

# Digital Transformational Leadership in Educational Management: A Systematic Literature Review on Organizational Agility and Innovation in the Post-Pandemic Era

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## Abstract

This systematic literature review (SLR) examines the evolution of Transformational Leadership (TL) in the context of digital transformation, with a particular focus on Digital Transformational Leadership (DTL) in educational management. The study aims to synthesize empirical evidence on how DTL influences organizational agility, innovation, and resilience in the post-pandemic era. Following PRISMA guidelines, articles were retrieved from the Scopus database using predefined keywords related to leadership, digital transformation, and organizational agility. A total of 22 peer-reviewed articles published between 2015 and 2025 were included in the final analysis. The findings indicate that DTL plays a critical role in enhancing organizational agility and fostering innovation, particularly in educational institutions in developing and emerging economies such as Indonesia and Vietnam. This review extends traditional transformational leadership frameworks by integrating digital competence, adaptive leadership capacity, and digital communication skills as core leadership dimensions in the digital era. The study also identifies significant gaps in longitudinal and comparative sectoral research, highlighting the need for future studies to examine the long-term impact of DTL across educational systems. This review contributes to the literature on educational leadership by offering a structured synthesis of DTL and practical implications for leadership development and policy in education.

**Keywords:** Transformational leadership, Digital transformational leadership, Organizational agility, Leadership in education, Organizational innovation, Post-pandemic leadership

## Introduction

Transformational leadership has become increasingly crucial in today's global context, driven by rapid technological advances and the evolving dynamics within organizations. Introduced by Bass in 1985, this leadership model has continually adapted to different sectors, including education, healthcare, and business, playing a pivotal role in enhancing organizational performance and fostering adaptability to shifting environments (Bass, 1985). Early studies, such as (Meng, 2022) research in China, revealed the profound impact transformational leadership can have on educational management, particularly in higher education, where it enhances managerial effectiveness through the integration of technology. The emergence of Society

5.0 and the profound shifts brought about by the COVID-19 pandemic have further underscored the need for leadership capable of driving digital transformation.

For instance, (Suharyati et al., 2024) in Indonesia highlighted how digital leadership and e-learning significantly improved school performance, while (Boccoli et al., 2024) in Italy emphasized the crucial role of digital communication skills in moderating the relationship between transformational leadership and employee engagement in remote work settings. Further extending this discussion, research by (Kludacz-Alessandri et al., 2025) in Poland and the Netherlands examined how transformational leadership influences digital intensity within primary healthcare organizations. Interestingly, recent studies have shown that transformational leadership is being applied across a broad spectrum of cultures and industries. For example, (Alabdali et al., 2024) explored digital green transformational leadership in Saudi Arabia, while (Hoang, 2025) studied e-leadership in the context of AI integration in Vietnam. These studies reinforce the idea that transformational leadership is essential for overcoming global challenges, promoting innovation, and building organizational capacity across diverse sectors (Bindel Sibassaha et al., 2025).

In contemporary discourse, the transition from traditional leadership frameworks to more adaptive, technology-oriented models has become highly pronounced as organizations navigate the complexities of digital transformation. Traditional transformational leadership, which emphasized attributes such as charisma and intellectual stimulation, is being re-evaluated in light of the demands of a digital society. Leadership is crucial in any society, particularly in the digital age, because it plays a critical role in driving progress, setting direction, and achieving goals, particularly within the dynamic context driven by technological advancements (Stoian, 2023). However, with the advent of digital technologies, this concept has evolved into Digital Transformational Leadership (DTL), which emphasizes integrating digital capabilities into leadership practices (Ly, 2024). A key example is (Ly, 2024) research, which highlights how DTL significantly impacts digital transformation through the enhancement of organizational agility (OA).

This shift underscores the increasing importance of leaders adapting to the ever-evolving digital landscape. Moreover, the rapid pace of technological change has made it clear that leaders must not only possess technical expertise but also foster a supportive digital culture (Özkan Alakaş, 2024). (Özkan Alakaş, 2024) argues that digital culture and strategy act as critical mediators in the relationship between DTL and digital transformation, suggesting that successful transformation requires both strong leadership and organizational preparedness. In a related study, (Bauwens & Cortellazzo, 2025) identified several key themes in e-leadership, such as communication skills and leadership for innovation, underscoring the necessity for leaders to integrate these competencies in digital contexts.

Furthermore, the external impact of the COVID-19 pandemic on digital leadership practices has been profound. Berkovich and Hassan (2025) found that digital transformational leadership among school principals enhanced school effectiveness by fostering organizational commitment among teachers, a finding that became particularly relevant in the shift to remote learning. Additionally, (Chong & Zainal, 2024) pointed out the mediating role of employee digital literacy in the relationship between leadership and job performance, emphasizing the importance of developing digital capabilities in the workforce.

Transformational leadership has been the subject of extensive research over the past few decades, with various review methods employed to assess its impact and role in organizations. (Huang et al., 2023) conducted a comprehensive literature review exploring the relationship between transformational leadership and dynamic capabilities in the context of digital transformation. Their findings suggested that transformational leadership can enhance employees' dynamic capabilities, fostering innovation as leaders inspire the development of these capabilities. However, their study was limited by its reliance on secondary

data from prior research, which restricted the depth of analysis and the generalizability of the findings. Nonetheless, their work offers valuable recommendations for future empirical studies to validate the theoretical framework and explore its applicability across different industries and cultural contexts.

Despite the growing body of research on digital transformational leadership, systematic literature reviews (SLRs) still face significant challenges in integrating findings in a comprehensive and holistic manner. For instance, (Huang et al., 2023) acknowledged that while transformational leadership can enhance dynamic capabilities, their review was constrained by the reliance on secondary data. (Bauwens & Cortellazzo, 2025), in their multidisciplinary synthesis of e-leadership, identified gaps in understanding how different leadership styles interact with the specific technologies employed in digital leadership. Previous reviews have often lacked an integrative framework capable of capturing the complex relationships within the rapidly changing domain of digital transformation. This gap is further evidenced by empirical studies, such as (Kludacz-Alessandri et al., 2025), which examined both the direct and indirect effects of digital transformational leadership on digital intensity in healthcare organizations, highlighting the critical role of contextual factors—an element that has often been overlooked in prior reviews.

This study aims to address these gaps by developing a multidimensional classification framework that integrates various leadership dimensions, digital culture, and organizational strategy within the context of digital transformation. A new conceptual model is proposed, combining digital leadership theory with organizational dynamics and innovation theories, offering novel propositions on how digital leadership fosters innovation and enhances organizational precision in the digital age. Furthermore, this study extends beyond previous reviews by incorporating insights from both developed and developing countries, enriching our understanding of digital transformational leadership in diverse contexts. The research introduces a thematic taxonomy that categorizes digital leadership into three core dimensions: technical competence, adaptive capacity, and digital communication skills. This framework not only advances theoretical understanding but also provides practical recommendations for leadership training and policy development.

### Research Questions

1. In what contexts have Digital Transformational Leadership (DTL) strategies been implemented?
2. What mechanisms are triggered by Digital Transformational Leadership in the selected contexts?
3. What are the reported outcomes of applying Digital Transformational Leadership across different contexts?
4. How do specific mechanisms mediate the effectiveness of Digital Transformational Leadership in achieving outcomes?
5. What future research directions are suggested based on the findings concerning the Context-Intervention-Mechanism-Outcome (CIMO) configuration?

This paper is organized as follows: the Literature Review summarizes prior work on digital transformational leadership (DTL) and digital transformation; the Method section describes the PRISMA-based SLR procedure; the Results section reports descriptive and thematic findings; the Discussion interprets the findings in relation to theory and prior studies; and the Conclusion outlines implications and future research directions.

### Methodology

This study employs the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, as outlined by Moher et al. (Moher et al., 2009), to ensure a high standard of reporting and methodological rigor in the systematic review process (Page et al., 2021). PRISMA is widely acknowledged as the gold standard in systematic reviews across various academic fields (Kitchenham & Charters, 2007;

Thomas & Harden, 2008)., and its application in this study guarantees both transparency and consistency throughout the review process. A critical element of the review process is the structured identification and selection of articles based on carefully chosen search terms and databases, followed by a robust screening procedure to verify the relevance and validity of the articles considered for inclusion.

To begin with, the identification phase involved an extensive search for relevant articles, guided by specific search terms related to the topic of digital leadership and transformation. Keywords such as Digital Transformational Leadership, Digital Leadership Era, Modern Leadership, and Educational Leadership and Management were carefully selected to encompass a wide array of research related to digital leadership. This broad selection ensured that the search would capture diverse facets of the topic, offering a comprehensive foundation for the review. The primary database chosen for this process was Scopus, well-regarded for its rigorous indexing and its capacity to provide access to high-quality academic articles (Anwar & Saraih, 2024; Rasdiana et al., 2024). Unlike other databases, Scopus offers the advantage of reducing duplication and ensuring the inclusion of only articles from well-respected journals, which is crucial for maintaining the integrity of the research (Kitchenham & Charters, 2007).

Once the initial search was conducted, the screening process began. At this stage, the retrieved articles were carefully evaluated for relevance and quality, using predefined inclusion and exclusion criteria. The initial search yielded 332 articles from Scopus. However, 6 articles were identified as duplicates and excluded. Additionally, 93 articles were discarded due to their publication dates falling outside the 2015-2025 range set for the review. Another 17 articles were removed because they lacked abstracts, which are necessary for further evaluation. Finally, 24 articles were excluded for being published in journals with an undesired tier (Q1, Q2, Q3, or Q4), ensuring that the final selection maintained high academic standards. After this rigorous filtering process, 192 articles remained for the subsequent review.

In the eligibility phase, a deeper examination of these articles took place. Here, 122 articles were excluded because they failed to meet the study's specific criteria. Of the remaining 70 articles, 48 could not be accessed due to issues such as restricted access or paywalls, leaving 22 articles that met the inclusion criteria and were deemed suitable for the final analysis. This process ensured that only the most relevant and high-quality studies were included in the systematic review.

For the final stage, inclusion, the 22 eligible articles were thoroughly examined and included in the review. This marked the transition to the next phase of data analysis, which utilized qualitative thematic analysis. Thematic analysis was selected for its effectiveness in identifying patterns and recurring themes across the literature, offering a deeper understanding of the research trends and findings. This method was supported by the Watake Uake System (Thomas & Harden, 2008), which assisted in organizing and interpreting the data from the selected studies.

To summarize, this study rigorously adhered to the PRISMA guidelines, ensuring that all steps—from identification through to inclusion—were conducted with careful attention to methodological integrity. The PRISMA flow diagram, presented in Figure 1, illustrates the steps taken in the identification, screening, eligibility, and inclusion phases. By employing a well-structured process for selecting articles, this study ensured that the final set of 22 articles was both high in quality and relevant to the research questions. The use of specific keywords and Scopus as the primary database was crucial in guaranteeing the robustness of the articles selected. The systematic screening and inclusion process, coupled with thematic analysis, allowed the study to produce comprehensive and insightful findings. This methodological framework could be adapted for other research topics by modifying the inclusion criteria and search terms as needed, providing a flexible and rigorous approach for systematic literature reviews in various fields.

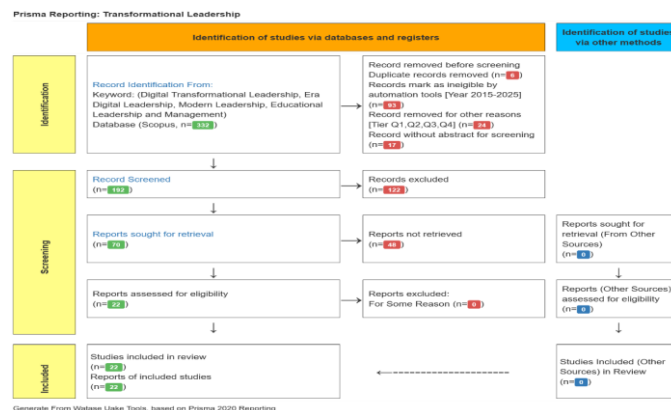


Fig 1. PRISMA Statement.

## Result and Discussion

### Descriptive Overview of Reviewed Articles

Upon reviewing the key terms extracted from the articles, it is evident that Transformational Leadership (TL) emerges as the central theme in much of the literature, with associated keywords such as leadership, management, and educational leadership forming important sub-themes. This consistent appearance of TL highlights its crucial role in inspiring organizational change and fostering innovation across diverse sectors, particularly in educational and organizational settings. Moreover, the sub-themes of digital transformation, innovation, and knowledge management reveal an increasingly integrated focus on the role of technology and information flow within leadership practices. These findings point to the growing recognition that leadership must adapt to technological advancements, particularly in an era where digital transformation is a key driver of organizational success.

Interestingly, regional keywords such as Asia, China, Africa, and Arab countries further illustrate the geographical scope of TL research. These regions reflect a diverse set of interests, with studies from Asia typically investigating leadership models within education and the integration of technology, while African studies emphasize leadership in the context of social development and inclusion. This geographical variation underscores that while transformational leadership is a universally applicable concept, its practice and influence are significantly shaped by local cultural and socio-economic contexts.

On a global scale, these themes reveal that the future of TL research will likely continue to emphasize adaptive, innovative, and sustainable leadership models, especially as organizations confront challenges like digitalization, social change, and global crises. The shift toward digital leadership in particular demands further exploration, especially concerning how transformational leadership can address contemporary issues such as sustainability, inequality, and technological disruption. This presents a rich avenue for future research that could have far-reaching impacts in both theory and practice.

### Classification Based on Analytical Framework

The analysis also indicates a broad range of variables associated with Transformational Leadership (TL), with major categories including Transformational Leadership Style, Digital Transformational Leadership, and Motivation. These variables reflect how TL is shaped by different cultural, technological, and regional contexts. For example, Transformational Leadership Style—which encompasses Inspirational Motivation, Intellectual Stimulation, Idealized Influence, and Individualized Consideration—remains a central focus

across studies globally, demonstrating its universal applicability (Bass & Avolio, 1994). However, as the world becomes more digital, we observe an increasing emphasis on Digital Transformational Leadership (DTL), particularly in regions like Indonesia, where there is a strong push to integrate technology into leadership practices, especially within educational settings (Anwar & Saraih, 2024).

In contrast, research in Vietnam highlights the importance of Technical Competency, Adaptive Leadership Capability, and Cultural Sensitivity, indicating that leadership must be both technologically proficient and culturally aware to thrive in diverse environments (Hoang, 2025). These regional nuances emphasize how leadership frameworks must be flexible and contextually relevant, responding to the specific challenges and opportunities that arise within different cultural and socio-economic settings.

Notably, studies from Indonesia also highlight a positive correlation between Digital Transformational Leadership and School Digital Culture, as well as Teacher Professional Digital Competence, suggesting that digital leadership not only influences organizational performance but also plays a key role in cultivating a digitally empowered workforce (Rasdiana et al., 2024). The emerging trend of Digital Transformational Leadership is therefore not just a theoretical development but a necessary response to the technological and cultural shifts occurring across the globe. These findings point to the importance of adapting leadership models to integrate digital transformation in a way that aligns with local needs and conditions.

#### In-depth Thematic Analysis

Delving deeper into the thematic trends emerging from the literature, it is clear that Digital Transformational Leadership (DTL) is not just an evolving theoretical construct but a critical tool for enhancing organizational agility and innovation. In fact, as organizations continue to face technological disruptions, leadership's role in fostering adaptability has become more significant. Research by Ly (Ly, 2024) and Özkan (2024) strongly supports this view, with their findings showing that DTL has a substantial impact on digital transformation by improving Organizational Agility (OA). OA, in this context, is recognized as a key mediator, enabling organizations to pivot and adapt to changing technological landscapes. These findings are consistent with the broader literature, which increasingly links digital leadership to organizational success, particularly in environments where technological change is constant and pervasive.

Interestingly, the global focus on DTL highlights its transformative potential, especially in developing countries. For instance, in Indonesia and Pakistan, studies underscore how Transformational Leadership directly enhances teacher performance and school effectiveness, particularly through the use of digital tools and practices [38, 39]. These studies suggest that leadership in education can drive not only the adoption of technology but also the creation of a culture conducive to innovation. Similarly, the literature from Vietnam emphasizes Adaptive Leadership Capability and Cultural Sensitivity, noting that leadership's adaptability to both technology and culture is critical for fostering successful digital transformation (Hoang, 2025).

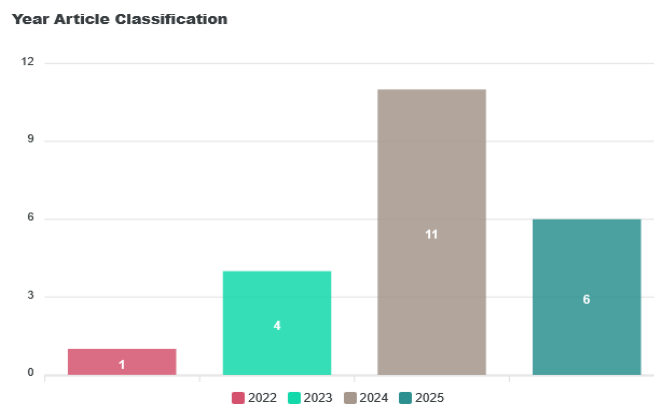
However, despite the promising evidence of DTL's impact, there remains an under-explored area in understanding how transformational leadership can address the specific challenges of different sectors, particularly in post-pandemic recovery phases. Research by Hoang (Hoang, 2025) and Sunaryo et al. (Rasdiana et al., 2024) demonstrates that while DTL can enhance teacher professional digital competence and school performance, there is still a lack of comprehensive studies that examine the long-term impact of DTL on organizational sustainability and digital culture. This gap suggests the need for future studies to explore how digital leadership can be sustained over time, particularly in contexts where digital infrastructure and resources are limited.

The studies reviewed also reveal an interesting geographical divide in the application of DTL, with developed countries such as the United States and Italy focusing on the role of Digital Communication Skills

and Organizational Agility in enhancing job performance and fostering innovation (Boccoli et al. (Boccoli et al., 2024); Majumdarr et al., 2024). These findings contrast with those from developing countries, where studies emphasize the need for leadership to integrate technology and foster digital skills within schools and organizations (Ly, 2024); Hoang, 2025). This disparity points to the growing importance of tailoring leadership models to specific cultural, technological, and economic contexts, ensuring that digital leadership frameworks are not just globally applicable but locally relevant as well.

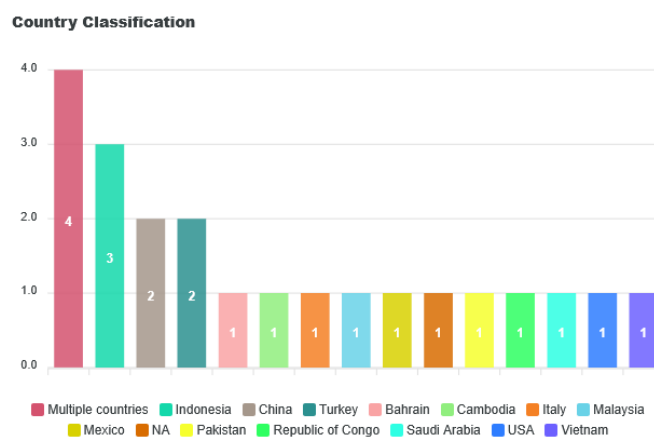
The increasing focus on Digital Transformational Leadership signals a shift from traditional models of leadership to those that are more flexible and adaptable in the face of technological advancements. This shift is not merely academic but has profound practical implications for organizations worldwide. Future research should therefore aim to bridge the gap between theory and practice, exploring how leadership can better integrate digital transformation, address contextual challenges, and foster innovation in a rapidly changing world.

### Publication Trend



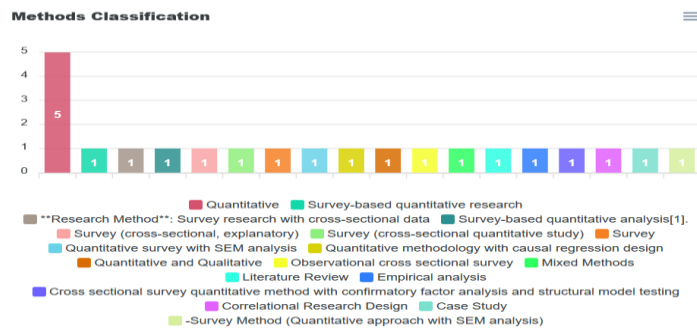
**Fig 2. Yearly Publication Trend.**

As shown in Fig. 2, the selected studies exhibit a clear yearly publication trend in the DTL literature.



**Fig. 3. Country Distribution of Studies.**

As shown in Fig. 3, the reviewed studies are geographically distributed across multiple countries.



**Fig. 4. Research Method Classification.**

As shown in Fig. 4, the reviewed studies employ diverse research methods.

**Table 1. Journals Lists And Citation Distribution of the Included Studies.**

No	ISSN	Journal	Tier	Citation	Total Article
1	25618148	International Journal of Data and Network Science	2	2	2
2	22277102	Education Sciences	2	14	2
3	20711050	Sustainability	1	3	2
4	16641078	Frontiers in Psychology	1	0	1
5	87569728	Project Management Journal	1	16	1
6	23311975	Cogent Business & Management	2	3	1
7	20798954	Systems	2	0	1
8	20004508	Education Inquiry	1	10	1
9	18687865	Journal of the Knowledge Economy	2	50	1
10	16875273	Computational Intelligence and Neuroscience	1	12	1
11	01437739	Leadership & Organization Development Journal	3	9	1
12	14726963	BMC Health Services Research	1	0	1
13	13673270	Journal of Knowledge Management	1	7	1
14	13602357	Education and Information Technologies	3	0	1
15	10534822	Human Resource Management Review	2	2	1
16	10478310	The Journal of High Technology Management Research	3	6	1
17	09596526	Journal of Cleaner Production	1	40	1

No	ISSN	Journal	Tier	Citation	Total Article
18	09534814	Journal of Organizational Change Management	3	5	1
19	0951354X	International Journal of Educational Management	2	5	1

(Journal Citation)

This systematic literature review (SLR) provides critical insights into Transformational Leadership (TL), particularly in the context of digital transformation and the challenges organizations face in the post-pandemic era. As organizations worldwide grapple with technological disruption, the findings underscore the growing relevance of Digital Transformational Leadership (DTL). Notably, the study highlights the dual role of leadership: not only in guiding organizations through technological changes but also in fostering organizational agility and innovation. This review extends our understanding of TL by emphasizing its integration with digital tools, shedding light on an under-explored area in the leadership literature.

#### Comparison with Existing Literature

This review builds upon and, in some cases, challenges the conclusions of earlier studies. For example, while Bass and Avolio's (Bass & Avolio, 1994) foundational model of transformational leadership has long been the go-to framework, this review pushes the boundaries by incorporating Digital Transformational Leadership (DTL) as an essential dimension of leadership in today's world. In line with the work of Ly (2024) and Özkan Alakaş (2024), the study emphasizes that DTL is not merely a modernized version of TL but a distinct evolution that enhances organizational agility, particularly in sectors such as education, healthcare, and business.

Interestingly, the findings of this review resonate with, yet also extend, the conclusions drawn by Gun et al (Gun et al., 2024) about DTL's impact on organizational agility and performance. These studies suggest that leadership is most effective when it fosters both technological competence and organizational flexibility. However, what this review adds is a deeper understanding of how DTL interacts with cultural and contextual factors, particularly in regions like Southeast Asia. The research from Indonesia and Vietnam, for instance, shows that DTL must not only focus on technological adoption but also on the cultural adaptability of leadership practices [37, 36]. This nuanced view of TL, emphasizing the need for leaders to be digitally literate while also culturally sensitive, adds a valuable perspective that has been underexplored in previous works.

The review also underscores the increasing relevance of TL in the context of organizational resilience, especially following the disruptions caused by the COVID-19 pandemic. While the notion of leadership's role in crisis management is not new, the digital dimension adds complexity to this understanding. In contrast to earlier studies, which largely focused on traditional leadership traits, this review argues that the integration of digital tools and leadership capabilities is now indispensable for fostering resilience and sustainability in organizations (Boccoli et al., 2024). These insights build on the work of Bindel Sibassaha et al. (Bindel Sibassaha et al., 2025) who highlighted the importance of agility and innovation in leadership, and they point to a clear direction for future studies.

## Theoretical Contributions and Novelty

Unlike prior studies that have primarily focused on TL's core dimensions such as motivation, intellectual stimulation, and individualized consideration (Bass & Avolio, 1994), this review shifts the lens toward how these dimensions must now intersect with digital competencies and innovation capabilities. This is a significant step forward, offering a fresh perspective on TL as it adapts to the digital era. Moreover, the integration of Digital Transformational Leadership within the TL framework is an important theoretical contribution, enhancing our understanding of leadership in a world increasingly defined by technological change.

Notably, the study introduces the concept of organizational agility (OA) as a mediating factor that connects DTL to improved performance. This is a novel contribution to the literature. While OA has been discussed in the context of digital transformation Ly, 2024, its role as a mediator in the relationship between leadership and organizational success has not been fully explored until now. By focusing on the role of OA, this review bridges a gap in existing leadership theories, showing that TL in the digital age does not simply promote change but also enhances the organization's ability to adapt and thrive in the face of ongoing technological disruptions.

Moreover, this review presents a broader theoretical framework by integrating TL with other relevant theories, such as Adaptive Leadership Theory (Heifetz, 1994) and Digital Leadership Theory (Bass, 1985). The synthesis of these theories provides a more comprehensive understanding of leadership in the context of technological and cultural shifts. This, in turn, offers valuable insights into how leadership models can be more flexible and context-sensitive. The review adds a critical layer by acknowledging the cultural and socio-economic factors that influence the effectiveness of leadership, which previous studies have often overlooked.

## Implications for Future Research

This review reveals several important gaps in the current literature, which future research should aim to address. One significant gap is the lack of longitudinal studies that track the long-term effects of Digital Transformational Leadership on organizational performance and resilience. While several studies have provided snapshots of the impact of leadership in digital contexts (Kludacz-Alessandri et al., 2025), the long-term effects of DTL, particularly in the aftermath of crises like the COVID-19 pandemic, remain largely unexplored. Longitudinal studies could offer more profound insights into the sustainability of DTL's impact over time, especially in industries where digital transformation is still in its nascent stages.

Additionally, this review highlights the need for more comparative studies across different sectors and regions. While much of the literature focuses on education and public sectors, there is a marked lack of research in other critical areas such as healthcare, creative industries, and non-profit organizations. Future studies could explore how DTL applies in these sectors, where digital transformation is occurring but at different rates and with different challenges. For example, in healthcare, the integration of DTL could play a crucial role in improving patient outcomes and organizational performance, yet this area remains under-researched.

The findings also point to the need for more interdisciplinary research, as the complexities of digital leadership extend beyond traditional leadership and management theories. By incorporating perspectives from fields such as technology management, sociology, and communication studies, future research could provide a richer, more integrated understanding of how digital leadership functions in different organizational environments. Moreover, integrating new theories like Complex Adaptive Systems Theory (Uhl-Bien et al.,

2007) could provide valuable insights into the dynamic and interconnected nature of leadership in a rapidly changing digital world.

### Practical Implications

From a practical standpoint, the findings of this review have significant implications for organizational leaders, policymakers, and educational institutions. As digital transformation continues to redefine industries, leaders must be equipped with the skills not only to manage technological change but also to foster a culture that embraces innovation and adaptability. This review underscores the need for targeted training programs that help leaders develop both digital competencies and adaptive leadership skills.

For educational institutions, particularly in developing countries, the findings suggest that investing in digital leadership programs for school principals and teachers could significantly enhance school performance, especially in the post-pandemic era. This is particularly important in countries like Indonesia and Vietnam, where the digital divide remains a key challenge (Hoang, 2025). Leaders in these contexts must not only be technologically savvy but also culturally aware and capable of leading organizations through the complexities of technological integration.

In the corporate sector, the implications are equally profound. This review suggests that organizations should prioritize the development of leaders who are both digitally proficient and capable of fostering organizational agility. In a time when technological disruptions are frequent, the ability to respond quickly and effectively to change is critical for long-term success. Moreover, the importance of a digital culture within organizations is highlighted, emphasizing that leaders must promote innovation and flexibility at all levels.

### Conclusion

This systematic literature review (SLR) has provided an in-depth exploration of Transformational Leadership (TL), particularly in the context of digital transformation and the post-pandemic shift in leadership practices. The findings reveal a significant evolution of leadership theories, especially with the emergence of Digital Transformational Leadership (DTL), which combines traditional leadership principles with the demands of today's rapidly evolving digital landscape. The review underscores the importance of leaders not only being visionaries but also being technologically adept and agile, capable of navigating both digital and cultural shifts within their organizations. In this sense, the study contributes to the growing body of literature by adding a fresh perspective on the role of leadership in driving innovation and improving organizational performance in a digital world.

Notably, this review extends prior research by integrating Digital Transformational Leadership within the broader Transformational Leadership framework. While earlier studies, such as those by Bass and Avolio (Bass & Avolio, 1994), have extensively discussed TL's core dimensions—motivation, intellectual stimulation, and individualized consideration this review emphasizes the increasing relevance of digital competencies, organizational agility, and innovation capability in modern leadership. This shift highlights the changing role of leadership in the digital age, where leaders must not only inspire and motivate but also lead technological advancements and adapt to rapidly changing environments.

In conclusion, this review has demonstrated that Digital Transformational Leadership is an essential framework for organizations seeking to thrive in the digital age. It expands the boundaries of Transformational Leadership theory by incorporating digital competencies and organizational agility, offering a more nuanced and context-sensitive understanding of leadership. The review also highlights the importance of regional context and the need for leadership models that are adaptable to local challenges and opportunities. As digital

transformation continues to shape industries across the globe, future research should focus on the long-term effects of DTL, its application across different sectors, and the integration of interdisciplinary perspectives to enrich our understanding of leadership in a rapidly evolving world. This study not only contributes to the theoretical development of Digital Transformational Leadership but also provides practical insights for organizations seeking to navigate digital disruption. By emphasizing the need for leaders who are both technologically competent and culturally aware, this review offers a roadmap for organizations striving to enhance their innovation capacity and long-term sustainability. As such, it sets the stage for future research that will continue to refine leadership models and provide actionable recommendations for leaders in the digital era.

## References

- Alabdali, M. A., Yaqub, M. Z., Agarwal, R., Alofaysan, H., & Mohapatra, A. K. (2024). Unveiling green digital transformational leadership: Nexus between green digital culture, green digital mindset, and green digital transformation. *Journal of Cleaner Production*, 450, 141670. <https://doi.org/10.1016/j.jclepro.2024.141670>
- Anwar, S., & Saraih, U. N. (2024). Digital leadership in the digital era of education: Enhancing knowledge sharing and emotional intelligence. *International Journal of Educational Management*, 38(6), 1581–1611. <https://doi.org/10.1108/IJEM-11-2023-0540>
- Bass, B. M. (1985). *Leadership and performance beyond expectations*. Free Press.
- Bass, B. M., & Avolio, B. J. (Eds.). (1994). *Improving organizational effectiveness through transformational leadership*. Sage Publications.
- Bauwens, R., & Cortellazzo, L. (2025). The different faces of e-leadership: Six perspectives on leading in the era of digital technologies. *Human Resource Management Review*, 35(1), 101058. <https://doi.org/10.1016/j.hrmr.2024.101058>
- Berkovich, I., & Hassan, T. (2025). *Principals' digital transformational leadership, teachers' commitment, and school effectiveness*. *Education Inquiry*, 16(2), 177–194. <https://doi.org/10.1080/20004508.2023.2173705>
- Bindel Sibassaha, J. L., Pea-Assounga, J. B. B., & Bambi, P. D. R. (2025). *Influence of digital transformation on employee innovative behavior: Roles of challenging appraisal, organizational culture support, and transformational leadership style*. *Frontiers in Psychology*, 16, 1532977. <https://doi.org/10.3389/fpsyg.2025.1532977>
- Boccoli, G., Gastaldi, L., & Corso, M. (2024). Transformational leadership and work engagement in remote work settings: The moderating role of the supervisor's digital communication skills. *Leadership & Organization Development Journal*, 45(7), 1240–1257. <https://doi.org/10.1108/LODJ-09-2023-0490>
- Chong, Y. K., & Zainal, S. R. M. (2024). Employee agility's mediating role on the link between employee vitality, digital literacy and transformational leadership with job performance: An empirical study. *Cogent Business & Management*, 11(1), 2337447. <https://doi.org/10.1080/23311975.2024.2337447>
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147–160.
- Gun, L., Imamoglu, S. Z., Turkcan, H., & Ince, H. (2024). Effect of digital transformation on firm performance in the uncertain environment: Transformational leadership and employee self-efficacy as antecedents of digital transformation. *Sustainability*, 16(3), 1200. <https://doi.org/10.3390/su16031200>

- Heifetz, R. A. (1994). *Leadership without easy answers*. Harvard University Press.
- Hoang, N. H. (2025). E-leadership in the AI era: Exploring Vietnamese EFL teachers' digital leadership development in AI integration. *Education and Information Technologies*, 30(12), 16895–16928. <https://doi.org/10.1007/s10639-025-13451-6>
- Huang, J. Y. H., Jiang, R., & Chang, J. Y. T. (2023). The effects of transformational and adaptive leadership on dynamic capabilities: Digital transformation projects. *Project Management Journal*, 54(4), 428–446. <https://doi.org/10.1177/87569728231165896>
- Kitchenham, B., & Charters, S. (2007). *Guidelines for performing systematic literature reviews in software engineering*. Keele University and Durham University Joint Report.
- Kludacz-Alessandri, M., Hawrysz, L., Żak, K., & Zhang, W. (2025). The impact of digital transformational leadership on digital intensity among primary healthcare entities: A moderated mediation model. *BMC Health Services Research*, 25(1), 117. <https://doi.org/10.1186/s12913-025-12283-x>
- Meng, H. (2022). Analysis of the relationship between transformational leadership and educational management in higher education based on deep learning. *Computational Intelligence and Neuroscience*, 2022, 1–8. <https://doi.org/10.1155/2022/5287922>
- Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLOS Medicine*, 6(7), e1000097. <https://doi.org/10.1371/journal.pmed.1000097>
- Özkan Alakaş, E. (2024). Digital transformational leadership and organizational agility in digital transformation: Structural equation modelling of the moderating effects of digital culture and digital strategy. *The Journal of High Technology Management Research*, 35(2), 100517. <https://doi.org/10.1016/j.hitech.2024.100517>
- Page, M. J., et al. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, 372, n71. <https://doi.org/10.1136/bmj.n71>
- Rasdiana, Wiyono, B. B., Imron, A., Rahma, L., Arifah, N., Azhari, R., Elfira, Sibula, I., & Maharmawan, M. A. (2024). Elevating teachers' professional digital competence: Synergies of principals' instructional e-supervision, technology leadership and digital culture for educational excellence in digital-savvy era. *Education Sciences*, 14(3), 266. <https://doi.org/10.3390/educsci14030266>
- Stoian, M. (2023). New leadership models for the digital and entrepreneurial society – Recovering from COVID-19 in an increasingly digital economy. *Proceedings of the International Conference on Business Excellence*, 17(1), 572–580. <https://doi.org/10.2478/picbe-2023-0054>
- Suharyati, H., Tarihoran, E., Khuriyah, K., Sonny, S., Nurlaili, L., Caska, C., & Supard, S. (2024). Exploring the role of e-learning, digital leadership and digital innovation behavior on schools' performance during society 5.0 era. *International Journal of Data and Network Science*, 8(4), 2527–2538. <https://doi.org/10.5267/j.ijdns.2024.5.005>
- Sunaryo, W., Yusnita, N., Herfina, H., Wulandari, D., & Suhendra, S. (2023). The effects of digital transformational leadership, work environment and motivation on reinforcing job satisfaction: Evidence from vocational schools. *International Journal of Data and Network Science*, 7(2), 883–890. <https://doi.org/10.5267/j.ijdns.2022.12.023>
- Thomas, J., & Harden, A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Medical Research Methodology*, 8, 45. <https://doi.org/10.1186/1471-2288-8-45>

Uhl-Bien, M., Marion, R., & McKelvey, B. (2007). Complexity leadership theory: Shifting leadership from the industrial age to the knowledge era. *The Leadership Quarterly*, 18(4), 298–318.  
<https://doi.org/10.1016/j.leaqua.2007.04.002>