

Digital Embeddedness as a Moderator of Inclusive Human Resource Management on Proactive Employee Social Responsibility Behavior: A Multi-Case Study of SMEs

Dahao Li

Al-Farabi Kazakh National University International Business School Almaty, Kazakhstan

Abstract: Against the backdrop of global digital transformation, human resource management has evolved from an organizational efficiency-centered function to an integrated field incorporating sociology, ethics and social psychology. Small and medium-sized enterprises, as key actors in economic development and social governance, face structural constraints in corporate social responsibility implementation, including limited capital, informal institutions and uneven digital adoption. Mainstream HRM research remains dominated by efficiency-oriented frameworks and large-firm samples, with insufficient attention to micro-level proactive employee social responsibility behavior and the socio-technical mechanisms through which digital systems shape inclusive management. This study integrates stakeholder theory, self-determination theory and digital embeddedness theory to explore the linkage between inclusive HRM practices and proactive employee social responsibility behavior in digitally transforming SMEs. Adopting a multi-case grounded theory design, this study selects three manufacturing and service SMEs in the Yangtze River Delta region with mature digital management systems and documented CSR practices. Data are collected via semi-structured interviews, internal policy documents, employee survey records and public CSR disclosures, and analyzed through open coding, axial coding and selective coding. Findings reveal four core dimensions of inclusive HRM practices in SMEs: equity inclusion, developmental inclusion, supportive inclusion and participative inclusion. These practices positively predict proactive employee social responsibility behavior through the serial mediation of psychological ownership and perceived organizational social responsibility. Digital embeddedness acts as a positive moderator that strengthens the transmission effect by lowering coordination costs, improving practice transparency and enhancing behavioral visibility. This study expands the theoretical boundaries of HRM research, clarifies the micro-foundations of employee-driven CSR, and provides guidance for SMEs to build digitally enabled inclusive HRM systems that align organizational sustainability with social value creation.

Keywords: digital embeddedness; inclusive human resource management; proactive employee social responsibility behavior; SMEs; grounded theory

Received: April 1, 2026
Revised: April 13, 2026
Accepted: April 19, 2026
Published: May 13, 2026

Copyright: © 2026 by the authors. Licensee Axon Academic Publishing Institute, Hong Kong, China. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

1. Introduction

1.1 Research Background and Practical Context

In contemporary management research, scholarly inquiry increasingly emphasizes the integration of economic rationality, social justice, individual dignity and ethical governance. This trend has reshaped the theoretical orientation of organizational and human resource research, moving beyond narrow performance-centric assumptions toward a holistic understanding of work as a social practice embedded in moral, relational and institutional contexts. Digital technologies—including cloud-based collaboration platforms, data-driven talent management systems, internal communication applications and digital volunteer registration tools—have restructured organizational routines, interpersonal interaction patterns and value distribution mechanisms. For SMEs, which account for more than 90% of global enterprises and provide the majority of employment opportunities in most economies, CSR is no longer a symbolic strategic choice but a normative expectation shaped by regulatory pressures, consumer awareness, investor preferences and societal demands. Unlike large corporations with dedicated CSR departments, sufficient financial buffers, specialized sustainability teams and formalized governance structures, SMEs rely primarily on internal HRM systems to stimulate voluntary, bottom-up social behaviors among employees rather than imposing top-down mandatory initiatives. The informality of SME organizational structures, close interpersonal interactions between owners and employees, and limited resource endowments mean that HRM practices directly determine whether social responsibility can be internalized as a shared value rather than merely a superficial compliance activity.

However, many SMEs continue to rely on traditional control-oriented HRM models that prioritize short-term operational efficiency, cost reduction and output control over employee autonomy, fairness, work-life balance and value alignment. Such models often suppress the intrinsic motivation necessary for employees to engage in voluntary environmental protection, community service, workplace equity advocacy, customer-oriented ethical behavior and other forms of proactive social responsibility. In some cases, SMEs adopt digital tools solely for monitoring employee attendance, workflow tracking and performance surveillance, which further erodes psychological safety and reduces willingness to engage in discretionary prosocial behaviors. Meanwhile, digital tools present dual effects: they can reduce information asymmetry and transaction costs for collective prosocial action, enhance the visibility of employee contributions to social initiatives, and streamline participation in public welfare activities; yet they may also reinforce managerial control and create new forms of inequality if implemented without inclusive design principles. It is practically and theoretically important to explore how digitally supported inclusive management can foster sustainable, ethically grounded employee behaviors that contribute to both organizational resilience and public welfare.

1.2 Theoretical Gaps and Research Questions

Despite growing academic interest in CSR and inclusive management, existing

literature exhibits three notable limitations. First, most HRM-CSR studies focus on large enterprises or cross-sectional quantitative analyses, lacking in-depth qualitative exploration of SME-specific contexts, informal organizational dynamics and contextually embedded behavioral mechanisms. Most existing frameworks are derived from Western large-organization samples and may not apply to resource-constrained, relationship-driven SMEs in emerging market contexts. Second, digital transformation is frequently treated as a static background condition rather than an explicitly modeled moderating variable, neglecting its socio-technical influence on HRM effectiveness and employee behavioral choices. Few studies distinguish between mere digital tool adoption and genuine digital embeddedness. Third, few studies adopt an integrated perspective that combines management science with sociological institutionalism, ethical theory and psychological need satisfaction to interpret proactive social responsibility as a value-laden individual action rather than a purely instrumental work behavior.

To fill these gaps, this study poses three core research questions:

- (1) What structural dimensions define inclusive HRM practices in digitally embedded SMEs?
- (2) Through which sequential psychological mechanisms do inclusive HRM practices shape employees' proactive social responsibility behavior?
- (3) How does digital embeddedness moderate the strength and stability of the relationship between inclusive HRM practices and individual-level social responsibility outcomes?

1.3 Theoretical Contributions and Practical Significance

Theoretically, this study makes three primary contributions. First, it integrates stakeholder theory, self-determination theory and digital embeddedness theory to construct an integrated framework that extends the micro-foundations of CSR within HRM literature. By moving beyond economic instrumentalism, the framework aligns with humanistic values emphasizing dignity, fairness and collective well-being. Second, it identifies a contextually valid four-dimensional structure of inclusive HRM tailored to SMEs, moving beyond Western-centric conceptualizations to reflect emerging-market organizational realities characterized by informality, resource constraints and high managerial discretion. Third, it reveals a serial mediation mechanism and a moderating effect of digital embeddedness, providing a process-based explanation for employee proactive social responsibility that is both theoretically consistent and empirically grounded in multiple case data.

Practically, this research offers actionable guidance for SME owners, HR managers and policymakers. For SME managers, the findings clarify how to design and implement inclusive HRM practices under resource constraints and how to integrate digital tools to enhance rather than undermine inclusiveness. For policymakers, the findings highlight the importance of supporting digital inclusion and ethical HRM capacity-building among SMEs to enhance overall social governance, environmental protection and sustainable development. By stimulating employee-driven social responsibility, SMEs can contribute to community stability, environmental sustainability and social equity without bearing excessive financial burdens.

2. Literature Review and Theoretical Foundation

2.1 Inclusive Human Resource Management

Inclusive HRM emerged from interdisciplinary dialogue among organizational behavior, sociology, diversity research, business ethics and social justice studies. It emphasizes equitable treatment, respect for individual differences, accessible developmental opportunities, participative decision-making and relational support within the workplace. Unlike traditional high-performance work systems (HPWS) that prioritize competitive advantage, labor productivity and short-term financial returns, inclusive HRM centers on social sustainability, psychological safety, stakeholder fairness and the fulfillment of intrinsic human needs at work. Scholars have conceptualized inclusive practices as encompassing fair and non-discriminatory recruitment and compensation, universal access to training and promotion, open voice mechanisms, work-life balance support, flexible working arrangements, mental health support and managerial empathy toward employee vulnerabilities.

In the SME context, where organizational structures are informal, hierarchical distances are small and interpersonal relationships dense, inclusive HRM carries particular significance because managerial behaviors directly shape collective norms and individual motivation. Unlike large firms with formalized HR departments and standardized policies, SMEs rely heavily on the daily practices and behavioral models of owners and frontline managers to convey inclusive values.

2.2 Proactive Employee Social Responsibility Behavior

Proactive employee social responsibility behavior refers to voluntary, self-initiated individual actions that advance social welfare, environmental protection, equity and community development beyond formal job requirements and contractual obligations. Rooted in ethical theory, prosocial behavior research and organizational citizenship behavior (OCB) literature, PESRB differs from conventional OCB by its explicit orientation toward external social value rather than internal organizational efficiency. While OCB typically focuses on behaviors benefiting coworkers or the firm itself, PESRB extends beyond organizational boundaries to include environmental protection, community volunteer work, ethical customer treatment, equity advocacy and public welfare participation.

Research on PESRB remains limited, especially in SME contexts, with most studies focusing on managerial-level CSR rather than frontline employee initiative. This study addresses an important theoretical gap by exploring the antecedents and mechanisms of PESRB from a micro-level, employee-centered perspective.

2.3 Digital Embeddedness

Digital embeddedness describes the degree to which digital technologies are structurally integrated into organizational routines, communication patterns, decision-making processes and daily work practices. It is not merely technical adoption or tool usage but a socio-technical transformation that reshapes behavioral norms, power dynamics, resource accessibility and interaction patterns.

This study defines digital embeddedness as a four-dimensional construct:

Breadth of technology coverage: the scope of digital systems applied to daily

management and operational processes;

Depth of usage: the extent to which employees master and routinely apply digital tools;

Degree of institutional integration: the extent to which digital systems are embedded into formal rules and organizational processes;

Transparency and traceability: the openness, verifiability and recordability of information flows in digital systems.

Digital embeddedness implies that technology becomes an inseparable part of how work is organized, how people communicate and how decisions are made, rather than an auxiliary function.

2.4 Integrated Theoretical Framework

This study integrates three complementary theoretical perspectives to form a logically cohesive analytical foundation. Stakeholder theory provides the normative foundation by justifying the organizational obligation to balance economic interests with social and environmental responsibilities toward employees, customers, communities and society at large. Self-determination theory explains the motivational mechanism by clarifying how inclusive HRM practices fulfill employees' basic psychological needs for autonomy, competence and relatedness, thereby stimulating intrinsic motivation for proactive prosocial action. Digital embeddedness theory contextualizes the technological and structural conditions that enable or constrain the translation of inclusive HRM signals into observable employee behaviors. Together, these theories support a holistic explanation that avoids reductionist efficiency-only logic.

3. Research Design and Methodology

3.1 Research Approach

This study adopts a multi-case grounded theory approach for three epistemological and practical reasons. First, the research topic involves emergent behavioral mechanisms that are not fully captured by existing deductive theories, requiring inductive theory development rooted in empirical data. Grounded theory allows new categories and relationships to emerge from real-world contexts rather than being imposed by pre-existing frameworks. Second, the SME context is characterized by informality, resource constraints and idiosyncratic managerial practices, demanding in-depth qualitative sensitivity to contextual nuances that quantitative surveys often overlook. Third, the integrated orientation requires a flexible, interpretive method that can integrate structural, psychological and ethical dimensions rather than relying solely on statistical hypothesis-testing. The multi-case design enhances generalizability beyond single-company idiosyncrasies while maintaining depth of analysis.

3.2 Case Selection

Case selection follows theoretical sampling principles to maximize analytical generalization rather than statistical representativeness. Three SMEs headquartered in the Yangtze River Delta region are selected, covering manufacturing, digital technology services and business support services. All firms meet the following criteria: clear implementation of digital HRM systems; documented and publicly disclosed CSR or social contribution activities; accessibility to founders, HR managers, department

supervisors and frontline employees for semi-structured interviews; and diverse operational types to enhance robustness.

3.3 Data Collection

Multi-source data triangulation is employed to ensure reliability, validity and academic rigor. Data collection includes three complementary channels: semi-structured interviews with 18 interviewees across the three firms; internal documentary data including HR policy manuals, meeting minutes, training records, activity summaries, internal notices, digital system operation logs and internal survey results; public secondary data from corporate official websites, social responsibility disclosures, media reports, industry regulatory documents and public sustainability ratings. Data collection continues until theoretical saturation is achieved.

3.4 Data Analysis

Data analysis follows the standard procedural rigor of grounded theory: open coding labels raw data line by line to generate initial concepts; axial coding establishes relationships between categories along causal, contextual, intervening and conditional lines; selective coding identifies a core category and integrates all subcategories into a unified theoretical model. Constant comparison and memo writing ensure the emerging model remains empirically grounded and theoretically coherent.

3.5 Reliability and Validity Assurance

This study implements multiple validity and reliability strategies: data triangulation across interviews, internal documents and public information; peer debriefing with senior researchers; explicit evidence trails linking each conceptual category to original data segments; theoretical saturation verification; and transparent procedural documentation to support replicability.

4. Multi-Case Analysis and Theoretical Model Construction

4.1 Open Coding: Initial Conceptualization

Open coding processes more than 300 initial concepts derived from raw interview transcripts and documentary data. These concepts are gradually aggregated into more abstract preliminary categories, including fair performance appraisal, unbiased compensation distribution, barrier-free training access, flexible work support, employee voice channels, digital volunteer registration, perceived organizational sincerity, psychological sense of ownership, community participation willingness, environmental protection initiative, algorithmic transparency in digital HR, digital skill support for vulnerable employees and manager role modeling in social responsibility. Each concept is closely tied to empirical evidence to avoid abstract speculation.

4.2 Axial Coding: Relational Category Development

Axial coding systematically connects categories along causal and contextual dimensions, leading to the identification of four stable, mutually supportive dimensions of inclusive HRM practices in digitally embedded SMEs:

Equity inclusion: Ensuring non-discrimination, procedural fairness in performance evaluation and compensation, transparent promotion criteria and equal treatment regardless of personal background, age, gender or tenure.

Developmental inclusion: Providing universal access to skill training, career guidance and promotion opportunities without arbitrary exclusion based on seniority or informal relationships.

Supportive inclusion: Offering work–life balance accommodation, mental health support, economic assistance for employees in difficulty, family-friendly policies and care for vulnerable groups.

Participative inclusion: Establishing formal and informal channels for employee voice, encouraging participation in policy formulation and CSR activity design, and valuing constructive feedback.

Axial coding also identifies two key mediating variables: psychological ownership and perceived organizational social responsibility. Digital embeddedness is confirmed as a critical contextual moderator.

4.3 Selective Coding: Core Category Integration

Selective coding identifies the core category as digitally supported inclusive HRM activation of proactive employee social responsibility behavior. All subcategories are integrated around this core to form a complete theoretical model:

Inclusive HRM practices → psychological ownership → perceived organizational social responsibility → proactive employee social responsibility behavior,
with digital embeddedness positively moderating the linkages from inclusive HRM practices to the two mediating variables.

This model reflects a sequential psychological mechanism: inclusive HRM practices first enhance employees' psychological ownership by satisfying basic psychological needs for autonomy, competence and relatedness; strengthened psychological ownership then deepens employees' perception of the organization's authentic social commitment; finally, these combined perceptions motivate voluntary proactive social responsibility behaviors.

4.4 Case-Based Mechanism Interpretation

Cross-case comparison reveals consistent patterns across all three sample firms. Employees in units with more mature inclusive HRM practices and higher digital integration consistently reported stronger willingness to initiate and participate in environmental, charitable and equity-promoting activities. Digital platforms reduced coordination time and effort for collective volunteer actions, while digital performance and welfare systems increased the transparency of inclusive practices, reducing perceptions of managerial hypocrisy. Interviewees frequently linked fair treatment, developmental support and participative voice to their sense of moral obligation toward colleagues, customers and the broader community.

5. Discussion of Findings

5.1 Dimension Structure of Inclusive HRM in Digital SMEs

This study validates a four-dimensional structure of inclusive HRM practices specifically adapted to digitally transforming SMEs. This structure emphasizes practical feasibility under resource constraints and the integration of digital tools into daily inclusive operations. Equity inclusion ensures procedural justice, developmental inclusion promotes long-term capability growth, supportive inclusion addresses individual vulnerabilities and participative inclusion enhances autonomy and collective identity. The digital environment enables these dimensions to operate more efficiently and fairly by reducing bias, expanding access and lowering participation costs.

5.2 Serial Mediation Mechanism

The serial mediation path from inclusive HRM to psychological ownership to perceived organizational social responsibility and finally to PESRB clarifies the psychological process of employee-driven CSR. Inclusive practices do not immediately trigger social behaviors but first reshape employees' psychological connection with the organization by fulfilling basic psychological needs. As employees develop a stronger sense of psychological ownership, they become more attentive to the organization's values and actions, leading to a more accurate and positive perception of its genuine social responsibility. Once employees perceive the organization as sincerely committed to social values, they become willing to invest personal effort in voluntary prosocial actions.

5.3 Moderating Role of Digital Embeddedness

Digital embeddedness acts as an enhancer rather than a direct trigger of PESRB. Digital systems improve the transparency and credibility of inclusive HRM practices, reduce perceptions of managerial hypocrisy, expand the accessibility of developmental and supportive resources and provide convenient channels for employee participation in social responsibility activities. The moderating effect depends on how digital tools are designed and used. When deployed to enhance transparency and inclusion, digital systems strengthen the link between inclusive HRM and psychological mediators; when used primarily for surveillance and control, they weaken this link.

5.4 Research Implications

This study integrates multiple theoretical perspectives to enrich HRM and CSR research, and connects micro-level employee behaviors with macro-level sustainable development goals, providing new insights for organizational ethical management and sustainable development.

6. Conclusion

6.1 Main Conclusions

Inclusive HRM practices in digital SMEs consist of four interrelated dimensions: equity inclusion, developmental inclusion, supportive inclusion and participative inclusion, all of which can be effectively supported by appropriately designed digital systems.

Inclusive HRM positively predicts employees' proactive social responsibility

behavior through the serial mediation of psychological ownership and perceived organizational social responsibility.

Digital embeddedness positively moderates the relationship between inclusive HRM practices and the two mediating variables, strengthening the overall transmission effect when digital tools prioritize transparency and inclusion over control.

A digitally enabled inclusive HRM system can effectively stimulate employee-driven social responsibility and help SMEs achieve sustainable development.

6.2 Theoretical Contributions

This study expands the micro-foundations of CSR within the HRM literature, provides a validated inclusive HRM structure for SMEs, clarifies the multi-dimensional structure of digital embeddedness and strengthens integrated dialogue in management research. It moves beyond efficiency-centric reductionism to emphasize dignity, fairness and social value as legitimate outcomes of effective people management.

6.3 Practical Implications

SME managers should shift from control-oriented HRM toward inclusive systems that prioritize fairness, development, support and participation. Digital tools should be deployed to enhance transparency and inclusion rather than merely strengthen surveillance. Aligning organizational practices with authentic social values helps build sustained employee intrinsic motivation for social responsibility. Policymakers should support digital literacy and inclusive HRM capacity among SMEs to improve regional social governance and sustainable development performance.

6.4 Limitations and Future Research Directions

This study has several limitations. First, the sample is restricted to SMEs in one geographic region, which may limit cross-context generalizability. Second, the research design is qualitative and grounded-theory-based; future studies may conduct large-scale quantitative surveys to statistically validate the theoretical model. Third, cross-industry comparative designs could further clarify contextual boundary conditions. Future research may also explore the long-term dynamic effects of digital inclusive HRM on societal-level sustainability outcomes, the role of algorithmic fairness in digital HRM and the intersection of inclusive HRM with diversity, equity and inclusion frameworks.

References

- [1] Barney, J., & Hesterly, W. (2021). *Strategic management and competitive advantage* (7th ed.). Pearson Education.
- [2] Bowen, D. E., & Ostroff, C. (2004). Understanding HRM–firm performance linkages: The role of the strength of the HRM system. *Academy of Management Review*, 29(2), 203–221.
- [3] Choi, S. N., & Yu, J. (2021). Inclusive human resource management and employee innovative behavior: The role of psychological empowerment and diversity climate. *Journal of Business Ethics*, 174(3), 529–544.
- [4] Corley, K. G., & Gioia, D. A. (2004). Identity ambiguity and change in emerging organizational fields. *Administrative Quarterly*, 49(2), 175–222.
- [5] Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227–268.

-
- [6] Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review*, 20(1), 65–91.
- [7] Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Aldine de Gruyter.
- [8] Harvey, C., & Allard, M. (2015). Inclusive workplaces: A review and model. *Research in Organizational Behavior*, 35, 1–30.
- [9] Katz, D., & Kahn, R. L. (1978). *The social psychology of organizations* (2nd ed.). John Wiley & Sons.
- [10] Orlitzky, M., Schmidt, F. L., & Rynes, S. L. (2003). Corporate social and financial performance: A meta-analysis. *Organization Studies*, 24(3), 403–441.
- [11] Stahl, G. K., Brewster, C., Hajro, A., & Galčić, D. (2020). Inclusive leadership and employee outcomes: The role of psychological safety. *Human Resource Management Journal*, 30(2), 145–166.
- [12] Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2nd ed.). Sage Publications.
- [13] Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509–533.
- [14] Van de Ven, A. H., & Johnson, P. E. (2006). Knowledge for theory and practice. *Academy of Management Review*, 31(4), 802–821.
- [15] Weber, M. (1978). *Economy and society: An interpretive sociology*. University of California Press.
- [16] Zucker, L. G. (1977). The role of institutionalization in cultural persistence. *American Sociological Review*, 42(5), 726–743.
- [17] Delery, J. E., & Doty, D. H. (1996). Modes of theorizing in strategic human resource management: Tests of universalistic, contingency, and configurational performance predictions. *Academy of Management Journal*, 39(4), 802–835.
- [18] Riordan, C. M., Flippen, M., & Robbins, S. B. (2005). The relational demography of work groups: Dissimilarity and team performance. *Group & Organization Management*, 30(2), 170–191.
- [19] Ashkanasy, N. M., & Daus, C. S. (2002). Emotion in the workplace: The new challenge for managers. *Academy of Management Executive*, 16(1), 74–84.
- [20] Grant, A. M. (2012). Leading with meaning: Beneficiary contact, prosocial impact, and the performance of fundraisers. *Academy of Management Journal*, 55(2), 458–476.
- [21] Shin, D., Lee, C., Shin, C., & Kim, K. Y. (2025). e-HRM and innovation: A digital fit perspective on resource deployment, utilization, and integration. *Academy of Management Proceedings*, 99bp.
- [22] Kovalainen, A., & Alvesson, M. (2020). Digitalization and inclusiveness of HRM practices: The example of neurodiversity initiatives. *Human Resource Management Journal*, 30(4), 567–584.
- [23] Hess, M. (2004). Spatial relationships Towards a reconceptualization of embeddedness. *Progress in Human Geography*, 28(2), 165–186.