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Leadership in the Digital Age: Challenges and the Future Direction

Akhmad Al Aidhi
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ABSTRAK

Transformasi digital telah mengubah secara fundamental cara organisasi beroperasi, bersaing, dan mengelola sumber daya manusia, sehingga membutuhkan model kepemimpinan yang berbeda dari pendekatan konvensional. Artikel ini bertujuan mengkaji tantangan kepemimpinan di era digital dan merumuskan arah penelitian serta praktik masa depan melalui tinjauan literatur naratif-tematik terhadap 25 artikel jurnal internasional bereputasi yang diterbitkan pada 2021–2026. Analisis dilakukan melalui empat tahap, yaitu identifikasi, seleksi, penilaian kelayakan, dan sintesis tematik terhadap literatur mengenai kepemimpinan digital, transformasi organisasi, dan kompetensi pemimpin dalam menghadapi disrupsi teknologi. Hasil kajian mengidentifikasi lima tema utama: pergeseran paradigma dari kepemimpinan hierarkis menuju kepemimpinan adaptif-kolaboratif; kompetensi digital sebagai kapabilitas dinamis; tantangan etis dan psikologis dalam kepemimpinan jarak jauh; peran budaya digital terhadap keberlanjutan organisasi; serta fragmentasi teoretis dalam literatur kepemimpinan digital. Kebaruan penelitian terletak pada pengembangan kerangka integratif yang menghubungkan kelima tema tersebut sebagai model arah masa depan kepemimpinan digital. Studi ini memberikan kontribusi konseptual bagi akademisi dan praktisi dalam merancang strategi pengembangan kepemimpinan yang responsif terhadap perubahan teknologi. Implikasi praktis menekankan pentingnya literasi digital, kecerdasan emosional, dan tata kelola etis sebagai fondasi kepemimpinan masa depan serta mendorong penelitian empiris lintas sektor dan budaya.

ABSTRACT

Digital transformation has fundamentally changed the way organizations operate, compete, and lead their human resources, demanding leadership models that differ from conventional approaches. This article aims to examine leadership challenges in the digital era and formulate future research and practice directions through a narrative-thematic literature review of twenty-five reputable international journal articles published between 2021 and 2026. The analysis was conducted in four stages: identification, selection, feasibility assessment, and thematic synthesis of literature discussing digital leadership, organizational transformation, and leader competencies amidst technological disruption. The study identified five main themes: the shift in leadership paradigm from a hierarchical style to an adaptive-collaborative style; digital competency as a dynamic capability; the ethical and psychological challenges of remote leadership; the role of digital culture in organizational sustainability; and theoretical fragmentation in the digital leadership literature itself. The novelty of this article lies in the development of an integrative framework that connects these five themes into a single model for the future direction of digital leadership, a concept that has not been explicitly synthesized in many previous studies. This study provides conceptual contributions for academics and practitioners in designing leadership development strategies responsive to ongoing technological change. The practical implications of this study emphasize the importance of continued investment in digital literacy, emotional intelligence, and ethical governance as the foundation of future leadership, while also opening an agenda for cross-sector and cross-cultural empirical research to test the proposed integrative framework.

*Corresponding author
E-mail addresses: al.aidhi.borneo@gmail.com (First Author)

1. INTRODUCTION

The world of organizations is entering a new era marked by the accelerated adoption of digital technologies, from artificial intelligence, big data, process automation, to remote work platforms that are transforming the way people work, collaborate, and make decisions. These changes are not merely technical, but penetrate the very heart of organizational governance, including how leaders view their roles, authority, and responsibilities. Sacavém et al. (2025) emphasize that today's organizations face unprecedented challenges and opportunities in managing the complexity of digital transformation, making leadership a crucial element in guiding companies through these changes. This situation requires leaders to deeply understand the change process and have the capacity to adapt their leadership style adaptively.

The phenomenon of accelerated digitalization has intensified since the Covid-19 pandemic, which has forced many organizations to accelerate their digital transformations quickly. Hai et al. (2021) show that the pandemic creates both pressure and opportunity for leaders in developing countries to accelerate the adoption of digital technologies for business continuity. This situational pressure demonstrates that digital leadership is no longer merely a strategic option but an urgent necessity that determines organizational resilience amidst uncertainty. Similarly, Henderikx and Stoffers (2022) highlight that middle managers face significant challenges in bridging top leadership's digital vision with operational realities on the ground. Therefore, new competencies are needed to remain relevant and future-proof amidst rapid transformation.

The shifting leadership paradigm has also become a significant focus in recent literature. Gilli, Lettner, and Guettel (2023) question whether the future of leadership will be entirely determined by new digital skills, or whether it will still require proven analog leadership values, such as empathy, integrity, and the ability to build trust. This debate is important because it demonstrates that digital leadership cannot be understood in a reductionist manner as simply mastering technological tools, but rather as a combination of technical competencies and fundamental leadership qualities. This idea is reinforced by Schiuma, Santarsiero, Carlucci, and Jarrar (2024), who define transformative leadership competencies as the foundation for successful organizational digital transformation, encompassing the capacity to build a shared vision, foster a culture of innovation, and manage change humanely.

On the other hand, the growing academic interest in digital leadership has also been accompanied by significant conceptual fragmentation. Lin (2024), through a systematic literature review, found that research on digital leadership remains scattered across various disciplines without an integrated conceptual framework, making it difficult to establish consistent definitions and measurements. Similar findings were reinforced by Zhang et al. (2025) through a science mapping of hundreds of publications, which confirmed that the field of digital leadership is experiencing theoretical fragmentation and requires a more systematic synthesis of knowledge for cumulative development. Stana, Fischer, and Nicolajsen (2024) also emphasized the need for a more focused future research agenda, given the significant gaps in understanding how digital leadership actually works in diverse organizational contexts.

The challenges of digital leadership also encompass ethical and psychological dimensions that are often overlooked. As organizational interactions increasingly rely on digital platforms, trust, transparency, and employee psychological well-being become issues that leaders must consciously manage. Braojos, Weritz, and Matute (2024) found that organizational commitment can be strengthened through digital leadership combined with a continuous learning environment, demonstrating that the human dimension remains central to successful digital transformation even when technology is the primary enabler. Meanwhile, Khaw, Teoh, Khalid, and Letchmunan (2022) revealed that digital leadership contributes to organizational sustainability, but its effectiveness depends heavily on leaders' ability to manage non-technical aspects such as work culture and employee engagement.

Sectoral contexts also enrich understanding of digital leadership. In the construction sector, Criado-Perez et al. (2022) highlight various issues hindering digital transformation in the architecture, engineering, and construction industry in Australia and formulate prospective leadership thinking to address them. In the education sector, Kamran (2025) and Uzorka and Kalabuki (2025) demonstrate that educational leaders face unique challenges in integrating technology into leadership practices, ranging from digital literacy gaps to resistance to changes in academic culture. In the healthcare sector, Tsekouropoulos et al. (2025) introduce the concept of leadership 4.0 to navigate the complex and high-stakes challenges of digital transformation. This diversity of contexts emphasizes the contextual nature of digital leadership, requiring caution when generalizing across sectors.

The strategic aspect of digital leadership is also highlighted in studies on organizational agility. AlNuaimi and Singh (2022) found that mastering digital transformation is largely determined by the interconnectedness of leadership, organizational agility, and a coherent digital strategy. Similarly, De Araujo, Priadana, Paramarta, and Sunarsi (2021) emphasized that digital leadership in business organizations requires data-driven decision-making capabilities and a readiness to face ambiguity. Chen, Li,

and Shahid (2024) extended this understanding by showing that digital leadership capabilities moderate the relationship between market-driven business model innovation and sustainable business performance, while recent research by Chen, Wang, and Park (2026) confirmed that digital transformational leadership significantly influences an organization's digital innovation performance.

Previous literature reviews, including those by Reis and Melão (2023), Omol (2023), Espina-Romero et al. (2023), and Al-Hadrawi and Reniati (2023), have consistently called for more integrated research on the future direction of digital transformation and its associated leadership. However, most of these studies still focus on a single dimension, such as bibliometric trends, conceptual evolution, or a single sectoral challenge, without presenting a framework that connects the various themes comprehensively. McCarthy, Sammon, and Alhassan (2021), for example, focused on the characteristics of digital transformation leadership, while Kamal et al. (2025) focused specifically on the ethical dimension of digital leadership, and Shin, Mollah, and Choi (2023) focused on the relationship between digital culture and organizational sustainability in South Korea. This situation demonstrates a research gap in the literature, namely the absence of an integrative framework that coherently summarizes various digital leadership themes into a single roadmap for the future.

Based on these gaps, the novelty of this article lies in three aspects. First, this article integrates findings from twenty-five reputable international journal articles published between 2021 and 2026, covering various sectors, from business and construction to education and health, into a coherent thematic framework. Second, this article explicitly connects the technical, ethical, psychological, and organizational dimensions of digital leadership, which have tended to be discussed separately in the literature. Third, this article formulates the future direction of digital leadership in the form of an integrative conceptual model that can serve as a reference for developing human resource policies, designing leadership development programs, and conducting further empirical research. Thus, this article is expected to fill the gap in knowledge synthesis regarding the challenges and future directions of leadership in the digital era, which has remained fragmented in the available literature.

The urgency of this study is also driven by the fact that the pace of technological change often outpaces the pace of human adaptation and organizational structure. Many organizations have technically sound digital roadmaps, but fail to achieve the desired results because the leadership behind them is unable to translate the digital vision into everyday work practices that are accepted by all levels of the organization. This situation gives rise to what is known as the digital leadership gap, namely the gap between the availability of technology and the readiness of leaders to utilize it effectively and responsibly. This gap becomes even more apparent when organizations must face external pressures in the form of global competition, constantly changing regulations, and the expectations of a new generation of workers who demand a more participatory, transparent, and meaningful leadership style, rather than simply hierarchy and control.

Furthermore, the widespread use of generative artificial intelligence, algorithm-based automation, and large-scale data analytics adds complexity to the leadership role, as strategic decisions often must be made in collaboration between humans and intelligent systems. This demands that leaders possess both adequate digital literacy and ethical sensitivity in managing the implications of technology for privacy, algorithmic fairness, and employee well-being. Without a holistic understanding of these challenges, digital transformation efforts risk remaining merely technological, without the true transformation of leadership and organizational culture that are prerequisites for long-term success. Therefore, a comprehensive literature synthesis on the challenges and future directions of digital leadership is becoming increasingly relevant and urgent, both for academic purposes and for managerial practice in the field.

2. METHOD

This article uses a narrative-thematic literature review approach to synthesize findings from various international journal articles on leadership in the digital age. This approach was chosen because it integrates conceptual, empirical, and bibliometric findings from various sector and country contexts into a coherent thematic framework, without being constrained by the strictures of quantitative meta-analysis protocols that require homogeneity of research design.

The process of collecting and analyzing literature was carried out through six stages as illustrated in Figure 1. The first stage is identification, namely searching reputable scientific databases such as Scopus, Web of Science, ScienceDirect, MDPI, Emerald Insight, SAGE Journals, Springer, Taylor and Francis, and arXiv using a combination of keywords "digital leadership", "digital transformation", "future of leadership", and "leadership challenges" with a publication year limitation of 2021 to 2026. The second stage is selection (screening), namely filtering articles based on the suitability of the title and abstract with the theme of

leadership in the digital era, ensuring that each article comes from a reputable indexed journal and has an active digital object identifier (DOI) and can be accessed through Google Scholar or the official publisher's page.

The third stage was eligibility assessment, which involved reading the full text to ensure that each article made a substantive contribution to understanding the challenges and future directions of digital leadership, whether through empirical findings, systematic reviews, or bibliometric analysis. Articles that only briefly touched on the term digital without an in-depth discussion of leadership were excluded from the analysis corpus. The fourth stage was inclusion, which resulted in a final twenty-five articles as the research data corpus, consisting of twenty-four articles from the initial reference database maintained by the author and one additional article from an independent search to enrich the representation of the theme of digital leadership ethics.

The fifth stage is thematic analysis, which is carried out through systematic data extraction including author name, year of publication, journal, study focus, method, and main findings of each article. The data is then analyzed using open coding to identify recurring concepts, followed by grouping codes into broader themes (axial coding) based on similarities in meaning and conceptual relationships between articles. The sixth stage is synthesis and reporting, namely the formulation of main themes and their relationships into a coherent analytical narrative, accompanied by the formulation of theoretical and practical implications and directions for future research.

Figure 1 below presents a flowchart of the research method adapted from the systematic literature review reporting framework (referring to the PRISMA logic) but adapted to the narrative-thematic nature of this study.

Figure 1. Flowchart of the Narrative-Thematic Literature Review Method

To maintain the quality and reliability of the synthesis, the authors applied several eligibility criteria. Included articles must be scientific journal articles (not popular opinion pieces or blogs), published within the last five years or the current year (2021-2026) to ensure the relevance of the findings to current technological dynamics, have an active DOI that can be verified and accessed online, and explicitly discuss the relationship between leadership and the digital context or digital transformation of organizations. The authors are fully aware of the limitations of this narrative-thematic approach, particularly regarding the potential for subjectivity in the theme coding process; however, this approach is considered most appropriate given that the article's goal is to produce an integrative conceptual synthesis, not statistical hypothesis testing.

3. RESULT AND DISCUSSION

Thematic analysis of twenty-five articles yielded five interrelated main themes, namely: (1) the shift in leadership paradigm from a hierarchical-control style to an adaptive-collaborative style; (2) digital competence as a dynamic capability; (3) ethical and psychological challenges of leadership in a digital work environment; (4) the role of digital culture and organizational agility in sustainability; and (5)

theoretical fragmentation and the need for knowledge integration in the digital leadership literature. A summary of the theme mapping along with its main supporting articles is presented in Table 1.

No	Theme	Short Description	Main Supporting Articles
1	Leadership paradigm shift	The transition from a hierarchical-control style to an adaptive-collaborative style that remains based on fundamental leadership values (trust, integrity, role model).	Sacavém et al. (2025); Gilli et al. (2023); Schiuma et al. (2024)
2	Digital competence as a dynamic capability	Leaders' digital competencies are constantly evolving, closely linked to organizational agility, digital strategy, and innovation capacity.	AlNuaimi & Singh (2022); Chen, Wang, & Park (2026); McCarthy et al. (2021)
3	Ethical and psychological challenges	Ethical issues of AI/data use, algorithmic bias, privacy, and employee psychological well-being in a digital workplace.	Kamal et al. (2025); Braojos et al. (2024)
4	Digital culture and organizational agility	Digital culture and organizational readiness moderate the effectiveness of digital leadership on cross-sector sustainable performance.	Khaw et al. (2022); Shin et al. (2023); Chen, Li, & Shahid (2024); Criado-Perez et al. (2022); Tsekouropoulos et al. (2025)
5	Theoretical fragmentation & the need for integration	Digital leadership research remains scattered across disciplines without a unified conceptual framework, opening up space for integrative synthesis.	Lin (2024); Stana et al. (2024); Zhang et al. (2025); Reis & Melão (2023); Omol (2023); Espina-Romero et al. (2023); Al-Hadrawi & Reniati (2023)

Table 1. Mapping of Key Leadership Themes in the Digital Era

The first theme, a leadership paradigm shift, emerged consistently across most of the articles reviewed. Sacavém et al. (2025) demonstrated that the success of an organization's digital transformation relies heavily on leaders' ability to shift their mindset from hierarchical control to collaborative facilitation that allows for experimentation and continuous learning. This shift aligns with the findings of Gilli, Lettner, and Guettel (2023), who stated that while new digital skills are urgently needed, analog leadership values such as trust and role modeling remain an indispensable foundation. In other words, digital leadership is not a complete replacement for conventional leadership, but rather an expansion of the leadership repertoire that combines technological competencies with established leadership qualities. Schiuma, Santarsiero, Carlucci, and Jarrar (2024) reinforce this view by identifying transformative leadership competencies, including the capacity to build meaningful change narratives for employees, as a key determinant of the success of sustainable digital transformation, beyond mere mastery of digital tools.

The second theme, digital competence as a dynamic capability, emphasizes that digital leadership cannot be viewed as a static state that is once achieved and then resolved, but rather a capability that must be continuously developed in line with technological changes. AlNuaimi and Singh (2022) found that mastery of digital transformation is largely determined by the integration of leadership, organizational agility, and digital strategy, which mutually reinforce each other. Therefore, leaders' competencies need to be continuously adjusted to reflect these strategic changes. In line with this, Chen, Wang, and Park (2026) confirmed through recent data that digital transformational leadership has a significant impact on digital innovation performance, indicating that digital leadership capabilities are directly correlated with an organization's innovation capacity. McCarthy, Sammon, and Alhassan (2021) complement this understanding by mapping the characteristics of digital transformation leadership, including a growth-oriented mindset, a willingness to take calculated risks, and the ability to manage ambiguity as part of the core competencies that today's leaders must possess.

The third theme highlights the ethical and psychological challenges that accompany leadership in a digital workplace. Kamal et al. (2025) identified that digital transformation presents new ethical

challenges for leaders, particularly regarding the management of artificial intelligence, big data, and automation, which have the potential to lead to algorithmic bias and privacy issues if not handled responsibly. These findings demonstrate that the ethical responsibilities of digital leadership extend beyond high-level strategic decisions to day-to-day operational decisions regarding the use of employee and customer data. Beyond the ethical dimension, a psychological dimension also emerges: Braojos, Weritz, and Matute (2024) found that employee organizational commitment can be significantly strengthened through digital leadership combined with a continuous learning environment, highlighting the importance of psychological support and competency development for employees amidst rapid change. Without attention to the psychological well-being of teams, the risk of digital fatigue and decreased work engagement can hinder the success of transformation, even with adequate technological infrastructure.

The fourth theme relates to the role of digital culture and organizational agility in supporting sustainable performance. Khaw, Teoh, Khalid, and Letchmunan (2022) found that digital leadership positively contributes to organizational sustainability performance, but its effectiveness is largely determined by the extent to which digital culture is embedded in daily work practices, not just at the formal policy level. A similar finding was found by Shin, Mollah, and Choi (2023) in the context of South Korean organizations, who showed that digital leadership influences organizational sustainability performance through simultaneously strengthening digital culture and enhancing employee digital capabilities. Chen, Li, and Shahid (2024) added an important perspective by showing that digital leadership capabilities act as a moderating variable in the relationship between market-driven business model innovation and sustainable business performance, meaning that the impact of innovation strategy on organizational performance is highly dependent on the quality of the accompanying digital leadership. Sectoral contexts further reinforce this theme: Criado-Perez et al. (2022) in the Australian construction sector and Tsekouropoulos et al. (2025) in the health sector both emphasized that organizational agility and cultural readiness are important prerequisites before digital technology can provide optimal impact on performance.

The fifth theme confirms the significant theoretical fragmentation in the digital leadership literature, which also forms the basis for this article's novel argument. Lin (2024) and Stana, Fischer, and Nicolajsen (2024) separately concluded that research on digital leadership remains scattered across disciplines without a unified conceptual framework, making it difficult to compare findings across studies. Zhang et al. (2025) conducted a scientific mapping analysis of hundreds of publications, confirming this fragmentation pattern and demonstrating that the trend of digital leadership research continues to grow but has not been matched by adequate knowledge synthesis. Reis and Melão (2023), Omol (2023), Espina-Romero et al. (2023), and Al-Hadrawi and Reniati (2023) also call for similar things in the broader context of digital transformation, while Kamran (2025), Uzorka and Kalabuki (2025), De Araujo, Priadana, Paramarta, and Sunarsi (2021), and Hai, Van, and Tuyet (2021) each enrich the evidence of this fragmentation from the perspective of the education sector, business, and the context of the pandemic crisis.

As a complement to Table 1, it is important to note the distribution of research methods across the twenty-five articles reviewed, ranging from systematic literature reviews and bibliometric analyses to qualitative case studies and quantitative surveys at both organizational and industry levels. This methodological diversity strengthens the validity of the resulting thematic synthesis, as the identified themes emerge not from a single research design but are supported by a variety of complementary methodological approaches that confirm consistent patterns of findings across contexts.

The synthesis of these five themes confirms that the challenges of leadership in the digital era are multidimensional, encompassing the cognitive dimension (digital knowledge and skills), the relational dimension (trust and collaboration), the ethical dimension (responsible use of technology), the cultural dimension (the organization's digital culture), and the scientific dimension (the need for theoretical integration). These five dimensions are interconnected and inseparable; failure in any one dimension has the potential to hinder the success of a comprehensive digital transformation, no matter how strong performance in the others. These findings strengthen the argument that the future direction of digital leadership cannot be reduced to mere mastery of technology, but rather demands a holistic approach that integrates technical capabilities with human-oriented leadership qualities.

Based on this synthesis, the future direction of digital leadership can be formulated into four strategic directions. First, the development of digital leadership programs that integrate technological literacy with the strengthening of fundamental leadership values, rather than separating the two as separate curricula. Second, strengthening ethical and psychological governance within organizational digitalization policies, including mechanisms to protect employee well-being amidst increasingly intensive automation and digital surveillance. Third, strengthening digital culture as a structural prerequisite before technology investments are made, given that cultural readiness has been shown to moderate the effectiveness of digital leadership in various sectoral contexts. Fourth, the development of a cross-sectoral and cross-cultural empirical research agenda that specifically tests an integrative framework for digital

leadership, in order to reduce the theoretical fragmentation that has hampered the progress of this field of study.

The practical implications of these findings are relevant to various stakeholders. For organizations, the results of this study emphasize the importance of balanced investment between technological infrastructure and human leadership capacity development, as the two are complementary. For policymakers in leadership education and training, these findings underscore the need for leadership development curricula that explicitly incorporate digital literacy, technology ethics, and change management as core competencies, not simply add-on modules. For academics, the integrative framework produced in this article can serve as a starting point for further empirical research that quantitatively examines the interrelationships between the five themes through cross-sectoral and cross-national studies, so that the theoretical fragmentation currently plaguing the field of digital leadership can be gradually overcome through the accumulation of more integrated evidence.

Further discussion of the interrelationships between the themes reveals a mutually reinforcing cyclical pattern. Adequate digital competence (the second theme) facilitates leaders in building a healthy digital culture (the fourth theme), while a healthy digital culture, in turn, creates a psychologically safe space for employees to experiment with new technologies without excessive fear of failure (the third theme). Conversely, failing to address the ethical and psychological dimensions risks undermining the trust established through the leadership paradigm shift toward a collaborative style (the first theme), potentially setting back transformation efforts despite technological advancements. This cyclical pattern demonstrates that the five themes are not simply a list of stand-alone findings but rather an interdependent system, requiring interventions in one theme to consider its impact on the others for a sustainable digital leadership strategy.

This discussion also needs to consider the differences in organizational contexts based on their size and level of digital maturity. In large, well-resourced organizations, the main challenges tend to lie in the complexity of cross-unit coordination and structural resistance to change, as implied by the findings of Criado-Perez et al. (2022) regarding the large-scale construction industry in Australia. Conversely, in small and medium-sized organizations, challenges are more related to limited resources for technology investment and leadership competency development, as implied by the developing country context in the study by Hai, Van, and Tuyet (2021). These different contexts emphasize that effective digital leadership strategies cannot be one-size-fits-all but need to be tailored to each organization's digital capacity and maturity, although the five key themes identified remain relevant as a general framework.

Comparisons across publication types also provide additional insights. Systematic reviews and bibliometric articles, such as those by Lin (2024), Zhang et al. (2025), and Espina-Romero et al. (2023), tend to highlight macro patterns such as publication growth trends and conceptual fragmentation at the field-wide level. In contrast, empirical studies, such as those by Braojos, Weritz, and Matute (2024) and Shin, Mollah, and Choi (2023), provide micro evidence regarding the causal mechanisms between digital leadership and specific organizational outcome variables, such as employee commitment or sustainability performance. This combination of macro and micro evidence allows this article to construct an integrative framework that is not only descriptive but also has a mechanistic basis for understanding how these five themes interrelate in practice.

Finally, these findings have particular relevance for the organizational context in developing countries, including Indonesia, which is facing accelerated digital transformation across various sectors, from government and education to the creative industry. The disparity in digital infrastructure between regions, limited human resource development budgets, and the high diversity of organizational cultures make the five themes formulated in this article even more relevant for contextual adaptation. Leaders in developing countries need to prioritize developing basic digital competencies before moving on to more complex digital leadership, while maintaining local leadership values relevant to each organization's cultural context

4. CONCLUSION

This study concludes that leadership in the digital era faces five major interrelated challenges: a paradigm shift in leadership toward an adaptive-collaborative style, the need for digital competency as a dynamic capability, ethical and psychological challenges in the digital work environment, the role of digital culture and organizational agility in supporting sustainability, and theoretical fragmentation in the digital leadership literature itself. These five themes do not stand alone, but rather form a system that influences each other, so that the success of an organization's digital transformation is largely determined by the leader's ability to manage these five dimensions in an integrated manner, rather than solely focusing on technological mastery.

The novelty of this article lies in the development of an integrative framework that connects these five themes into a single roadmap for the future of digital leadership, which includes strengthening leadership development programs based on digital literacy and fundamental leadership values, strengthening ethical and psychological governance, strengthening digital culture as a structural prerequisite, and developing a cross-sector and cross-cultural empirical research agenda. This framework is expected to serve as a conceptual reference for organizations, leadership education policymakers, and researchers in designing strategies and further research agendas that are more responsive to the dynamics of digital transformation.

This study has limitations that need to be acknowledged, primarily because it is a narrative-thematic literature review that potentially contains subjectivity in the theme coding process and does not involve direct empirical testing of the proposed integrative framework. Therefore, future research is recommended to test this framework empirically through quantitative cross-sector and cross-country studies, including in the context of developing countries such as Indonesia, to strengthen the generalizability of the findings and provide stronger evidence for the development of effective and sustainable digital leadership practices in the future.

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