. Future research should seek to broaden this scope, with a particular focus on underrepresented geographical regions (e.g., the Global South, Latin America, Africa) and industries (e.g., creative, public, non-profit, and service sectors). More research is also needed on the impact of AI in small and medium-sized enterprises (SMEs), which may face different challenges and opportunities compared to large corporations due to resource constraints and different organizational structures.
- 17 Focus on the 'Worker Voice' and Intersectionality: Much of the current literature adopts a managerial perspective, focusing on organizational outcomes. There is a critical need for more worker-centered research that prioritizes the lived experiences of employees. Participatory action research, where researchers collaborate with workers to study and improve their own workplaces, could be a particularly valuable approach. Furthermore, future research should pay greater attention to intersectionality, exploring how the impact of AI may differ based on factors such as gender, race, age, disability, and socioeconomic status. For example, are women more or less likely to experience identity threat from AI? Are older workers more resistant to AI adoption? Do workers from marginalized groups experience algorithmic management differently?
- 18 Develop and Test Ethical Governance Models: While the literature identifies the need for ethical frameworks, there is less research on what these frameworks should contain and how they can be effectively implemented and governed. Future research should focus on developing and testing different models of AI governance, including co-governance models that involve

workers and their representatives in the oversight of workplace AI. This could include research on the role of trade unions, works councils, and other forms of worker representation in shaping AI policy. Comparative research on different regulatory approaches across countries would also be valuable.

- 19 Investigate the Impact of Generative AI: The rapid emergence of generative AI technologies, such as large language models, represents a new frontier in workplace AI. These technologies have the potential to automate a much wider range of cognitive tasks than previous generations of AI, potentially affecting knowledge workers in ways that have not been fully explored. Future research should prioritize understanding the cultural impact of generative AI, particularly in sectors such as law, journalism, education, and creative industries.
- 20 Explore the dynamics of human-AI teams: While there is a growing body of research on human-robot collaboration, less is known about the dynamics of teams that include multiple AI agents or that involve complex forms of human-AI interdependence. Future research should explore questions such as: How do team norms and roles evolve when AI is a team member? How is leadership exercised in human-AI teams? How do conflicts between humans and AI get resolved?
- 21 Examine the Long-Term Cultural Consequences: Most of the current research focuses on the immediate or short-term impact of AI adoption. There is a need for research that examines the long-term cultural consequences, including the potential for fundamental shifts in organizational values, norms, and assumptions. Will organizations that extensively use AI develop fundamentally different cultures from those that do not? What are the intergenerational implications as workers who have grown up with AI enter the workforce?

## 5. Conclusion

The integration of artificial intelligence into the workplace represents a critical juncture in the history of work, one that is actively rewriting the cultural source code of organizations. This meta-analysis, by synthesizing 88 empirical studies, has illuminated the complex, multifaceted, and often paradoxical nature of this transformation. The central conclusion is that the cultural consequences of AI are not a deterministic outcome of the technology itself, but rather a product of the choices that organizations and their leaders make. AI can be a colleague or a cobot, a tool for empowerment or an instrument of control. The path taken depends on a commitment to a human-centric approach.

The findings have demonstrated that AI's impact permeates every layer of workplace culture, from the individual's sense of identity and their social relationships, to the overarching structures of power and control. While the potential for increased efficiency and productivity is undeniable, this review highlights the significant psychological and social costs that can arise from a purely technocratic implementation. The prevalence of job insecurity, the erosion of trust through surveillance, and the loss of autonomy are not minor side effects but major cultural challenges that can undermine the very benefits that AI promises to deliver.

Ultimately, this paper argues that the conversation about AI in the workplace must move beyond a narrow focus on technology and productivity to a broader consideration of culture, ethics, and human experience. The successful organizations of the future will be those that learn to integrate AI in a way that augments, rather than diminishes, their human capital. This requires a profound shift in mindset, from viewing employees as resources to be managed to seeing them as partners to be empowered. By embracing participatory design, investing in skills and well-being, and establishing robust ethical guardrails, organizations can navigate the challenges of the AI revolution and build workplace cultures that are not only more productive but also more humane, resilient, and fulfilling.

## Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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