Determinants of Service Agility among Frontline Retail Employees

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ABSTRACT

This article examines the relationship of digital competence (DC), digital leadership (DL), and structural empowerment (SE) drives service agility (SA) among frontline retail employees navigating increasingly automated and volatile work environments. This study contributes a conceptual framework that reconciles individual-level digital skills with organizational-level structural support to explain how workforce adaptability fosters operational resilience in the retail sector. By situating service agility at the intersection of human agency and technological integration, this conceptual analysis addresses a vital gap in understanding how workforce adaptability dictates competitive advantage in evolving retail land. The proposed framework provides a critical lens for exploring how these antecedents mitigate the challenges inherent in the digital era, where traditional retail models are increasingly strained by rapid technological disruption. By delineating these relationships, the study clarifies how decentralized decision-making and digital proficiency facilitate the rapid responsiveness required to align service delivery with shifting consumer preferences. Ultimately, this inquiry underscores the necessity of fostering a digitally empowered frontline to enhance organizational productivity and operational adaptability. This theoretical integration aligns individual micro-agility with organizational dynamic capabilities, emphasizing that the reconfiguration of internal resources is essential for sustaining long-term competitive performance. Thus, the framework positions frontline employees not merely as recipients of digital transformation but as active contributors to sensing customer needs, seizing service opportunities, and adapting retail operations.

Keywords: Service agility, digital competence, digital leadership, structural empowerment, frontline retail operations, digital transformation.

INTRODUCTION

The rapid integration of sophisticated technologies in the retail sector has intensified the need for frontline staff to exhibit heightened service agility, defined as the capacity to sense and respond to volatile market conditions with speed and precision. While traditional retail management often prioritizes operational efficiency through standardized protocols, the current digital shift necessitates a paradigm where employees function as adaptive nodes capable of managing complex, tech-enabled customer. Despite this imperative, current literature remains largely fragmented, often treating employee-level adaptability as a peripheral outcome of broader organizational restructuring rather than a foundational strategic capability (Cuong et al., 2025). By positioning these employees as primary boundary spanners who interpret real-time digital footprints, this analysis moves beyond empirical observation to delineate the theoretical mechanisms through which internal resources are mobilized to satisfy the idiosyncratic demands of modern consumers.

Retail organizations currently face an intensifying paradox while digital transformation offers unprecedented tools for personalization, it simultaneously risks overwhelming frontline personnel with complex, hybrid service demands that traditional operational structures are poorly equipped to support (Mele et al., 2024; Wirtz & Stock, 2025). This organizational tension highlights a critical gap between the deployment of automated systems and the development of the requisite digital adaptive performance needed to navigate these hybrid service landscapes (Sun et al., 2026). Existing scholarship disproportionately concentrates on either human-centric service models or purely technological deployments, leaving a significant void in our understanding of the hybrid, sociotechnical frontline (Gnewuch et al., 2023). This narrow focus obscures the essential synergy

between an employee's digital competence and the structural empowerment required to leverage intelligent technologies for superior service outcomes (Jooss et al., 2025; Waelbers et al., 2026). While prior research highlights the evolving work characteristics of service roles within AI-integrated environments, it fails to explicitly connect individual digital proficiency with the organizational configurations that enable or stifle responsive service behavior.

This study systematically maps the convergence of individual skill sets and organizational support, arguing that service agility operates through a sequential process of sensing environmental cues, mobilizing digital tools, and executing responsive service interventions (Bouguerra et al., 2023; Hamid & Eledum, 2026). This conceptual exploration transcends mere descriptive analysis of the retail workforce to provide a theoretical architecture that delineates the prerequisites for such adaptability (Arkenback-Sundström, 2021). Specifically, this study addresses the inherent tensions arising from the widespread adoption of high-convenience technologies and autonomous systems, which simultaneously create novel service opportunities and impose significant psychological demands on the workforce (Willems et al., 2022). By critically examining the alignment between organizational technology investments and frontline staff capabilities, this study provides a conceptual roadmap for resolving the disconnect between managerial strategic intent and the lived experience of the service provider.

This study therefore transcends empirical reporting by theorizing how digital leadership and structural empowerment act as organizational catalysts that modulate the sociotechnical implications of consumer-facing technologies (Bonetti et al., 2023). Rather than viewing digital transformation as a static infrastructural upgrade, this paper frames the phenomenon as a dynamic reconfiguration of the service encounter that necessitates high-level cognitive and relational shifts among staff (Judijanto, 2026). This conceptual shift acknowledges that while service convenience remains a primary retail objective (Nanni & Ordanini, 2024), the realization of such value hinges upon the frontline's ability to navigate the complexities inherent in these sophisticated technological interfaces. Consequently, this paper formalizes the theoretical nexus between human agency and agentic AI, positioning the frontline employee as a critical orchestrator of technology-mediated service encounters.

LITERATURE REVIEW

Service Agility (SA)

Service agility (SA) is defined as the frontline employee's capacity to fluidly reconfigure service delivery protocols in response to real-time, technology-mediated shifts in customer expectations (Akter et al., 2020). This construct is distinct from general service quality, which prioritizes standardized excellence, and flexibility, which refers to latent capacity, as agility emphasizes the proactive adaptation of cognitive and interpersonal strategies during complex, AI-supported customer interactions (Yang et al., 2025). This operational versatility allows employees to bridge the divide between standardized automated processes and the nuanced demands of personalized customer engagement (Le et al., 2024). By situating this adaptive capability within the job demands of dynamic retail environments, this conceptualization treats agility not as a fixed trait but as a responsive behavioral outcome driven by an employee's readiness to manage unpredictable environmental stressors (Salmen & Festing, 2021). This behavioral manifestation of agility enables frontline staff to reconcile environmental turbulence with operational continuity, thereby transforming static organizational resources into competitive advantage.

Service agility specifically addresses the tension between intelligent machine usage and proactive service behavior, where the ability to navigate algorithmic outputs determines whether technology serves as an enabler or an inhibitor of role efficacy (Cai et al., 2026). At its core, this agility represents a discretionary departure from standardized scripts, allowing employees to improvise in real-time when algorithmic outputs fail to resolve idiosyncratic customer concerns (Rayburn et al., 2025; Vredenburg et al., 2023). Such responsiveness relies on the alignment of individual digital self-efficacy with an environment that facilitates autonomous navigation of AI-mediated service tasks (Rastogi & Pandita, 2025). Furthermore, this capability is fundamentally tied to the employee's proactive engagement in "job crafting agility," as they actively reshape

their service roles to maintain coherence between their own human judgment and the autonomous responses of AI service agents (Dhanpat, 2024; Pitardi et al., 2021). By leveraging customer analytics and process digitization, empowered employees can better interpret algorithmic cues, thereby facilitating more sustainable service outcomes than those achieved through rigid adherence to automated protocols.

Digital Competence (DC)

Digital competence (DC) in the retail frontline transcends basic technical literacy, encompassing a multifaceted capacity for algorithmic fluency and the critical evaluation of data-driven service insights. This proficiency enables employees to perform "AI crafting," whereby they actively calibrate machine-generated outputs to suit specific, nuanced customer needs (Zhang et al., 2026). Consequently, this capability allows staff to focus on high-order cognitive tasks such as empathy and emotional resonance while delegating repetitive operational demands to automated systems (Singh & Pandey, 2024). This synergy between human emotional intelligence and algorithmic precision is further moderated by the employee's ability to interpret complex service data as a boundary-crossing object that facilitates adaptive, rather than strictly procedural, job performance (Prentice et al., 2023). Moreover, this sophisticated level of digital competence empowers employees to bridge the gap between machine-generated analytics and the context-specific nuances of the customer experience, effectively transforming data points into actionable insights for personalized service delivery.

This evolution of technical skill facilitates a seamless human–AI collaboration, wherein frontline staff can iscern when to augment algorithmic recommendations with human-centric reasoning (Dubey, 2024). By cultivating this collaborative intelligence, employees function as "superminds" capable of achieving superior service outcomes that neither the human nor the autonomous agent could reach in isolation (Schneider & Kokshagina, 2021). Consequently, such competence serves as a primary determinant of an individual's cognitive experiential state, enabling them to transition from passive system users to active agents who optimize interdependent workflows (Le et al., 2022; Phan et al., 2026). Building on this foundation, digital competence enables frontline employees to combine technology-related, work-related, human–machine, and learning capabilities to interpret algorithmic outputs, calibrate AI recommendations to customer needs, and translate service analytics into adaptive, customer-responsive action. Such individual capabilities effectively bridge the divide between standardized AI automation and the emotive, relationship-driven experiences required for high-value service encounters.

Digital Leadership (DL)

Digital leadership (DL) acts as a critical strategic lever that cultivates this competence by fostering a culture of psychological safety, which allows employees to engage in the experimental behavior necessary for high-level improvisational service (Zhang et al., 2026). By championing a strategic vision that emphasizes autonomy and curiosity, digital leaders enable frontline staff to move beyond rigid protocols toward a more agile, personalized approach to service (Hanandeh et al., 2024; Tigre et al., 2024). These leaders effectively moderate the translation of organizational technological investments into competitive frontline performance by prioritizing evidence-based development and iterative capability building (Garem, 2026). Through consistent digital interaction, these leaders facilitate the development of the strategic foresight and cognitive agility necessary for employees to navigate complex service landscapes (Zia et al., 2024). By aligning organizational digital infrastructure with human-centric developmental goals, these leaders establish a climate of "HRM 5.0" readiness that prioritizes continuous reskilling and adaptive decision-making.

Digital leaders catalyze this process by integrating human-centric communication strategies with technological adoption, ensuring that frontline staff possess both the technical proficiency and the digital empathy required for high-quality service interactions (Takbir et al., 2026). By acting as architects of this digital environment, leaders ensure that individual digital skills are strategically synchronized with broader organizational objectives to enhance overall competitive performance (Hanandeh et al., 2024; Qiao et al., 2024). This alignment further enables frontline employees to convert technological resources into timely, context-sensitive service responses, thereby strengthening the organization's capacity to sense changing customer needs and

adapt service processes with agility (AlNuaimi et al., 2022). By adopting a mindset rooted in transparency and collaborative experimentation, these leaders move beyond mere technological oversight to actively cultivate a workforce capable of interpreting digital insights for data-based decision-making. They encourage employees to question, contextualize, and refine algorithmic outputs through open dialogue and iterative feedback rather than treating data as an unquestionable basis for action.

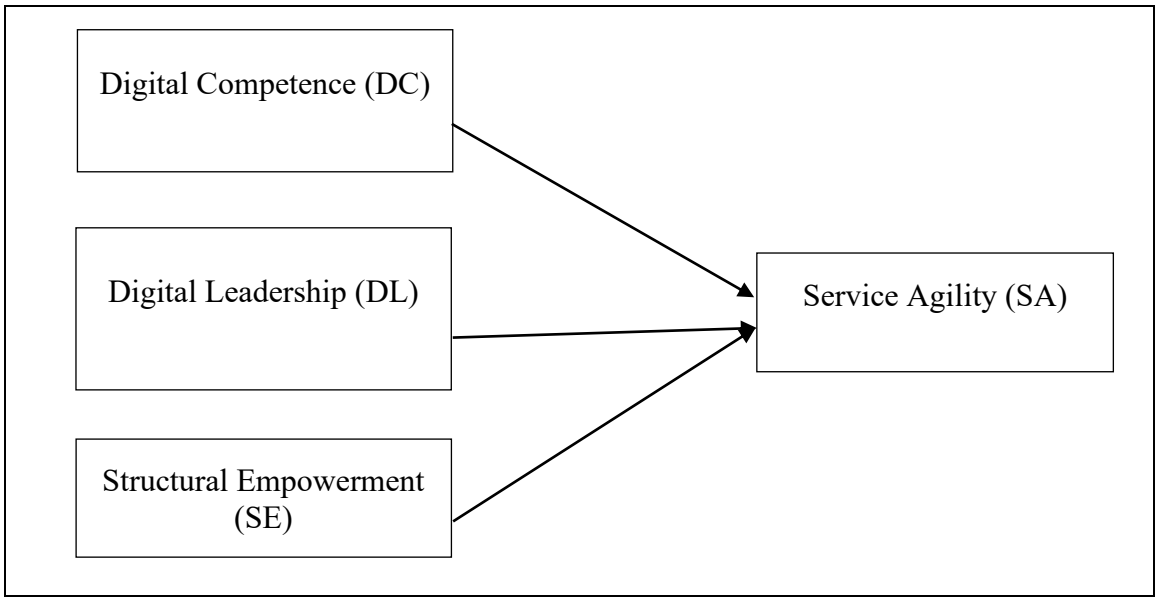
Structural Empowerment (SE)

Structural empowerment (SE) is defined as the organizational provision of access to the information, resources, and institutional support necessary for employees to exercise their agency (Li et al., 2024). In this context, empowerment functions as a situational strength that furnishes frontline staff with the autonomy to select bespoke approaches when navigating customer-facing obstacles. By decentralizing control and granting broad access to operational data, organizations mitigate the restrictive constraints of rigid service scripts, allowing employees to exercise discretion in real-time (Darvishmotevali et al., 2024). This shift toward open information access ensures that frontline personnel possess the requisite knowledge to make informed, autonomous decisions that deviate from standard operating procedures when customer situations demand it (Coun et al., 2021). Such structural alignment fosters a culture where employees feel entitled to experiment with service delivery, thereby transitioning from rule-bound actors to empowered problem-solvers who integrate unique organizational resources to create sustainable competitive advantages.

Ultimately, these empowering structures catalyze adaptive employee behaviors, as access to diverse organizational resources provides the necessary foundation for prosocial service and autonomous problem-solving (Lim et al., 2024). By facilitating this decentralization of power, firms signal a commitment to employee agency, which serves as a motivational precursor for discretionary service behaviors that extend beyond prescribed role requirements (Yuan et al., 2022). Furthermore, providing such structural access enables frontline staff to leverage organizational knowledge to make effective, improvisational decisions during volatile service encounters, significantly bolstering their adaptive performance (Sait, 2024). Such organizational routines effectively create a participative infrastructure that ensures flexibility-relevant data flows directly into the frontline decision-making process. This institutional architecture empowers staff to transcend static task boundaries, providing the tangible support and authority required to translate digital insights into genuine service innovation.

Building upon the extant literature and relevant theoretical foundations, the proposed conceptual framework was developed to delineate the key constructs and systematically articulate the hypothesized relationships.

Figure 1 illustrates the proposed framework for Determinants of Service Agility Among Frontline Retail Employees



DISCUSSION

Within the domain of service management, this framework shifts the focus from technology adoption to the "agencement" of on life agents and phygital resources, where service agility emerges through the reciprocal co-evolution of human discretion and systemic support. This perspective transcends traditional IT-centric models by positioning digital leadership and structural autonomy as the vital connective tissue that transforms technical infrastructure into sustained organizational performance (Seraj et al., 2025; Troise et al., 2021). For retail organizations undergoing digital transformation, this requires moving beyond mere platform implementation toward fostering an ecosystem where digital competence and structural empowerment are strategically leveraged as dynamic capabilities. Such a transformation necessitates a shift in operational focus, prioritizing the integration of human-centric decision-making with the firm's broader omnichannel strategy to ensure that frontline personnel can effectively navigate both digital and physical service layers.

The model extends Dynamic Capabilities Theory by positioning digital leadership as a primary catalyst that translates technological assets into realized service agility, addressing a critical gap in current organizational behavior literature (Jasim et al., 2024). Furthermore, by conceptualizing frontline empowerment and digital competence as micro-foundations of agility, this research delineates the precise mechanisms through which employee-level discretion drives organizational resilience (Gloria, 2025; Sharma et al., 2024). Nonetheless, the generalizability of these findings is constrained by the retail sector's distinct frontline environment, which may not fully map onto high-complexity professional service settings or industries characterized by rigid regulatory oversight.

Retail leaders should prioritize the coordinated development of digital skills through targeted training, ensuring employees can effectively interpret and leverage emerging data-driven tools (Ciampi et al., 2021; Yamin & Murwaningsari, 2023). Moreover, managers must cultivate a leadership style that promotes psychological safety and clear criteria for performance, enabling staff to confidently apply these technologies when responding to volatile customer demands (Azzam et al., 2023). Furthermore, firms should implement structural mechanisms that decentralize operational authority, thereby providing the necessary autonomy for employees to translate their technological proficiency into meaningful value creation (Mamdouh et al., 2025). By institutionalizing these feedback loops, organizations can bridge the capability-to-performance gap, ensuring that technological adoption transcends isolated IT projects to become a core engine of organizational resilience.

While this conceptual framework offers a novel integration of organizational and individual drivers of service agility, it is fundamentally limited by its reliance on theoretical synthesis rather than empirical validation. Consequently, future inquiries must prioritize large-scale quantitative studies and qualitative case research to substantiate these theoretical propositions and calibrate the framework's predictive power within dynamic retail environments. Specifically, researchers should move beyond static assessments of digital skills to examine how shifting human–AI resource relations alter the boundaries of frontline discretion and service cocreation. Additionally, scholars should investigate whether the integration of agentic AI necessitates a fundamental reconfiguration of organizational power structures to maintain employee engagement and agency.

REFERENCES

1. Akter, S., Motamarri, S., Hani, U., Shams, S. M. R., Fernando, M., Babu, M. M., & Shen, K. N. (2020). Building dynamic service analytics capabilities for the digital marketplace. *Journal of Business Research*, *118*, 177–188.
2. AlNuaimi, B. K., Singh, S. K., Ren, S., Budhwar, P., & Vorobyev, D. (2022). Mastering digital transformation: The nexus between leadership, agility, and digital strategy. *Journal of Business Research*, *145*, 636–648. https://doi.org/10.1016/j.jbusres.2022.03.038
3. Arkenback-Sundström, C. (2021). A Postdigital Perspective on Service Work: Salespeople's Service Encounters in the Connected Store. *Postdigital Science and Education*, *4*(2), 422–446. https://doi.org/10.1007/s42438-021-00280-2

4. Asghar, J., Kanbach, D. K., & Kraus, S. (2025). Toward a multidimensional concept of organizational agility: a systematic literature review. *Management Review Quarterly*, *76*(1), 885–911. https://doi.org/10.1007/s11301-025-00497-6
5. Azzam, I. A., Alserhan, A. F., Mohammad, Y. T., Shamaileh, N. A., & Al-Hawary, S. I. S. (2023). Impact of dynamic capabilities on competitive performance: A moderated-mediation model of entrepreneurship orientation and digital leadership. *International Journal of Data and Network Science*, *7*(4), 1949–1962. https://doi.org/10.5267/j.ijdns.2023.6.017
6. Biedenbach, G., Biedenbach, T., Hultén, P., & Tarnovskaya, V. (2022). Organizational resilience and internal branding: investigating the effects triggered by self-service technology. *Journal of Brand Management*, *29*(4), 420–433. https://doi.org/10.1057/s41262-022-00275-9
7. Bonetti, F., Perry, P., & Warnaby, G. (2023). Managerial approaches and sociotechnical implications of the adoption of consumer-facing in-store technology in organizational processes: the case of fashion retail. *Information Technology and People*, *38*(1), 116–136. https://doi.org/10.1108/itp-12-2021-0978
8. Cai, W., Yu, X., & Meng, X. (2026). Empowering or overloading? How intelligent machine usage influences hotel employees' proactive customer service behaviour. *International Journal of Contemporary Hospitality Management*, *38*(3), 1092–1109. https://doi.org/10.1108/ijchm-01-2025-0050
9. Chatterjee, S., Chaudhuri, R., González, V. I., Kumar, A., & Singh, S. K. (2021). Resource integration and dynamic capability of frontline employee during COVID-19 pandemic: From value creation and engineering management perspectives. *Technological Forecasting and Social Change*, *176*, 121446–121446. https://doi.org/10.1016/j.techfore.2021.121446
10. Chebat, J., & Kollias, P. (2000). The Impact of Empowerment on Customer Contact Employees' Roles in Service Organizations. *Journal of Service Research*, *3*(1), 66–81. https://doi.org/10.1177/109467050031005
11. Ciampi, F., Faraoni, M., Ballerini, J., & Meli, F. (2021). The co-evolutionary relationship between digitalization and organizational agility: Ongoing debates, theoretical developments and future research perspectives. *arXiv (Cornell University)*, *176*, 121383–121383. https://doi.org/10.1016/j.techfore.2021.121383
12. Coun, M. J. H., Peters, P., Blomme, R. J., & Schaveling, J. (2021). 'To empower or not to empower, that's the question'. Using an empowerment process approach to explain employees' workplace proactivity. *The International Journal of Human Resource Management*, *33*(14), 2829–2855. https://doi.org/10.1080/09585192.2021.1879204
13. Cuong, N. K., Long, N. N., Dung, H. T., & Hai, T. V. (2025). Digital transformation, organizational agility, and firm performance in emerging markets: Evidence from Vietnam's machinery sector. *Problems and Perspectives in Management*, *23*(3), 342–357. https://doi.org/10.21511/ppm.23(3).2025.25
14. Dang, T. D., & Nguyen, M. T. (2023). Systematic review and research agenda for the tourism and hospitality sector: co-creation of customer value in the digital age. *Future Business Journal*, *9*(1). https://doi.org/10.1186/s43093-023-00274-5
15. Darvishmotevali, M., Prentice, C., & Altınay, L. (2024). Symmetrical and asymmetrical analysis of the complex relationship between perceived environmental uncertainty and creative performance: exploring a competency formula. *International Journal of Contemporary Hospitality Management*, *36*(10), 3451–3471. https://doi.org/10.1108/ijchm-06-2023-0776
16. Dhanpat, N. (2024). Job crafting agility: a conceptual proposition for rethinking behaviour in organizations. *International Journal of Organization Theory and Behavior*, *28*(1), 18–33. https://doi.org/10.1108/ijotb-03-2023-0062
17. Dubey, S. K. S. P. C. A. (2024). A novel Conceptualization of AI Literacy and Empowering Employee Experience at Digital Workplace Using Generative AI and Augmented Analytics: A Survey. *Journal of Electrical Systems*, *20*(2), 2582–2603. https://doi.org/10.52783/jes.2031
18. Garem, R. A. E. (2026). HR digital transformation: enhancing human resource management through technology. *Future Business Journal*, *12*(1). https://doi.org/10.1186/s43093-025-00703-7

19. Gloria, J. V. (2025). Enhancing the impact of transformational leadership on sustainability through agility and resilience with application of Lewins change model in sustainable manufacturing. *Discover Sustainability*, *6*(1). https://doi.org/10.1007/s43621-025-01736-2
20. Gnewuch, U., Morana, S., Hinz, O., Kellner, R., & Maedche, A. (2023). More Than a Bot? The Impact of Disclosing Human Involvement on Customer Interactions with Hybrid Service Agents. *Repository KITopen (Karlsruhe Institute of Technology)*, *35*(3), 936–955. https://doi.org/10.1287/isre.2022.0152
21. Grewal, D., Benoit, S., Noble, S., Guha, A., Ahlbom, C.-P., & Nordfält, J. (2023). Leveraging In-Store Technology and AI: Increasing Customer and Employee Efficiency and Enhancing their Experiences. *Journal of Retailing*, *99*(4), 487–504. https://doi.org/10.1016/j.jretai.2023.10.002
22. Hamid, O., & Eledum, H. (2026). The impact of digital transformation on employee performance: the mediating role of organizational agility in Islamic banks in Saudi Arabia: a partial least squares structural equation modeling approach. *Humanities and Social Sciences Communications*, *13*(1). https://doi.org/10.1057/s41599-026-07080-8
23. Hanandeh, A., Haddad, E., Najdawi, S., & Kilani, Q. (2024). The impact of digital marketing, social media, and digital transformation on the development of digital leadership abilities and the enhancement of employee performance: A case study of the Amman Stock Exchange. *International Journal of Data and Network Science*, *8*(3), 1915–1928. https://doi.org/10.5267/j.ijdns.2024.1.021
24. Hermann, E., Williams, G. Y., & Puntoni, S. (2023). Deploying artificial intelligence in services to AID vulnerable consumers. *Journal of the Academy of Marketing Science*, *52*(5), 1431–1451. https://doi.org/10.1007/s11747-023-00986-8
25. Jasim, T. A., Khairy, H. A., Fayyad, S., & Al-Romeedy, B. S. (2024). Digital Leadership And Creative Performance In Tourism And Hotel Enterprises: Leveraging Strategic Agility And Organizational Learning Culture. *GeoJournal of Tourism and Geosites*, *54*, 872–884. https://doi.org/10.30892/gtg.542spl11-1262
26. Jonathan, G. M., & Reychav, I. (2025). *People Powering Digital Transformation in the Public Sector: Cultivating Workforce Agility*. 1–9. https://doi.org/10.1145/3716489.3728440
27. Jooss, S., Solnet, D., Knight, C., Worsteling, A., Rinta-Kahila, T., & Hansen, A. M. (2025). Artificial intelligence and work design: implications for frontline service employees and future research. *Journal of Service Management*, 1–22. https://doi.org/10.1108/josm-12-2024-0535
28. Judijanto, L. (2026). Retail Management in the Digital Era: Integrating Traditional Foundations with Contemporary Challenges and Strategic Responses. *Multitech Journal of Science and Technology*, *2*(12), 989–1008. https://doi.org/10.59890/mjst.v2i12.115
29. Keisham, B. D., & Lathabhavan, R. (2026). Digital leadership in the age of AI: a review. *Development in Learning Organizations An International Journal*, *40*(2), 14–17. https://doi.org/10.1108/dlo-06-2025-0219
30. Kuzior, A., & Sira, M. (2024). Revolutionizing Management: Competency Building With Cutting-Edge Technologies. *Scientific Papers of Silesian University of Technology Organization and Management Series*, *2024*(208), 273–288. https://doi.org/10.29119/1641-3466.2024.208.16
31. Larivière, B., Bowen, D. E., Andreassen, T. W., Kunz, W. H., Sirianni, N. J., Voss, C., Wünderlich, N. V., & Keyser, A. D. (2017). "Service Encounter 2.0": An investigation into the roles of technology, employees and customers. *Journal of Business Research*, *79*, 238–246. https://doi.org/10.1016/j.jbusres.2017.03.008
32. Li, Z., Yang, C., Yang, Z., & Zhao, Y. (2024). The impact of middle managers' digital leadership on employee work engagement. *Frontiers in Psychology*, *15*, 1368442–1368442. https://doi.org/10.3389/fpsyg.2024.1368442
33. Lim, W. M., Malik, N., Gupta, S., & Rai, H. (2024). Harnessing brand authenticity to promote prosocial service behavior. *Journal of Brand Management*, *31*(4), 449–468. https://doi.org/10.1057/s41262-024-00352-1
34. Mamdouh, A., Adel, R., Khourshed, N., & Ragheb, M. A. (2025). Impact of Digital Leadership on Employee Performance with Mediation Roles of Digital Self-Efficacy and Employee Motivation. *Business Ethics and Leadership*, *9*(3), 109–129. https://doi.org/10.61093/bel.9(3).109-129.2025
35. Mele, C., & Spena, T. R. (2024). Agencement of onlife and phygital: smart tech–enabled value co-creation practices. *Journal of Service Management*, *36*(2), 217–240. https://doi.org/10.1108/josm-03-2023-0113

36. Mele, C., Spena, T. R., Ranieri, A., & Bernardo, I. D. (2024). A system and learning perspective on human–robot collaboration. *Journal of Service Management*, *36*(4), 495–522. https://doi.org/10.1108/josm-12-2023-0508
37. Nanni, A., & Ordanini, A. (2024). Unintended consequences of in-store technology for frontline employees: An empirics-first approach. *Journal of the Academy of Marketing Science*, *53*(1), 129–149. https://doi.org/10.1007/s11747-024-01037-6
38. Phan, H. T., Pham, A. T. H., & Le, H. T. (2026). How self-service technology shapes customer citizenship behaviour: The role of participation and cognitive experience in online fashion retail. *Multidisciplinary Reviews*, *9*(9), 2026522–2026522. https://doi.org/10.31893/multirev.2026522
39. Pitardi, V., Wirtz, J., Paluch, S., & Kunz, W. H. (2021). Service robots, agency and embarrassing service encounters. *Journal of Service Management*, *33*(2), 389–414. https://doi.org/10.1108/josm-12-2020-0435
40. Prentice, C., Wong, I. A., & Lin, Z. (2023). Artificial intelligence as a boundary-crossing object for employee engagement and performance. *Journal of Retailing and Consumer Services*, *73*, 103376–103376. https://doi.org/10.1016/j.jretconser.2023.103376
41. PUSCEDDU, G., Moi, L., & Cabiddu, F. (2023). Do they see eye to eye? Managing customer experience in phygital high-tech retail. *UNICA IRIS Institutional Research Information System (University of Cagliari)*, *63*(6), 2008–2037. https://doi.org/10.1108/md-05-2022-0673
42. Qiao, G., Li, Y., & Hong, A. (2024). The Strategic Role of Digital Transformation: Leveraging Digital Leadership to Enhance Employee Performance and Organizational Commitment in the Digital Era. *Systems*, *12*(11), 457–457. https://doi.org/10.3390/systems12110457
43. Rastogi, S., & Pandita, D. (2025). Rethinking learning agility in the age of AI: a self-determination framework for the digital workforce. *Development in Learning Organizations An International Journal*, 1–4. https://doi.org/10.1108/dlo-06-2025-0210
44. Rayburn, S. W., Luria, G., Yagil, D., Fujikawa, Y., Anderson, S., & Mohan, M. (2025). Frontline Employee Improvisation: Uncovering Its Meaning, Practice, and Impact in Service Industries. *Journal of Service Research*. https://doi.org/10.1177/10946705251399830
45. Riel, A. C. R. van, Tabatabaei, F., Yang, X., Masłowska, E., Palanichamy, V., Clark, D., & Luongo, M. (2024). A new competitive edge: crafting a service climate that facilitates optimal human–AI collaboration. *Document Server@UHasselt (UHasselt)*, *36*(1), 27–49. https://doi.org/10.1108/josm-05-2024-0220
46. Sait, R. (2024). Enhancing Adaptive Performance through Structural Empowerment and Employee Motivation: The Case of the Turkish Services Sector. *Journal of Chinese Human Resource Management*, *15*(1). https://doi.org/10.47297/wspchrmwsp2040-800505.20241501
47. Salmen, K., & Festing, M. (2021). Paving the way for progress in employee agility research: a systematic literature review and framework. *The International Journal of Human Resource Management*, *33*(22), 4386–4439. https://doi.org/10.1080/09585192.2021.1943491
48. Schneider, S., & Kokshagina, O. (2021). Digital transformation: What we have learned (thus far) and what is next. *Creativity and Innovation Management*, *30*(2), 384–411. https://doi.org/10.1111/caim.12414
49. Schultz, C. D. (2025). Reimagining retail: Technology at the frontline, across the value Chain, and toward sustainability. *Journal of Retailing and Consumer Services*, *87*, 104449–104449. https://doi.org/10.1016/j.jretconser.2025.104449
50. Seraj, A. H. A., Hasanein, A. M., Al-Romeedy, B. S., & Elziny, M. (2025). Redefining the Digital Frontier: Digital Leadership, AI, and Innovation Driving Next-Generation Tourism and Hospitality. *Administrative Sciences*, *15*(9), 369–369. https://doi.org/10.3390/admsci15090369
51. Sharma, K., Nigam, N., Jha, J. K., & Xu, X. (2024). Role of Readiness to Change in the Relationship Between Workforce Agility and Digital Transformation. *Journal of Global Information Management*, *32*(1), 1–22. https://doi.org/10.4018/jgim.345241
52. Singh, A., & Pandey, J. (2024). Artificial intelligence adoption in extended HR ecosystems: enablers and barriers. An abductive case research. *Frontiers in Psychology*, *14*, 1339782–1339782. https://doi.org/10.3389/fpsyg.2023.1339782

53. Sun, X., Swazan, I. S., & Youn, S. (2026). Navigating retail automation: the impact of perceived autonomy support on frontline employee digital adaptive performance. *The International Review of Retail Distribution and Consumer Research*, 1–25. https://doi.org/10.1080/09593969.2026.2641031
54. Takbir, R., Fani, V. P., Nurmawaddah, N., & Muchran, M. (2026). Transformasi Kompetensi SDM dan Komunikasi Layanan di Era Digital: Tinjauan Strategis Manajemen Sumber Daya Manusia. *Jurnal Ekonomi Bisnis Dan Akuntansi*, *6*(1), 351–357. https://doi.org/10.55606/jebaku.v6i1.6629
55. Tigre, F. B., Henriques, P. L., & Curado, C. (2024). The digital leadership emerging construct: a multi-method approach. *Management Review Quarterly*, *75*(1), 789–836. https://doi.org/10.1007/s11301-023-00395-9
56. Troise, C., Corvello, V., Ghobadian, A., & O'Regan, N. (2021). How can SMEs successfully navigate VUCA environment: The role of agility in the digital transformation era. *Technological Forecasting and Social Change*, *174*, 121227–121227. https://doi.org/10.1016/j.techfore.2021.121227
57. Vera, C. L., Bhimani, A., Gandía, J. A. G., & Lucas, A. de. (2025). Generative AI and the algorithmic workplace: A bibliometric and conceptual analysis of its impact on organisational decision-making and work design. *Journal of Open Innovation Technology Market and Complexity*, *12*(1), 100710–100710. https://doi.org/10.1016/j.joitmc.2025.100710
58. Vredenburg, J., Bell, S. J., & Polman, E. (2023). *Employee-to-Customer Improvisation: A Value Creation Strategy for Navigating the Contemporary Consumption Experience* (pp. 323–343). https://doi.org/10.1007/978-3-031-33246-3_21
59. Waelbers, B., Henkel, A. P., & Bromuri, S. (2026). Augmenting human service agents with intelligent technologies. *Journal of Service Management*, *37*(6), 26–49. https://doi.org/10.1108/josm-01-2025-0035
60. Wilder, K., Collier, J. E., & Barnes, D. C. (2014). Tailoring to Customers' Needs. *Journal of Service Research*, *17*(4), 446–459. https://doi.org/10.1177/1094670514530043
61. Willems, K., Verhulst, N., Gauquier, L. D., & Brengman, M. (2022). Frontline employee expectations on working with physical robots in retailing. *Journal of Service Management*, *34*(3), 467–492. https://doi.org/10.1108/josm-09-2020-0340
62. Yamin, T., & Murwaningsari, E. (2023). Exploring the Interplay Between Digital Technology, Transformational Leadership and Agility for Enhancing Organisational Performance. *Business Ethics and Leadership*, *7*(4), 73–88. https://doi.org/10.61093/bel.7(4).73-88.2023
63. Yang, S., Guo, Y., Chen, Y., Li, Y., Zhou, S., & Jiang, H. (2025). Understanding service performance of frontline employees from employee–AI interaction perspective. *Journal of Service Management*, *36*(3), 448–475. https://doi.org/10.1108/josm-10-2023-0425
64. Yuan, R., Luo, J., Liu, M. J., & Yannopoulou, N. (2022). "I am proud of my job": Examining the psychological mechanism underlying technological innovation's effects on employee brand ambassadorship. *Technological Forecasting and Social Change*, *182*, 121833–121833. https://doi.org/10.1016/j.techfore.2022.121833
65. Zhang, J., Khan, A. Y., Akhtar, M., & Khan, A. Y. (2026). Psychological safety as a key moderator: exploring digital leadership, flow and improvisational ability through a dual PLS-SEM and fsQCA approach. *BMC Psychology*, *14*(1). https://doi.org/10.1186/s40359-026-04370-3
66. Zhang, Q., Wang, F., & Liao, G. (2026). Organizational psychological ownership drives employee-AI collaboration via AI crafting under paternalistic leadership. *Scientific Reports*, *16*(1). https://doi.org/10.1038/s41598-026-36152-7
67. Zia, A., Memon, M. A., Mirza, M. Z., Iqbal, Y. M. J., & Tariq, A. (2024). Digital job resources, digital engagement, digital leadership, and innovative work behaviour: a serial mediation model. *LUTPub (LUT University)*, *28*(8), 3192–3216. https://doi.org/10.1108/ejim-04-2023-0311