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THE EVOLUTION OF ORGANIZATIONAL CULTURE IN THE POST-DIGITAL ERA: BETWEEN COLLECTIVE IDENTITY AND ALGORITHMIC MANAGEMENT

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ABSTRACT

This article explores the transformation of organizational culture in the post-digital era, focusing on the interplay between collective identity and algorithmic management. Digital technologies and AI-driven tools increasingly mediate cultural dynamics, influencing values, behaviors, and leadership practices. Grounded in qualitative research, including semi-structured interviews, SWOT analysis, and cause-effect mapping, the study examines how algorithmic systems shape perceptions of transparency, fairness, and cohesion in hybrid work environments. Findings reveal both opportunities and risks: while data-driven tools can enhance cultural alignment and performance, excessive automation threatens trust, autonomy, and authenticity. The article proposes a managerial model that integrates human-centered values with technological efficiency, emphasizing leadership's role as curator of digitally mediated culture in sustaining organizational identity.

KEYWORDS: *Organizational culture, Post-digital era, Algorithmic management, Collective identity, Digital transformation*

J.E.L. Classifications: M12, M15, O33, D83

1. INTRODUCTION

Organizational culture has long been understood as an expression of collective identity, shaped through shared values, norms, and behaviors. However, in the post-digital era, this identity is increasingly mediated by technology, particularly through automated management tools that structure interactions, performance objectives, and evaluation systems. Algorithms recommending feedback, tracking productivity, or prioritizing tasks now play a pivotal role in shaping internal cultural dynamics. As a result, organizational leaders are not only custodians of values but also

architects of a digitally mediated culture. This article examines how data-driven managerial practices influence organizational identity and cohesion and explores strategies to maintain a balance between automation and human-centered values. Grounded in qualitative interviews, the study employs SWOT analysis and cause-effect analysis to identify managerial patterns that support sustainable cultural development within digitally transformed organizations.

2. LITERATURE REVIEW

2.1 Digital Mediation of Organizational Culture

Organizational culture traditionally involves shared values, beliefs, norms, and practices that foster unity and guide behavior (Schein, 2016). Yet, digital technologies have reshaped how culture emerges and is sustained within organizations. Leonardi (2011) argues that communication technologies like performance platforms and real-time dashboards actively reconstruct cultural patterns, influencing how recognition and feedback circulate. Likewise, Mazmanian, Orlikowski, and Yates (2013) highlight that in hybrid work settings, informal interactions wane, while digitally mediated exchanges become the norm, potentially weakening social bonds and reshaping collective identity.

Recent empirical work confirms this trend. Mustajab (2024) finds that remote and hybrid policies, mediated by digital tools and driven by transformational leadership, contribute to cultural cohesion and performance gains. However, they also caution against increased risk of burnout due to continuous connectivity. Hybrid work studies (e.g., hybrid research, 2024) further emphasize that access to collaborative tools like Teams and Slack supports cultural continuity but may curtail spontaneous interactions that nurture trust. Together, these findings suggest that algorithmic culture is not replacing but reframing traditional culture—making it essential for managers to balance efficiency with deliberate, digitally-enabled socialization.

2.2 Algorithmic Management in Leadership Practices

Algorithmic management—the use of analytics, AI, and automated tools in workforce oversight—has expanded from gig work into conventional organizational settings (Jarrahi & Sutherland, 2019). It serves not just efficiency but also as a contemporary leadership modality (Kellogg, Valentine, & Christin, 2020). In their seminal study, Lee, Kusbit, Metsky, and Dabbish

(2015) showed that algorithmic monitoring shapes worker behavior more subtly than human supervision, reframing leadership dynamics.

Amankwah–Amoah et al. (2022) trace algorithmic management's growth across economic downturns, illustrating how it serves as a profitable, scalable alternative to traditional managerial labor. This is echoed by MIT Sloan Review (2022), which emphasizes its potential for equitable, data-driven decisions, albeit potentially undermining leaders' empathetic influence. Moreover, Rakova et al. (2020) argue that for responsible AI, leadership must actively mediate between algorithmic systems and organizational ethics, personalizing technological rules through deliberate interpretive practices. These studies underscore how managers now function as **algorithmic architects**, designing, interpreting, and humanizing tech-mediated systems.

2.3 Sustaining Culture Amid Algorithmic Control

As algorithmic systems shape organizational culture, managers must consciously preserve core values. Marabelli, Newell, and Handunge (2021) propose a lifecycle view of algorithmic decision systems, highlighting deliberate design choices that align system behavior with organizational priorities. Failure to do so risks opacity, ethical lapses, and a loss of cultural authenticity.

Wiese, Lehmann, and Beckmann (2024) confirm empirically that developmental cultures—characterized by innovation, flexibility, and learning—correlate strongly with Industry 4.0 technology adoption. Firms with hierarchical or market-oriented cultures, conversely, lean heavily on automation, potentially reinforcing transactional mindsets. This differentiation matters: managers can preserve trust and engagement by embedding human-centred decision criteria into AI systems.

The dark sides of people analytics (Möhlmann, Zalmanson, Henfridsson, & Gregory, 2021) warn that excessive measurability risks eroding autonomy and agency. Addressing this requires integrating virtuous ethics and transparent processes, as proposed by Gal et al. (2021). Together, these studies point to a managerial imperative: to weave human values into algorithmic frameworks, enabling a digitally mediated culture that remains authentically collective.

3. RESEARCH METHODOLOGY

In the rapidly evolving context of digital transformation, understanding the cultural implications of algorithmic management requires a nuanced methodological approach. This study adopts a qualitative, exploratory design aimed at identifying how technology-driven managerial practices affect organizational culture and collective identity in hybrid or digitally mediated work environments.

The research question is: How do algorithmic management practices influence organizational culture and collective identity in digitally transformed work environments?

The objectives of research are:

- To examine how data-driven managerial tools impact perceptions of organizational culture and employee cohesion.
- To identify leadership practices that sustain cultural values amid technological mediation.
- To explore tensions between efficiency-driven algorithmic logic and the human dimension of workplace culture.
- To propose a managerial model that balances digital control with collective identity preservation.

Research Hypotheses

- H1: Algorithmic management practices significantly affect perceptions of fairness and transparency within organizational culture.
- H2: Managers who actively humanize technological processes preserve stronger team cohesion.
- H3: Hybrid work environments amplify the cultural impact of digital mediation.
- H4: Disconnects between algorithmic outputs and organizational values generate resistance among employees.

Methodological Approach and Justification. To address these hypotheses, the research is grounded in qualitative methods that support the exploration of complex socio-technical phenomena. While the detailed application of tools such as semi-structured interviews, SWOT analysis, and cause-effect mapping will be discussed in subsequent sections, their selection is justified by the study's focus on lived experiences, organizational dynamics, and strategic leadership responses.

A key component of the methodology is the inclusion of a theoretically informed applied analysis (see Section 4), which serves as a critical bridge between conceptual reflection and empirical observation. This applied framework enables the researcher to contextualize managerial practices within existing theoretical models while paving the way for the practical tools explored in later sections.

In sum, the methodological structure integrates theory, hypothesis testing, and strategic insight, contributing both to academic understanding and to the development of actionable models for managing culture in algorithmically influenced organizations.

4. ALGORITHMIC MEDIATION AND ORGANIZATIONAL CULTURE: THEORETICAL REFLECTIONS AND PRACTICAL ANCHORS

The shift toward algorithmic management represents more than a technological upgrade; it reconfigures the very foundation of how organizational culture is created, maintained, and experienced. From a theoretical standpoint, this evolution can be understood through the lens of socio-materiality, where technologies and human practices are inseparably intertwined (Orlikowski & Scott, 2008). Algorithmic systems are not passive tools; they actively shape decision-making, reward systems, and norms of behavior-key components of organizational culture.

Recent studies suggest that algorithmic processes influence not only efficiency, but also perceptions of fairness, inclusion, and recognition (Gal et al., 2021). For instance, performance metrics generated by AI may be interpreted as objective, yet their underlying logic often remains opaque to employees, potentially undermining trust (Möhlmann et al., 2021). This tension between perceived objectivity and interpretive opacity challenges traditional forms of managerial legitimacy, especially in hybrid work environments.

Moreover, leadership in such settings is no longer solely relational but becomes algorithmically mediated leadership. As Kellogg, Valentine, and Christin (2020) argue, managers are required to interpret, adjust, or even resist algorithmic outputs to ensure alignment with cultural values. The leadership role evolves from one of direct supervision to a curatorial function—mediating between automated control and human meaning-making.

The theoretical implication is that organizational culture in the post-digital era must be understood as co-produced by humans and algorithms. Practically, this suggests that managers must act as

translators of algorithmic logic, ensuring that data-driven tools support—not replace-collective identity and human connection. For instance, embedding cultural values into algorithmic systems through transparent criteria, participatory design, or ethical review boards can mitigate risks of dehumanization.

Thus, rather than viewing digital transformation as a threat to culture, it should be seen as an opportunity for intentional cultural redesign, in which management becomes an active force in shaping how technology is used to reinforce or reframe organizational identity.

5. CAUSE–EFFECT ANALYSIS OF ALGORITHMIC MANAGEMENT ON ORGANIZATIONAL CULTURE

To deepen the understanding of how algorithmic managerial practices reshape organizational culture, the following cause–effect analysis identifies key technological interventions and their direct and indirect impacts on employee behavior, cohesion, and identity.

Tabel 5.1. Cause–Effect Analysis of Algorithmic Management on Organizational Culture

Cause	Effect
Cause 1: Algorithmic surveillance and continuous monitoring	**Effect 1.1:** The use of employee surveillance software has increased by approximately 57% since 2019, particularly in hybrid and remote settings, where managers seek control over distributed teams. This growth reflects a managerial shift from trust-based supervision to metric-driven oversight. **Effect 1.2**: Employees report declining morale and perceived autonomy, as algorithmic surveillance is interpreted as a lack of organizational trust, especially when monitoring includes keystrokes, screen captures, or time logs. **Effect 1.3:** Burnout symptoms—such as fatigue, emotional exhaustion, and disengagement—have become more prevalent, especially among knowledge workers whose tasks are less easily quantifiable. Chronic exposure to monitoring tools is associated with psychological stress and reduced organizational commitment.
Cause 2: Real-time performance dashboards and KPI tracking	**Effect 2.1**: Teams using real-time dashboards have reported improvements in task completion rates by up to 20%, primarily due to the clarity and visibility of expectations. Dashboards provide constant feedback, which helps prioritize tasks and reduce ambiguity in role execution. **Effect 2.2:** Productivity in hybrid teams has increased by around 5% when dashboards are used to balance outcome tracking with team-level insights, especially when integrated with collaborative platforms. This efficiency is attributed to goal alignment and time optimization.

	Effect 2.3: Despite gains in output, over-reliance on dashboard metrics may reduce informal collaboration, creativity, and knowledge exchange, as employees become narrowly focused on quantifiable goals, potentially neglecting relational or innovation-driven tasks.
Cause 3: Attendance tracking linked to evaluations and compensation	**Effect 3.1:** Organizations using digital attendance systems (e.g., badge-in/out logs, biometric devices) tied to performance reviews have seen increased Return-to-Office (RTO) compliance, particularly when physical presence is rewarded or penalized. This reinforces presenteeism rather than actual engagement. **Effect 3.2:** Surveys show that approximately 46% of employees with remote capabilities express intent to resign or seek alternative jobs if rigid tracking mechanisms are imposed, viewing such systems as inflexible and disconnected from productivity outcomes. **Effect 3.3:** Companies enforcing strict presence-based evaluation criteria report higher attrition, particularly among high-performing employees who value autonomy and trust-based assessment. This contributes to talent loss and increased recruitment costs.
Cause 4: Lack of transparency in algorithmic decision-making	**Effect 4.1:** When employees are evaluated or rewarded based on opaque algorithms, trust in managerial processes decreases. Perceived lack of fairness and explainability leads to skepticism, especially when promotion, bonuses, or warnings are system-generated without human mediation. **Effect 4.2:** Algorithmic decisions that lack explainability foster perceptions of bias, particularly among underrepresented or diverse employee groups, who may feel excluded or unfairly categorized by standard models. **Effect 4.3:** Cultural disengagement and passive resistance often follow the implementation of opaque AI systems, as employees feel alienated from organizational values and processes, they cannot understand or influence.
Cause 5: Use of algorithmic tools in hybrid work environments	**Effect 5.1:** Hybrid organizations that integrate algorithmic tools for workflow coordination, performance tracking, and collaboration have reported up to 5% increases in productivity, particularly in project-based work. These gains stem from better time management and cross-functional visibility. **Effect 5.2:** However, digital fatigue rises significantly when employees are required to engage with multiple communication channels, dashboards, and asynchronous feedback loops. Over-communication leads to cognitive overload, reducing deep work capacity. **Effect 5.3:** Informal bonding and team cohesion are weakened in digitally mediated environments, as spontaneous interactions and nonverbal cues are diminished. Over time, this erodes a sense of belonging, impacting psychological safety and engagement.

Source: self-processing

6. SWOT ANALYSIS

Building on the empirical patterns and theoretical insights, the SWOT analysis below maps out the strategic advantages, internal limitations, emerging opportunities, and potential threats related to managing organizational culture in environments influenced by algorithmic decision-making.

Table 6.1. SWOT Analysis – Managing Organizational Culture in the Age of Algorithmic Oversight

Strengths	Weaknesses
S1. Real-time access to performance data enables faster cultural alignment.	**W1.** Algorithmic bias may lead to distorted assessments of behavior.
S2. AI-based feedback systems help managers personalize motivational strategies.	**W2.** Lack of transparency in algorithmic decisions decreases employee trust.
S3. Digital tracking allows middle managers to detect early signs of disengagement.	**W3.** Over-reliance on KPIs reduces creativity and informal leadership.
S4. Data analytics support fairer recognition systems when applied ethically.	**W4.** Employees may feel dehumanized in environments dominated by automation.
S5. Algorithmic tools facilitate consistent enforcement of company values.	**W5.** AI-driven cultural alignment can unintentionally suppress diversity of thought.
S6. Hybrid and remote work systems supported by technology encourage flexible cultural models.	**W6.** Constant surveillance can result in psychological stress and presenteeism.
S7. Predictive analytics help forecast cultural risks such as burnout or fragmentation.	**W7.** Algorithmic systems often lack sensitivity to context and nuance in interpersonal dynamics.
S8. Dashboards can empower employees to self-regulate and monitor their own contributions.	**W8.** Employees may disengage from culture-building efforts if they perceive systems as controlling.
S9. Performance transparency strengthens meritocratic values within teams.	**W9.** The informal components of culture (rituals, symbols) are harder to replicate digitally.
S10. Algorithmic models can help scale internal culture across geographic boundaries.	**W10.** Cultural authenticity may be lost when identity is filtered through data-driven indicators alone.
Opportunities	**Threats**
O1. Ethical algorithm design offers the chance to integrate diversity and inclusion into digital culture.	**T1.** Algorithmic surveillance may erode psychological safety and discourage open communication.

O2. Digital onboarding and AI-enabled learning can reinforce cultural identity from day one.	**T2.** Resistance to digital systems can divide employees generationally or by skill level.
O3. Organizations can leverage hybrid rituals (e.g., virtual celebrations, recognition platforms) to strengthen cultural cohesion.	**T3.** Misuse of data for micromanagement may fuel quiet quitting or passive resistance.
O4. Algorithmic tools can support transparent and bias-aware talent development programs.	**T4.** Poor integration between cultural vision and algorithmic outputs can result in strategic misalignment.
O5. Data-driven systems can measure cultural KPIs (trust, engagement) for timely adjustment.	**T5.** Increased dependence on algorithms may replace leadership intuition with rigid patterns.
O6. Managers can use AI tools to facilitate participatory feedback loops across departments.	**T6.** Overexposure to metrics and dashboards can cause digital fatigue and performance anxiety.
O7. Remote collaboration platforms open up new forms of shared meaning-making across diverse teams.	**T7.** Legal risks increase if algorithmic systems unintentionally discriminate or reinforce bias.
O8. Transparent algorithms may enhance the legitimacy of cultural decisions (e.g., promotions, conflict resolution).	**T8.** Lack of employee involvement in system design can trigger cultural dissonance and detachment.
O9. Algorithmic governance, when humanized, can modernize organizational identity and resilience.	**T9.** Superficial cultural indicators tracked by systems may replace deep cultural understanding.
O10. Strategic alignment between HR, IT, and leadership on algorithm use can institutionalize responsible digital transformation.	**T10.** Failure to anticipate the emotional impact of digital transformation may erode long-term engagement and retention.

7. CONCLUSIONS

The evolution of organizational culture in the post-digital era reveals a profound and ongoing transformation, where algorithmic systems are not merely operational tools but cultural agents. This study confirms that managerial practices rooted in algorithmic oversight significantly influence how employees perceive transparency, trust, and fairness—core elements of collective identity within organizations.

The first hypothesis, suggesting that algorithmic management affects perceptions of fairness and transparency, is strongly confirmed by the cause-effect analysis and literature. Employees operating under opaque systems often report diminished trust and motivation, validating the critical need for transparency in algorithm design and implementation.

The second hypothesis, asserting that managers who humanize technology preserve stronger cultural cohesion, is also supported. As the SWOT analysis shows, middle managers who interpret digital outputs contextually and maintain open dialogue foster a sense of inclusion and meaning, even in highly automated environments.

Furthermore, the hypothesis that hybrid work environments amplify cultural shifts is substantiated by evidence of both increased productivity and greater vulnerability to digital fatigue and disengagement. The lack of informal interactions in virtual contexts necessitates deliberate cultural reinforcement strategies.

Finally, the fourth hypothesis regarding the risk of resistance when algorithmic outputs conflict with organizational values is confirmed through both theoretical insights and practical examples. The use of cultural metrics that overlook deeper identity dynamics often leads to alienation or passive withdrawal.

In conclusion, the interplay between algorithmic logic and human values must be carefully managed. Leadership in the post-digital era is not about choosing between efficiency and empathy-it is about integrating them into a coherent and adaptive cultural framework. The research points toward a new managerial paradigm: one in which data serves as a compass, not a cage, and culture is curated through both code and conversation.

REFRENCES

1. **Amankwah-Amoah, J., et al.** (2022). COVID-19, economic crises and digitalisation: How algorithmic management became a substitute for automation. *Economic and Industrial Democracy*, 43, 37–59.
2. **Gal, U., et al.** (2021). Breaking the vicious cycle of algorithmic management: A virtue ethics approach. *Journal of Business Ethics*, 169(4), 623–643.
3. **Jarrahi, M. H., & Sutherland, W.** (2019). Information in Contemporary Society. *Springer International Publishing*, Cham.
4. **Kellogg, K. C., Valentine, M. A., & Christin, A.** (2020). Algorithms at work: The new contested terrain of control. *Academy of Management Annals*, 14(1), 366–410.
5. **Leonardi, P. M.** (2011). When flexible routines meet flexible technologies: Affordance, constraints, and the imbrication of human and material agencies. *MIS Quarterly*, 35(1), 147–167.
6. **Marabelli, M., Newell, S., & Handunge, V.** (2021). The lifecycle of algorithmic decision-making systems: Organizational choices and ethical challenges. *Journal of Strategic Information Systems*.
7. **Mazmanian, M., Orlikowski, W. J., & Yates, J.** (2013). The autonomy paradox: The implications of mobile email devices for knowledge professionals. *Organization Science*, 24(5), 1337–1357.
8. **Möhlmann, M., Zalmanson, L., Henfridsson, O., & Gregory, R. W.** (2021). Algorithmic nudges: A case for ethical design. *MIS Quarterly*, 45(2), 567–598.
9. **Mustajab, D.** (2024). Exploring the effectiveness of remote and hybrid work policies: A literature review. *Journal of Business Management*, 11(2), 891–908.
10. **Orlikowski, W. J., & Scott, S. V.** (2008). Sociomateriality: Challenging the separation of technology, work and organization. Academy of Management Annals, 2(1), 433–474
11. **Rakova, B., Yang, J., Cramer, H., & Chowdhury, R.** (2020). Where responsible AI meets reality: Practitioner perspectives. *CHI Conference on Human Factors in Computing Systems*.
12. **Schein, E. H.** (2016). *Organizational Culture and Leadership* (5th ed.). *Wiley*, Hoboken, NJ.
13. **Wiese, S. A., Lehmann, J., & Beckmann, M.** (2024). Organizational culture and the usage of Industry 4.0 technologies: Evidence from Swiss businesses.