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Digital Leadership; Sustainable Organisational Performance; Sustainability; Digital Transformation; Bibliometric Analysis; Systematic Literature Review

Authors
M. SOFYAN¹

¹ Doctoral Program in Management, Graduate School, Universitas Muhammadiyah Yogyakarta, Yogyakarta 55183, Indonesia
Email: m.sofyan.psc22@mail.umy.ac.id, ORCID: 0009-0007-4199-6544

IKA NURUL QAMARI²

² Department of Management, Faculty of Economics and Business, Universitas Muhammadiyah Yogyakarta, Yogyakarta 55183, Indonesia
Email: ika_nr@umy.ac.id ORCID: 0000-0003-2114-0670

UDIN³

³ Department of Management, Faculty of Economics and Business, Universitas Muhammadiyah Yogyakarta, Yogyakarta 55183, Indonesia
Email: udin@umy.ac.id ORCID: 0000-0002-5491-9085

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Mapping The Nexus Between Digital Leadership And Sustainable Organisational Performance: A Systematic Literature Review And Bibliometric Analysis

Abstract

The increasing complexity of digital transformation and sustainability challenges, taking on becoming increasingly strategic importance and being connected to outcoming pressures, has encouraged organisations to strengthen leadership capabilities to achieve long-term organisational performance, which has grown to be reaching broader sustainability expectations. This study aims to systematically map and examine the relationship between Digital Leadership and Sustainable Organisational Performance, focused exclusively on literature insights, while seeking to have a clearer understanding of how this relationship could have affected organisational adaptation. The study adopts the PRISMA framework for article selection and VOSviewer for bibliometric mapping, to be getting a structured overview of publication trends, dominant themes, intellectual structures, and future research directions in the literature, while also reaching on and to reaching up toward emerging research gaps. Data were collected from the Scopus database using relevant keyword combinations related to digital leadership and sustainable organisational performance, and a total of 42 articles that met the inclusion criteria were analysed. The findings reveal a growing scholarly interest in the relationship between Digital Leadership and Sustainable Organisational Performance, particularly in recent years. Bibliometric analysis demonstrates an evolution of research themes from organisational performance and digital transformation toward sustainability-oriented constructs, including green innovation, ESG orientation, organisational learning, and artificial intelligence readiness. The network analysis further indicates that digital leadership serves as a central intellectual construct linking digital transformation, sustainability, innovation, and organisational performance, while taking on a role that is becoming increasingly important in shaping outcoming strategic directions. Moreover, the literature increasingly conceptualises digital leadership as a multidimensional strategic capability rather than merely being a leadership style, to have broader relevance for organisational adaptation. The findings also suggest that sustainable organisational performance is increasingly influenced by mediating mechanisms such as IT capability, digital culture, green innovation, and ESG management, which could have affected how organisations are to be getting more responsive to sustainability pressures. This study contributes theoretically by providing a comprehensive understanding of the evolving relationship between Digital Leadership and Sustainable Organisational Performance, focused exclusively on its strategic and sustainability-oriented dimensions, and practically by offering strategic insights for organisations seeking to align digital transformation initiatives with sustainability objectives, which has grown to be reaching wider managerial relevance. Future research is encouraged to explore a wider range of organisational contexts and adopt more comprehensive methodological approaches, while reaching on and to reaching up toward broader theoretical and empirical development.

1. INTRODUCTION

The rapid advancement of digital technologies, taking on becoming increasingly strategic significance and being linked to outcoming organisational pressures, has fundamentally transformed how organisations operate, compete, and sustain value creation across industries, which could have affected their capacity to have long-term adaptability. Digital transformation has evolved from a technological option to a strategic imperative and has grown in relevance for organisations seeking long-term competitiveness and resilience in increasingly uncertain and dynamic environments, to be getting more responsive to change, focused exclusively on strategic renewal, and to be reaching, to reaching up, and reaching on toward sustainable value creation (Gayathiri et al., 2026). Organisations are now expected not only to improve operational efficiency and economic performance, taking on becoming increasingly complex sustainability demands and being exposed to outcoming stakeholder pressures, but also to align their strategies with sustainability objectives encompassing environmental, social, and governance dimensions, which could have affected their need to have stronger strategic adaptability. In this context, digital transformation enables firms to redesign business models, improve decision-making processes, optimise resource utilisation, and foster innovation-driven sustainability, focused exclusively on long-term value creation, while it has grown to be getting more central, to be reaching wider organisational relevance, and to reaching up and reaching on toward sustainable transformation (Valentinov et al., 2023). Consequently, digitalisation is increasingly recognised as a key enabler of sustainable organisational performance in modern organisations (Gao, 2025).

Within the digital transformation agenda, leadership has emerged as one of the most critical determinants of organisational success (Al-Ahmed et al., 2026). Traditional leadership approaches are increasingly insufficient to address technological disruption, environmental uncertainty, and sustainability challenges (Baglama et al., 2022). This condition has accelerated scholarly interest in digital leadership, which refers to leaders' capabilities to leverage digital technologies, foster innovation, facilitate organisational adaptability, and align digital transformation with strategic objectives (Lathabhavan & Kuppusamy, 2024). Recent studies indicate that digital leadership significantly contributes to organisational competitiveness by strengthening digital capabilities, innovation performance, and employee engagement (Palmucci et al., 2025). Moreover, digital leadership is increasingly viewed as an essential organisational capability that facilitates sustainable performance by integrating technological advancement with sustainability-oriented strategies (Aftab et al., 2025; Zada et al., 2025).

The growing relevance of digital leadership is also evident in studies examining its role in improving organisational sustainability outcomes. For example, Shin et al. (2023) demonstrated that digital leadership strengthens organisational sustainability by fostering digital culture and employees' digital capabilities. Similarly, Molla et al. (2023) revealed that digital leadership positively affects sustainable organisational

performance by enhancing IT capabilities and organisational learning. In addition, Niu et al. (2022) emphasised that integrating digital leadership and ESG management significantly improves organisational innovation and sustainability performance. Taken together, these studies indicate that digital leadership has become a strategic capability for fostering innovation, organisational learning, and sustainable performance. This perspective is consistent with the view that effective leadership and communication processes are fundamental determinants of organisational performance and long-term organisational success (Musheke & Phiri, 2021).

Recent literature further highlights the important role of digital leadership in supporting sustainability through innovation and digital readiness. (Aftab et al., 2025) found that digital leadership positively influences organisational performance through big data analytical capability, green innovation, and AI change readiness, particularly in SMEs. Likewise, Khan et al. (2025) demonstrated that digital leadership shapes employee behaviour in implementing green innovation initiatives, while Tian et al. (2025) emphasised its contribution to radical green innovation within manufacturing firms. In broader contexts, Elshaer et al. (2025) revealed that green digital leadership enhances sustainability performance through circular economy practices, suggesting that leadership capabilities play a crucial role in aligning digital transformation with sustainability goals. These findings collectively reinforce the growing importance of digital leadership as a key antecedent of sustainable organisational performance (Al-Ahmed et al., 2026).

Despite the increasing scholarly attention, the existing body of literature remains fragmented and context-dependent (Verhoef et al., 2021). First, previous studies have predominantly examined direct relationships between digital leadership and specific organisational outcomes, such as organisational performance, innovation, sustainability, ESG practices, or employee engagement, rather than systematically integrating these dimensions into a broader sustainability framework (Palmucci et al., 2025). Second, many studies emphasised particular sectors or national contexts, including healthcare, SMEs, logistics, education, hospitality, and manufacturing, which limits theoretical generalisability and conceptual integration (Espina-Romero et al., 2024). Third, although prior studies acknowledged the role of digital transformation and green innovation in supporting sustainability outcomes, limited research has systematically mapped the intellectual structure, thematic evolution, and research trends connecting digital leadership and sustainable organisational performance across disciplines. Consequently, the literature remains dispersed, creating inconsistencies in conceptual understanding and limiting theoretical consolidation (Valentinov et al., 2023).

From a state-of-the-art perspective, recent studies have increasingly shifted toward understanding digital leadership as a multidimensional construct associated with organisational agility, sustainability, AI integration, green innovation, and ESG management. For instance, Gao (2025) discussed the twin transitions between

sustainability and digital leadership within European policy contexts, while Aftab et al. (2025) and Zada et al. (2025) proposed mechanisms linking digital leadership, green innovation, and sustainability performance. Similarly, emerging literature emphasised digital competencies, organisational learning, and digital culture as mediating mechanisms that strengthen sustainable performance outcomes (Mollah et al., 2023). Although these studies enrich scholarly understanding, they remain fragmented and dispersed across different conceptual perspectives, indicating the absence of a comprehensive synthesis that explains the broader nexus between digital leadership and sustainable organisational performance (Tian et al., 2025).

This condition highlights the urgency of conducting a systematic investigation to understand better how digital leadership contributes to sustainable organisational performance across various organisational settings. As organisations continue to face increasing environmental pressures, technological disruption, and stakeholder demands for sustainability, understanding the relationship between leadership capabilities and sustainable outcomes has become strategically important (Abed Alhameed & Emeagwali, 2026). A comprehensive synthesis of the literature is essential not only for consolidating fragmented findings but also for identifying dominant themes, emerging trends, theoretical foundations, and future research opportunities. Therefore, a systematic literature review integrated with bibliometric analysis is particularly well suited to providing a structured understanding of the evolution of this research domain (Yahya et al., 2024).

The novelty of this study lies in its effort to map the nexus between digital leadership and sustainable organisational performance by integrating a Systematic Literature Review (SLR) and bibliometric analysis. Unlike previous empirical studies, which primarily focused on causal relationships in specific contexts, this study offers a broader, more integrative perspective by systematically identifying publication trends, intellectual structures, thematic clusters, and future research agendas in the field. Furthermore, this study contributes to the existing literature by synthesising fragmented findings into a more coherent conceptual understanding of how digital leadership contributes to sustainable organisational performance.

Based on the above discussion, this study formulates three main Research Questions (RQs) to guide the analysis. First, to what extent has research on Digital Leadership and Sustainable Organisational Performance evolved in contemporary scholarly literature (RQ1)? Second, what are the dominant themes, trends, and intellectual structures in the literature concerning Digital Leadership and Sustainable Organisational Performance (RQ2)? Third, what theoretical insights and practical implications can be identified regarding the relationship between Digital Leadership and Sustainable Organisational Performance to inform future research directions (RQ3)?

To address these questions, this study adopts a Systematic Literature Review (SLR) approach combined with bibliometric analysis, employing the PRISMA framework for article selection and VOSviewer to map co-authorship networks, keyword co-occurrence, and

thematic evolution. Ultimately, this study is expected to contribute theoretically to management scholarship and practically to organisations seeking to align digital transformation strategies with sustainable organisational performance.

1.1 Digital Transformation and the Strategic Role of Digital Leadership in Sustainable Organisations

Digital transformation has significantly reconfigured organisational structures, managerial approaches, and value-creation mechanisms across various industries. The growing adoption of advanced technologies, such as artificial intelligence, big data analytics, cloud computing, and digital platforms, has changed the way organisations build competitiveness and pursue sustainability (Laradi et al., 2024). In this regard, organisations are increasingly expected to shift away from traditional operational models and implement digitally driven strategies that strengthen adaptability, innovation, and long-term performance. Thus, digital transformation should not be viewed solely as the adoption of technology, but rather as a broader organisational change process that involves strategy, leadership, and organisational culture (Gouveia et al., 2024).

Within this transformation process, digital leadership has emerged as a crucial organisational capability for navigating uncertainty and sustaining organisational competitiveness. Digital leadership refers to leaders' ability to leverage digital technologies, foster innovation, facilitate organisational learning, and align technological transformation with organisational objectives (Eberl & Drews, 2021). Compared with traditional leadership approaches, digital leadership places greater emphasis on agility, digital competence, strategic responsiveness, and innovation-driven decision-making. Earlier studies have revealed that organisations with well-developed digital leadership capabilities are more likely to achieve stronger resilience, higher employee engagement, and improved organisational performance in highly digitalised environments (Palmucci et al., 2025). Furthermore, digital leadership enables organisations to establish an adaptive digital culture that strengthens employees' technological capabilities and organisational responsiveness to external disruptions (Shin et al., 2023). The strategic importance of digital leadership has become more prominent in the context of sustainability. Sustainable organisational performance is no longer limited to financial results, but also includes wider dimensions such as environmental responsibility, social contribution, operational resilience, and long-term organisational continuity (Kankanamge et al., 2026). In this regard, digital leadership plays an important role in ensuring that technological transformation contributes not only to economic efficiency but also to sustainability-oriented organisational goals. (Zada et al., 2025) demonstrated that digital leadership enhances firm sustainability through green innovation and top management innovativeness, while (Qiao et al., 2024) revealed that digital leadership improves organisational performance through big data analytical capabilities, green innovation, and AI change readiness. These findings indicate that digital leadership serves as a

strategic enabler, connecting technological capabilities to sustainability performance outcomes (Ismail et al., 2025).

1.2 Integration of Digital Leadership and Sustainable Organisational Performance

As sustainability has become a strategic priority, organisations are increasingly required to incorporate environmental and social considerations into their operational practices and decision-making processes. Sustainable organisational performance reflects an organisation's capacity to attain long-term economic growth while preserving environmental responsibility and fulfilling its social obligations (Li et al., 2025). This broader understanding of performance requires organisations to balance profitability with sustainable practices, making leadership capability an ever more important determinant of organisational success (Asbeetah et al., 2025).

In recent years, green innovation has emerged as one of the most prominent mechanisms through which digital leadership influences sustainable organisational performance (Gan & Chu, 2025). Green innovation enables firms to adopt environmentally friendly products, processes, and managerial systems that reduce ecological impact while improving operational efficiency. (Khan et al., 2025) indicated that digital leadership positively influences employee behaviour toward green innovation practices. Similarly, Tian et al. (2025) found that digital leadership significantly contributes to radical green innovation in manufacturing organisations, thereby strengthening sustainability outcomes and competitive advantage. Moreover, Elshaer et al. (2025) argued that Green digital leadership supports sustainability performance by promoting circular economy practices, particularly in hospitality organisations. Overall, these findings indicate that green innovation serves as a key mechanism connecting digital leadership with sustainable organisational performance (Tran & Khoa, 2025).

In addition to green innovation, digital transformation capabilities also contribute substantially to sustainable

organisational outcomes. Organisations with advanced digital capabilities are more likely to optimise resource utilisation, improve operational efficiency, and strengthen organisational resilience amid business uncertainty (Alshahrani & Hakim, 2026). Espina-Romero et al. (2024) demonstrated that digital competencies significantly support organisational sustainability among SMEs, while Mollah et al. (2023) found that IT capabilities and organisational learning mediate the relationship between digital leadership and sustainable organisational performance. Likewise, Shin et al. (2023) emphasised the importance of digital culture and employees' digital capabilities in sustaining organisational performance in the digital era. These studies reinforce the argument that sustainable organisational performance emerges not only from technology adoption itself but also from leadership capabilities that strategically manage digital transformation.

Although scholarly interest in this topic continues to grow, the existing literature remains dispersed across different disciplines, sectors, and theoretical viewpoints. Most prior studies have examined separate relationships between digital leadership and particular organisational outcomes, rather than providing a systematic synthesis of the broader connection between digital leadership and sustainable organisational performance. Consequently, a comprehensive mapping of research trends, thematic clusters, and intellectual structures is necessary. This gap supports the need for a Systematic Literature Review (SLR) combined with bibliometric analysis to explore the development of the literature, identify major research themes, and formulate future research directions. Therefore, this study applies the PRISMA framework to guide systematic article selection and uses VOSviewer to visualise co-authorship networks, keyword co-occurrence, and thematic evolution in the field of digital leadership and sustainable organisational performance.

1.3 Research Model

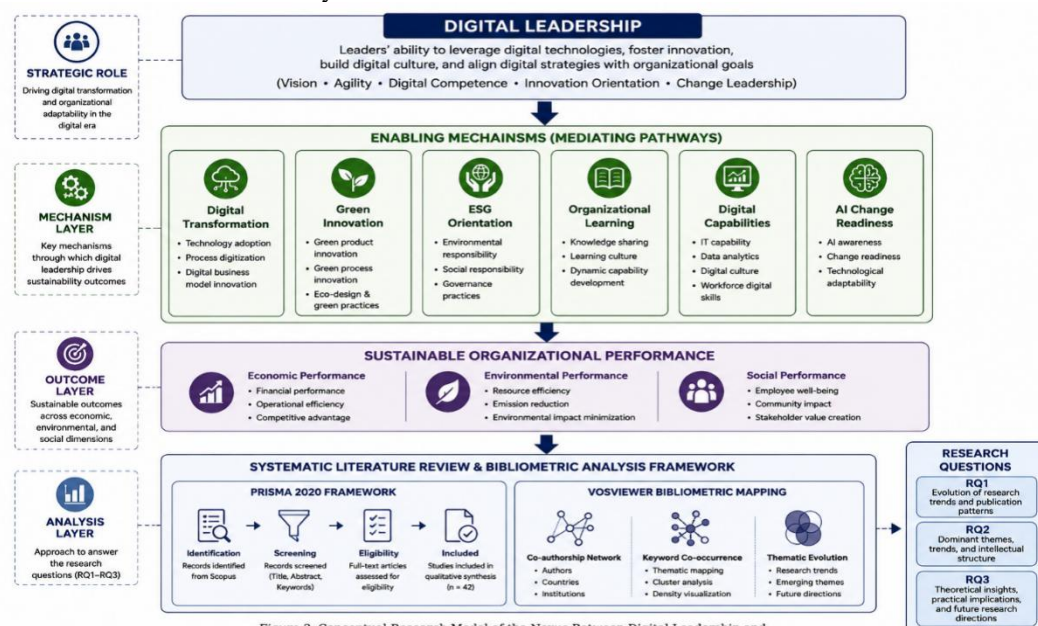


Figure 2. Conceptual Research Model of the Nexus Between Digital Leadership and Sustainable Organizational Performance

Figure 1. Conceptual Research Model of Digital Leadership and Sustainable Organisational Performance

The research model presented in Figure 1 was designed to systematically explore the relationship between Digital Leadership and Sustainable Organisational Performance through a Systematic Literature Review (SLR) combined with bibliometric analysis. Different from empirical models that emphasise direct causal effects, this conceptual framework seeks to integrate fragmented evidence from existing studies and reveal the intellectual structure, thematic development, and research trends related to the link between digital leadership and sustainable organisational performance (Karakose et al., 2022).

The model is conceptually based on two interrelated perspectives. First, the Digital Transformation Perspective highlights the strategic function of digital leadership in strengthening digital capabilities, organisational adaptability, innovation, and technology-enabled change within organisations (Valentinov et al., 2023). Second, the Sustainability and Organisational Performance Perspective highlights the importance of integrating environmental, social, and economic objectives into organisational strategies to achieve long-term performance and resilience (Niu et al., 2022). Together, these perspectives clarify how digital leadership supports sustainable organisational performance through several enabling mechanisms, including green innovation, digital capabilities, organisational learning, ESG orientation, and technological readiness (Niu et al., 2022).

Accordingly, the research model consists of three analytical dimensions that correspond to the study's research questions. The first dimension addresses the development of research trends and publication patterns (RQ1) to capture the scholarly progression of digital leadership and sustainable organisational performance. The second dimension investigates dominant themes, intellectual structures, and thematic linkages (RQ2) through bibliometric mapping using VOSviewer, including keyword co-occurrence, co-authorship networks, and clustering analysis. The third dimension focuses on theoretical insights and practical implications (RQ3) by synthesising evidence from the selected studies to identify emerging concepts, research gaps, and future research directions.

Therefore, the research model functions as an integrative framework that connects digital leadership, digital transformation, and sustainable organisational performance, while also mapping the intellectual landscape of the field through systematic and

bibliometric approaches. This model offers a comprehensive foundation for understanding how digital leadership contributes to sustainable organisational outcomes in environments that are becoming increasingly digital and sustainability oriented.

2. Methodology

This study employed a Systematic Literature Review (SLR) approach combined with bibliometric analysis to map the nexus between Digital Leadership and Sustainable Organisational Performance (Gouveia et al., 2024). This approach was adopted because it allows the literature to be synthesised in a systematic, transparent, and replicable manner while also revealing research trends, intellectual structures, and thematic developments related to digital leadership and organisational sustainability. In addition, the SLR approach is highly appropriate for multidisciplinary studies that address digital transformation, green innovation, and organisational sustainability (Orkamo et al., 2025).

This study followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines to ensure that the processes of literature identification, selection, evaluation, and inclusion were conducted objectively, systematically, and transparently. The research stages included identification, screening, eligibility assessment, and study inclusion (Page et al., 2024).

At the identification stage, literature searches were conducted in Scopus due to its high credibility and extensive coverage of reputable international publications. The search process employed a combination of keywords such as "digital leadership" AND "organisational performance," "digital leadership" AND "green innovation," and "digital transformation" AND "sustainable organisational performance," along with other relevant terms associated with digital transformation, green innovation, and organisational sustainability (Tran & Khoa, 2025). The selection of these keywords was based on previous studies that emphasise the relationships among digital leadership, organisational transformation, green innovation, and sustainable organisational performance (Aftab et al., 2025).

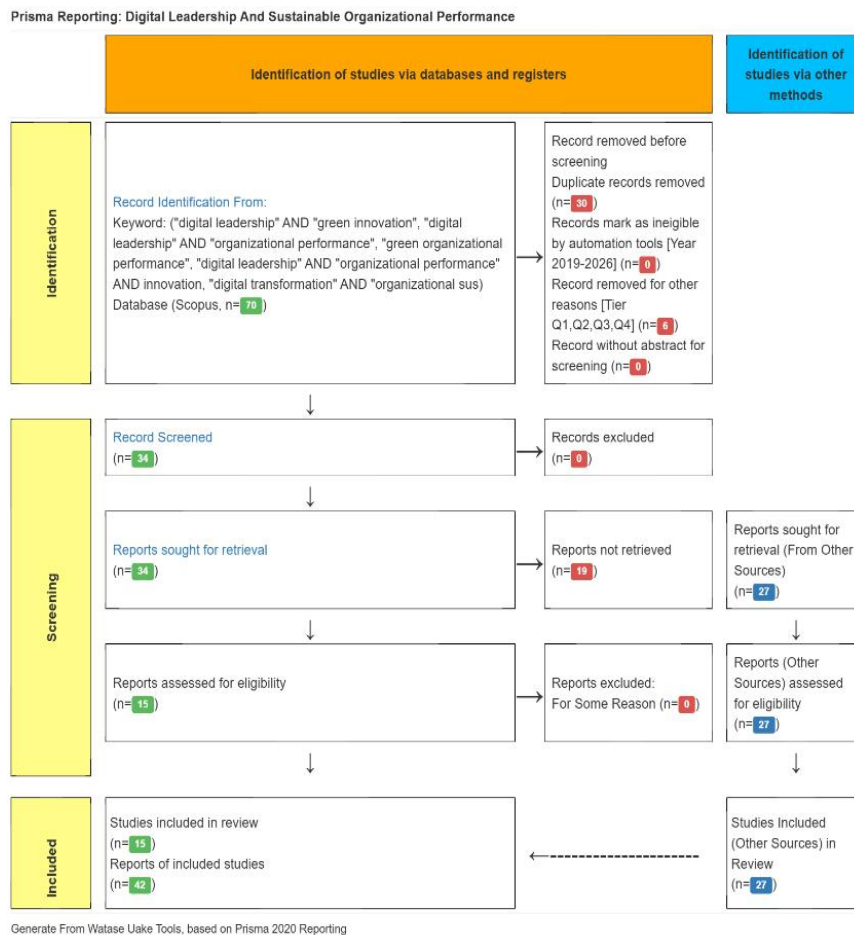


Figure 2. PRISMA Flow Diagram of Literature Selection Process on Digital Leadership and Sustainable Organisational Performance

Based on the initial search results, 70 articles were identified. Subsequently, an initial screening process was conducted, during which 30 duplicate articles were removed. In addition, the quality and relevance of the articles were assessed based on journal reputation (Q1–Q4 Scopus) and the suitability of the research topic, resulting in the exclusion of six articles. After this stage, 34 articles remained for further screening.

At the eligibility stage, articles were evaluated for relevance to the study's focus: the relationship between Digital Leadership and Sustainable Organisational Performance. The evaluation revealed that 19 articles were inaccessible in full text and were therefore excluded from the subsequent analysis. Consequently, 15 core articles meeting the inclusion criteria were selected for in-depth analysis (Chen et al., 2024).

To expand the conceptual scope and strengthen the theoretical foundation, this study incorporated 27 additional supporting articles from other relevant scientific sources, bringing the total to 42 articles included in the analysis. These articles discussed the influence of digital leadership on green innovation, digital transformation readiness, organisational digital culture, big data analytical capability, and organisational sustainability (Aftab et al., 2025; Khan et al., 2025; Li et al., 2025; Zada et al., 2025).

Previous studies demonstrated that digital leadership significantly improves organisational performance by strengthening digital capabilities, organisational innovation, and technological transformation (Pham & Vu, 2022). In addition, green innovation plays an important mediating role in promoting organisational sustainability, particularly when supported by adaptive and innovative digital leadership (Elshaer et al., 2025; Tian et al., 2025; Zada et al., 2025). Conversely, digital transformation strengthens organisational resilience and encourages more sustainable business practices (Espina-Romero et al., 2024).

Furthermore, a bibliometric analysis was conducted using VOSviewer software to visualise relationships among authors (co-authorship), keywords (keyword co-occurrence), publication trends, and emerging research clusters related to digital leadership and sustainable organisational performance. This analysis was employed to identify dominant themes, intellectual developments within the research field, and opportunities for future research agendas (Gao, 2025; Zada et al., 2025).

3.Results

3.1 Evolution of Research on Digital Leadership and Sustainable Organisational Performance (RQ1)

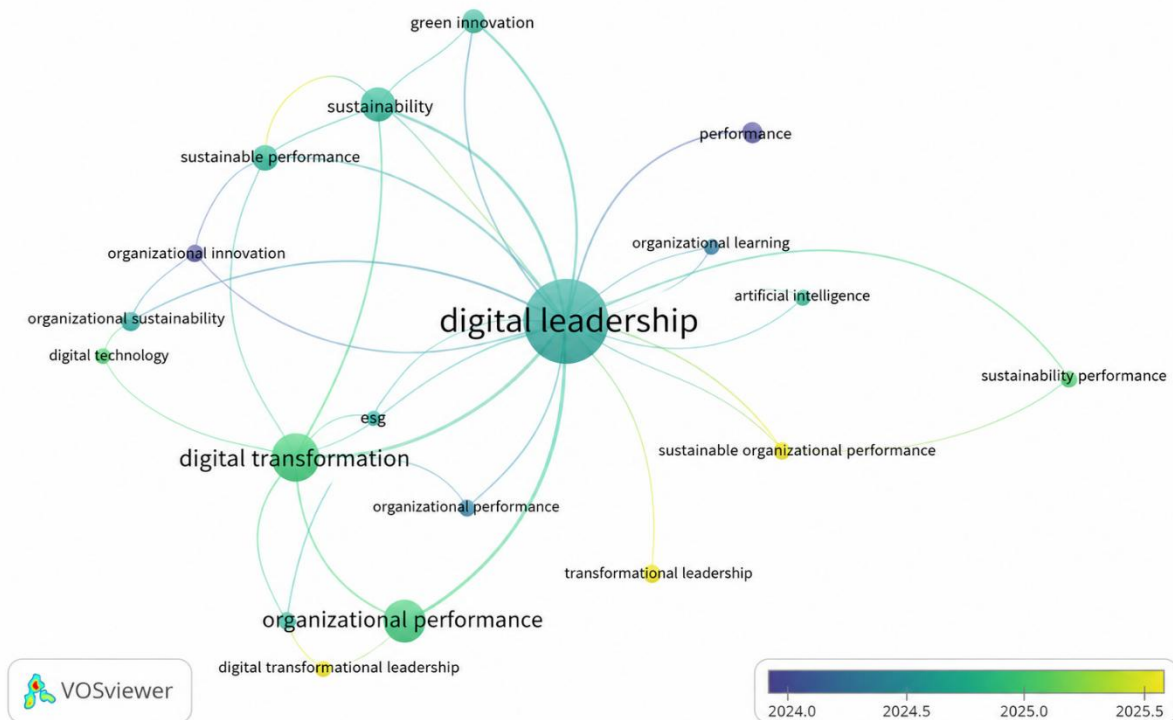


Figure 3. Overlay Visualisation of Research Evolution in Digital Leadership and Sustainable Organisational Performance

Figure 3 displays an overlay visualisation showing the development of research on Digital Leadership and Sustainable Organisational Performance from 2024 to 2025. The visualisation indicates that scholarly discussion in this area has continued to grow and become more interconnected, with digital leadership appearing as the main research theme. Its central position and broad network of connections suggest that digital leadership functions as a key intellectual foundation that links sustainability, organisational performance, and digital transformation in the existing literature.

Earlier studies, represented by blue-coloured nodes (approximately 2024), primarily focused on themes such as green innovation, organisational learning, organisational innovation, and performance. These studies mainly emphasised the role of leadership capabilities in improving organisational effectiveness and innovation performance through digital transformation initiatives. In this early phase, sustainability-related discussions were relatively limited and largely connected to organisational competitiveness and digital capabilities.

As the literature developed throughout the transitional period of 2024–2025, green and turquoise nodes showed increasing attention to digital transformation, organisational performance, organisational sustainability, and sustainable performance. This pattern reflects a conceptual shift in which scholars began to incorporate sustainability issues into discussions of digital leadership and organisational performance. During this stage, digital transformation was increasingly viewed as an enabling mechanism that connects leadership capability with sustainability outcomes. More recent studies,

indicated by yellow nodes around 2025–2025.5, have increasingly focused on emerging topics such as artificial intelligence, ESG, transformational leadership, and sustainable organisational performance. This development suggests that current research no longer positions digital leadership merely as a driver of organisational efficiency, but also as a strategic capability for achieving sustainability-oriented performance through technological adaptation, organisational learning, and innovation-led transformation.

Overall, the close connections between digital leadership, digital transformation, organisational performance, and sustainability highlight the increasingly integrated character of this research area. This indicates that scholarly attention has progressively moved away from a conventional performance-focused perspective toward a broader sustainability-oriented understanding of digital leadership. In general, the development of the literature reflects a more advanced and comprehensive understanding of the relationship between Digital Leadership and Sustainable Organisational Performance. While earlier studies mainly focused on organisational effectiveness and innovation performance, more recent research has increasingly addressed sustainability-related dimensions, such as artificial intelligence, green innovation, ESG, and organisational sustainability. This progression shows that digital leadership is now increasingly recognised as a strategic capability that supports long-term sustainable organisational outcomes.

3.2 Dominant Themes and Intellectual Structure of Digital Leadership and Sustainable Organisational Performance

The network visualisation analysis produced using VOSviewer highlights the intellectual structure and key thematic connections in the literature on Digital Leadership and Sustainable Organisational Performance. As shown in Figure 4, the keyword co-occurrence network presents a strongly connected research structure, with digital leadership positioned as the most central and

dominant theme. The prominence of this keyword, reflected through its large node size and broad interconnections, indicates that digital leadership functions as the main conceptual foundation that connects sustainability, organisational performance, and digital transformation in current academic discourse.

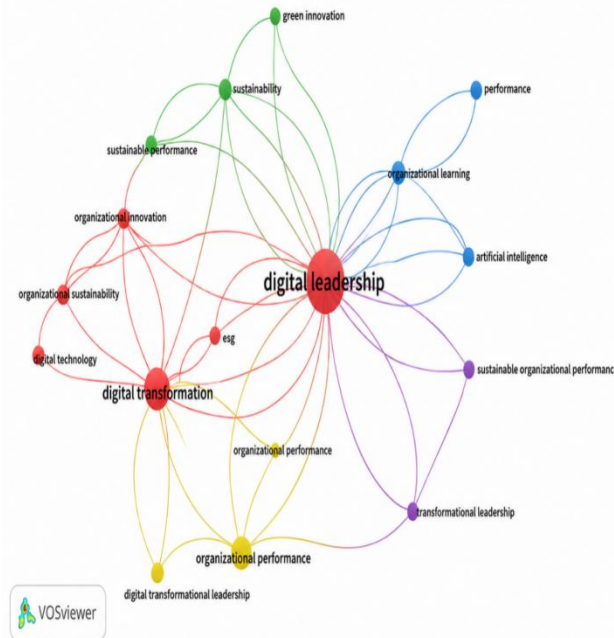


Figure 4. Network Visualisation of Dominant Themes and Intellectual Structure in Digital Leadership and Sustainable Organisational Performance

The network structure shows several interrelated thematic areas. One major thematic area is focused on digital transformation, which is closely connected with digital technology, organisational sustainability, organisational innovation, and ESG. The closeness and strong interconnections among these keywords suggest that digital leadership is often understood as a strategic driver of organisational transformation through technology adoption and the development of digital capabilities. This pattern indicates growing scholarly interest in examining how digital leadership supports organisational adaptation in highly digitalised environments.

A second thematic area relates to sustainability-oriented organisational outcomes, represented by keywords such as sustainability, sustainable performance, and green innovation. The co-occurrence of these concepts reflects the increasing integration of digital leadership with sustainability-related goals. In particular, the emergence of green innovation shows that recent studies increasingly view digital leadership as a catalyst for environmentally sustainable organisational practices and long-term performance resilience.

Another significant thematic area focuses on organisational performance and leadership capability, as indicated by keywords such as organisational performance, organisational learning, and transformational leadership. The connections among these concepts emphasise the importance of leadership competencies in enhancing organisational adaptability,

employee learning capacity, and performance improvement within digitally transformed organisations. The continued appearance of these keywords indicates that organisational performance remains a central concern in the digital leadership literature.

In addition, the rise of more recent themes, including artificial intelligence and sustainable organisational performance, indicates that the research landscape is expanding toward innovation-based sustainability approaches. This finding suggests that the literature is gradually moving beyond conventional performance-focused perspectives and toward more integrated frameworks that emphasise technological innovation, sustainability, and organisational resilience. Overall, the intellectual structure identified through the network visualisation confirms that digital leadership serves as the central conceptual link connecting digital transformation, sustainability, organisational innovation, and organisational performance. The strong interconnection among these themes reflects the increasingly multidisciplinary nature of the literature and underscores the strategic role of digital leadership in promoting sustainable organisational outcomes in the digital era.

3.3 Theoretical Insights, Practical Implications, and Future Research Directions (RQ3)

To gain a deeper understanding of the relationship between Digital Leadership and Sustainable Organisational Performance, this study synthesised the

content of articles selected using the PRISMA framework. The analysis aimed to identify major findings, conceptual mechanisms, practical implications, and research gaps from studies that were most closely aligned with the focus of this research. This approach

aims to explain how digital leadership contributes to sustainable organisational performance through organisational transformation, innovation, and sustainability-oriented strategies.

Table 1. Synthesis of Literature on Digital Leadership and Sustainable Organisational Performance

Yes	Authors	Key Findings	Theoretical Insights	Practical Implications	Research Gaps
1	(Aftab et al., 2025)	Digital leadership is associated with improved organisational performance through big data analytical capability, green innovation, and AI change readiness in Italian SMEs.	Digital leadership is increasingly conceptualised as a strategic capability supporting technological adaptation and sustainable innovation.	Organisations should strengthen AI readiness, data analytics capability, and green innovation to enhance sustainable performance.	The study is limited to SMEs in Italy.
2	(Zada et al., 2025)	Digital leadership enhances firm sustainability through green innovation and top management innovativeness.	The integration of leadership capability and innovation capacity increasingly influences sustainability.	Organisations should strengthen an innovation culture and adaptive leadership practices to support sustainability.	Limited cross-country and cross-sector evidence.
3	(Khan et al., 2025)	Digital leadership influences employees' behaviour toward implementing green innovation.	Behavioural mechanisms within organisational leadership influence sustainability outcomes.	Organisations should encourage employee engagement in sustainability-oriented innovation practices.	Empirical evidence remains context-specific.
4	(Tian et al., 2025)	Digital leadership significantly contributes to radical green innovation in manufacturing enterprises.	Green innovation emerges as an important pathway toward sustainability performance.	Manufacturing firms should integrate digital leadership into green innovation strategies.	Findings are limited to the manufacturing sector.
5	(Pham & Vu, 2022)	Digital leadership strengthens sustainability-oriented organisational performance through digital servitisation.	Sustainable organisational performance is increasingly shaped by digitally enabled service transformation.	Organisations should integrate digital services into sustainability strategies.	Limited organisational diversity across contexts.
6	(Niu et al., 2022)	Digital leadership and ESG management are associated with organisational innovation and improvements in sustainability.	ESG emerges as an important mechanism in sustainability-oriented organisations.	Organisations should integrate ESG principles into digital transformation strategies.	Generalisability remains limited to specific organisational settings.
7	(Shin et al., 2023)	Digital culture and employees' digital capabilities contribute to sustainable organisational performance.	Digital culture functions as an important explanatory mechanism in digital leadership effectiveness.	Organisations should strengthen digital culture and employee digital competencies.	Evidence remains limited to specific sectors in South Korea.
8	(Mollah et al., 2023)	IT capability and organisational learning mediate the relationship between digital leadership and sustainable organisational performance.	The relationship between digital leadership and sustainability is increasingly explained through mediating mechanisms.	Organisations should strengthen technological capability and organisational learning systems.	Longitudinal evidence remains limited.

9	(Elshaer et al., 2025)	Green digital leadership contributes to sustainability performance through circular economy practices in the hotel industry.	Green digital leadership is emerging as a new perspective in sustainability literature.	Organisations should align digital leadership strategies with circular economy practices.	Evidence is limited to the hospitality sector.
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As presented in Table 1, the synthesised literature demonstrates that the relationship between Digital Leadership and Sustainable Organisational Performance has evolved into an increasingly multidimensional and sustainability-oriented research domain. Most studies consistently indicate that digital leadership contributes to organisational sustainability not only through direct performance improvement but also through several enabling mechanisms, including green innovation, digital capability, organisational learning, ESG management, and artificial intelligence readiness. Furthermore, the findings show that recent studies have increasingly highlighted the mediating role of organisational and technological capabilities in shaping sustainable organisational outcomes. Whereas earlier research mainly examined organisational performance and digital transformation, more recent studies have given greater attention to sustainability-focused constructs, such as green innovation, circular economy practices, and ESG-oriented organisational strategies. These findings suggest a conceptual shift toward a more integrated understanding of how digital leadership contributes to sustainable organisational performance.

3.3.1 Theoretical Insights

The synthesis of the reviewed literature demonstrates substantial conceptual development in understanding the relationship between Digital Leadership and Sustainable Organisational Performance. Contemporary studies increasingly conceptualise digital leadership not merely as a leadership style but as a strategic organisational capability that enables organisations to adapt to technological disruption and sustainability challenges (Valentinov et al., 2023). Digital leadership is now widely recognised as an organisational capability that supports digital transformation, enhances organisational adaptability, and strengthens sustainability-oriented competitiveness in digitally intensive environments (Espina-Romero et al., 2024; Zada et al., 2025). Recent studies further suggest that digital leadership contributes to organisational sustainability by integrating technological capability with sustainability-oriented managerial strategies and innovation mechanisms (Aftab et al., 2025; Elshaer et al., 2025).

The literature further indicates that the effectiveness of digital leadership is increasingly explained through various organisational and technological mechanisms. Green innovation has emerged as one of the most dominant explanatory pathways linking digital leadership and sustainability performance (Tian et al., 2025; Zada et al., 2025). Existing studies also emphasised the role of big data analytical capability and AI readiness in strengthening the impact of digital leadership on organisational performance and sustainability outcomes (Aftab et al., 2025). Similarly, organisational learning and IT capability are now widely recognised as mediating mechanisms that explain how

digital leadership contributes to sustainable organisational performance (Shin et al., 2023). Furthermore, digital culture and employees' digital capabilities have attracted growing scholarly attention as organisations seek to sustain competitiveness in digitally intensive environments (Shin et al., 2023).

In parallel, the reviewed literature demonstrates a gradual conceptual transition from direct-effect relationships toward more multidimensional and mediated frameworks. Earlier studies primarily focused on the direct effects of digital leadership on organisational performance and operational effectiveness (Pham & Vu, 2022). However, more recent studies increasingly emphasised the mediating influence of green innovation, ESG management, digital capability, and AI readiness in explaining sustainability-oriented performance outcomes (Niu et al., 2022). In particular, sustainability performance is now conceptualised as an outcome of organisational adaptability, innovation capability, and technology integration rather than solely operational efficiency (Tian et al., 2025).

Emerging studies also emphasise the importance of green organisational practices in shaping sustainability-oriented employee behaviour and organisational performance. Sustainability-oriented organisational performance is increasingly associated with organisational capability in integrating environmentally sustainable innovation, circular economy practices, and resilience strategies. Employee behaviour toward sustainability-oriented innovation is likewise shaped by organisational environmental awareness and employee green advocacy mechanisms (Hajar & Xia, 2026). These findings collectively suggest that digital leadership is no longer viewed solely as a mechanism for improving organisational efficiency but rather as a strategic capability supporting long-term organisational sustainability (Gao, 2025).

3.3.2 Practical Implications

From a practical perspective, the findings suggest that organisations need to strengthen digital leadership capability to improve sustainable organisational performance in increasingly dynamic and digitally intensive environments (Namatovu & Kyambade, 2025). Organisational leaders are required not only to possess technological competencies but also to align digital transformation initiatives with long-term sustainability objectives strategically (Valentinov et al., 2023). The growing complexity of organisational transformation further indicates that leaders should be capable of integrating technological innovation with sustainability-oriented managerial strategies to maintain organisational competitiveness (Gao, 2025).

The findings also imply that organisations should prioritise integrating green innovation into organisational processes to strengthen sustainability-oriented performance (Bhatia, 2021). Previous studies indicated

that digital leadership plays an important role in facilitating environmentally sustainable innovation and supporting organisational sustainability outcomes (Mayr, 2026). In manufacturing-based organisations, digital leadership is increasingly linked to the adoption of radical green innovation, indicating that organisations need to build innovation ecosystems that balance technological progress with environmental sustainability (Hary Andras et al., 2023). In addition, organisations should strengthen employee involvement in sustainability-oriented innovation practices, as employee behaviour plays a growing role in the effectiveness of green innovation strategies (Kulova et al., 2024).

In addition, organisations need to strengthen digital capability, organisational learning, and technology readiness to ensure the successful implementation of sustainable organisational strategies (Hou et al., 2025). Evidence suggests that IT capability and organisational learning serve as important organisational mechanisms that link digital leadership to sustainable organisational performance (Mollah et al., 2023). Likewise, organisations that invest in digital culture and employees' digital capabilities tend to demonstrate greater organisational adaptability and improved sustainability-oriented performance outcomes (Shin et al., 2023).

The findings also suggest that organisations need to give greater attention to embedding ESG-oriented management practices within their digital transformation strategies. Sustainability performance is increasingly shaped by the ability of organisations to integrate environmental, social, and governance considerations into their decision-making processes (Niu et al., 2022). Such integration enables organisations to strengthen long-term resilience while simultaneously responding to stakeholder expectations regarding sustainability and responsible organisational governance.

Moreover, organisations are encouraged to strengthen AI readiness and big data analytical capability to improve adaptability and strategic decision-making in digitally transformed environments. Emerging evidence demonstrates that organisations capable of integrating data-driven capability and technological readiness are more likely to strengthen organisational performance and sustainability outcomes in uncertain business environments (Aftab et al., 2025b).

Finally, organisations operating in service-intensive sectors should give greater consideration to integrating circular-economy practices into their digital leadership strategies. Sustainability-oriented performance is increasingly associated with organisational leaders' ability to integrate digital transformation with environmentally responsible practices, particularly in sectors facing high sustainability pressures (Elshaer et al., 2025).

4. Conclusion

This study sought to systematically map and examine the relationship between Digital Leadership and Sustainable Organisational Performance through a Systematic Literature Review (SLR) and bibliometric analysis using the PRISMA framework and VOSviewer. Based on the selected literature, the findings show that scholarly attention to the connection between digital leadership

and sustainable organisational performance has grown considerably in recent years, reflecting the increasing relevance of digital transformation and sustainability agendas in organisational settings.

The results reveal a clear development in the research landscape. Earlier studies mainly focused on organisational performance, digital transformation, and technology adoption, while more recent research has increasingly addressed green innovation, ESG orientation, organisational learning, artificial intelligence readiness, and sustainability performance. This transition indicates a broader recognition that organisational sustainability is no longer limited to economic outcomes, but also involves the ability of organisations to align digital transformation with sustainability-oriented strategies.

Furthermore, this study shows that digital leadership holds a central position within the intellectual structure of the literature, functioning as a strategic mechanism that connects digital transformation, innovation capability, organisational learning, and sustainable organisational performance. The findings suggest that digital leadership is increasingly understood not only as a leadership style, but also as a multidimensional organisational capability that promotes adaptability, innovation, and long-term sustainability.

From a practical standpoint, this study emphasises the need to strengthen digital leadership capabilities, digital culture, organisational learning, and green innovation to enhance sustainable organisational outcomes. Organisations are increasingly expected to incorporate sustainability-oriented management practices, including technological readiness and ESG considerations, into their strategic planning to maintain competitiveness and resilience in highly digitalised environments.

This study also highlights several directions for future research. Future studies should examine broader geographical and organisational contexts, particularly in developing countries, and investigate additional mediating and moderating mechanisms that shape the relationship between digital leadership and sustainable organisational performance. In addition, mixed-method designs, longitudinal studies, and cross-sector analyses are recommended to generate a more comprehensive understanding of this developing research field.

Overall, this study offers theoretical contributions by presenting a comprehensive overview of the evolving relationship between Digital Leadership and Sustainable Organisational Performance. It also provides practical insights for organisations seeking to align digital transformation initiatives with sustainability objectives.

References

1. Abed Alhameed, A. A., & Emeagwali, O. L. (2026). Strategic Digital Leadership for Sustainable Transformation: The Roles of Organisational Agility, Digitalisation, and Culture in Driving Superior Performance. *Sustainability*, 18(2), 837. <https://doi.org/10.3390/su18020837>
2. Aftab, J., Stan, M. R., Srivastava, M., Wei, F., & Abid, N. (2025). The Impact of Digital Leadership on Performance: Examining the Roles of Big Data Analytical Capabilities,

- Green Innovation, and AI Change Readiness in Italian SMEs. *Business Strategy and the Environment*, 34(6), 6864–6884. <https://doi.org/10.1002/bse.4322>
3. Al-Ahmed, H., Alshaketheep, K., Zraaqat, O., & Shajrawi, A. (2026). Digital transformation and sustainable industrialisation: The role of dynamic digital capabilities and continuous auditing as digital governance. *Journal of Cleaner Production*, 554, 148156. <https://doi.org/10.1016/j.jclepro.2026.148156>
 4. Alshahrani, A., & Hakim, T. (2026). Advancing Sustainable Organisational Performance Through Digital-Enabled Sustainability Management Accounting: An Empirical Investigation. *Sustainability*, 18(3), 1349. <https://doi.org/10.3390/su18031349>
 5. Asbeetah, Z., Alzubi, A., Khadem, A., & Iyiola, K. (2025). Harnessing Digital Transformation for Sustainable Performance: Exploring the Mediating Roles of Green Knowledge Acquisition and Innovation Performance Under Digital Transformational Leadership. *Sustainability*, 17(5), 2285. <https://doi.org/10.3390/su17052285>
 6. Baglama, B., Evcimen, E., Altinay, F., Sharma, R. C., Tlili, A., Altinay, Z., Dagli, G., Jemni, M., Shadiev, R., Yucesoy, Y., & Celebi, M. (2022). Analysis of Digital Leadership in School Management and Accessibility of Animation-Designed Game-Based Learning for Sustainability of Education for Children with Special Needs. *Sustainability*, 14(13), 7730. <https://doi.org/10.3390/su14137730>
 7. Bhatia, M. S. (2021). Green process innovation and operational performance: The role of proactive environment strategy, technological capabilities, and organisational learning. *Business Strategy and the Environment*, 30(7), 2845–2857. <https://doi.org/10.1002/bse.2775>
 8. Chen, A., Li, L., & Shahid, W. (2024). Digital transformation as the driving force for sustainable business performance: A moderated mediation model of market-driven business model innovation and digital leadership capabilities. *Heliyon*, 10(8), e29509. <https://doi.org/10.1016/j.heliyon.2024.e29509>
 9. Elshaer, I. A., Azazz, A. M. S., Alyahya, M., Fayyad, S., Aboutaleb, M., & Mohammad, A. A. (2025). Driving Sustainability Performance in Hotels Through Green Digital Leadership and Circular Economy: The Moderating Role of Hotel Green Efficacy. *Systems*, 13(6), 415. <https://doi.org/10.3390/systems13060415>
 10. Espina-Romero, L., Ríos Parra, D., Gutiérrez Hurtado, H., Peixoto Rodriguez, E., Arias-Montoya, F., Noroño-Sánchez, J. G., Talavera-Aguirre, R., Ramírez Corzo, J., & Vilchez Pirela, R. A. (2024). The Role of Digital Transformation and Digital Competencies in Organisational Sustainability: A Study of SMEs in Lima, Peru. *Sustainability*, 16(16), 6993. <https://doi.org/10.3390/su16166993>
 11. Jrl, J. K., & Drews, P. (2021). Digital Leadership – Mountain or Molehill? A Literature Review. In F. Ahlemann, R. Schütte, & S. Stieglitz (Eds.), *Innovation Through Information Systems* (Vol. 48, pp. 223–237). Springer International Publishing. https://doi.org/10.1007/978-3-030-86800-0_17
 12. Gayathirir. G, Prabu, G., Sindu Bharathi. S.K. Prabhavathy, R. Prabu, A. (2026). Digital leadership and AI performance assessment impact on organisational performance: Role of empowerment and engagement. *Knowledge and Performance Management*, 10(1), 105–121. [https://doi.org/10.21511/kpm.10\(1\).2026.08](https://doi.org/10.21511/kpm.10(1).2026.08)
 13. Gan, L., & Chu, S. (2025). Digital Leadership and Sustainability in Manufacturing: The Mediating Role of Green Innovation. Dalam A. Lau & A. J. Tallón-Ballesteros (Ed.), *Frontiers in Artificial Intelligence and Applications*. IOS Press. <https://doi.org/10.3233/FAIA250716>
 14. Gao, X. (2025). The EU's twin transitions towards sustainability and digital leadership: A coherent or fragmented policy field? *Regional Studies*, 59(1), 2360053. <https://doi.org/10.1080/00343404.2024.2360053>
 15. Gouveia, S., De La Iglesia, D. H., Abrantes, J. L., & López Rivero, A. J. (2024). Transforming Strategy and Value Creation Through Digitalisation? *Administrative Sciences*, 14(11), 307. <https://doi.org/10.3390/admsci14110307>
 16. Hajar, S., & Xia, E. (2026). The Effects of Green Organisational Practices on Employee Pro-Environmental Behaviours: The Roles of Environmental Awareness and Employee Green Advocacy. *Sustainability*, 18(7), 3378. <https://doi.org/10.3390/su18073378>
 17. Hary Andras, Toth Csilla, Pekk Leticia, & Meszaros Virag. (2023). Sustainability Model of ZalaZONE Innovation Ecosystem. *Chemical Engineering Transactions*, 107, 115–120. <https://doi.org/10.3303/CET23107020>
 18. Hou, R., Song, X., Yan, Q., Zhang, X., & Deng, J. (2025). Synergistic Innovation Pathways in Aviation Complex Product Ecosystems: Enabling Sustainability Through Resource Efficiency and Systemic Collaboration. *Sustainability*, 17(17), 7650. <https://doi.org/10.3390/su17177650>
 19. Ismail, H. A., Kotp, M. H., Basyouny, H. A. A., Abd Elmoaty, A. E. E., Sayed, S., Abdelaliem, S. M. F., Ahmeda, A., Hendy, A., & Aly, M. A. (2025). Sustainable healthcare futures: How digital leadership stimulates nurses' green creativity: a quasi-experimental study. *BMC Nursing*, 24(1), 251. <https://doi.org/10.1186/s12912-025-02906-3>
 20. Kankanamge, A. K. S. U., Erdiaw-Kwasie, M. O., & Abunyewah, M. (2026). Digital Transformation on Green Operational Performance: Evidence From the E-Waste Firm's Perspective. *Business Strategy and the Environment*, bse.70694. <https://doi.org/10.1002/bse.70694>

21. Karakose, T., Kocabas, I., Yirci, R., Papadakis, S., Ozdemir, T. Y., & Demirkol, M. (2022). The Development and Evolution of Digital Leadership: A Bibliometric Mapping Approach-Based Study. *Sustainability*, 14(23), 16171. <https://doi.org/10.3390/su142316171>
22. Khan, A. N., Wang, Y., Khan, N. A., & Ahmad, A. (2025). Digital Leadership Enhances Employee Empowerment, Techno-work Engagement, and Sustainability: SEM Analysis in Public Healthcare. *INQUIRY: The Journal of Health Care Organisation, Provision, and Financing*, 62, 00469580251317653. <https://doi.org/10.1177/00469580251317653>
23. Kulova, I., Nikolova-Alexieva, V., & Koleva, N. (2024). Integrative model for integrating green initiatives in Industry 4.0 enterprises. *E3S Web of Conferences*, 583, 08001. <https://doi.org/10.1051/e3sconf/202458308001>
24. Laradi, S., Elfekair, A., & Shneikat, B. (2024). Understanding sustainable outcomes in the digital age: The vital role of digital leadership in leveraging the impact of green innovation. *Uncertain Supply Chain Management*, 12(4), 2413–2428. <https://doi.org/10.5267/j.uscm.2024.5.026>
25. Lathabhavan, R., & Kuppasamy, T. (2024). Examining the role of digital leadership and organisational resilience on the performance of SMEs during the COVID-19 pandemic. *International Journal of Productivity and Performance Management*, 73(8), 2365–2384. <https://doi.org/10.1108/IJPPM-02-2023-0069>
26. Mayr, B. (2026). Go Green or Go Digital? A Set-Theoretic Perspective of Incumbents' Paths to Success. *Creativity and Innovation Management*, 35(1), 125–142. <https://doi.org/10.1111/caim.70021>
27. Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., Moher, D. (2024). Declaração PRISMA 2020: Uma diretriz atualizada para publicação de revisões sistemáticas. *Germinare*, 4(4), 1–19. <https://doi.org/10.5281/ZENODO.13271469>
28. Mollah, M. A., Choi, J. H., Hwang, S. J., & Shin, J. K. (2023). Exploring a Pathway to Sustainable Organisational Performance of South Korea in the Digital Age: The Effect of Digital Leadership on IT Capabilities and Organisational Learning. *Sustainability*, 15(10), 7875. <https://doi.org/10.3390/su15107875>
29. Musheke, M. M., & Phiri, J. (2021). The Effects of Effective Communication on Organisational Performance Based on the Systems Theory. *Open Journal of Business and Management*, 09(02), 659–671. <https://doi.org/10.4236/ojbm.2021.92034>
30. Namatovu, A., & Kyambade, M. (2025). Assessing the Impact of Digital Leadership on Public Sector Performance: The Mediation Role of Digital Transformation in Developing Economies. *SAGE Open*, 15(3), 21582440251367585. <https://doi.org/10.1177/21582440251367585>
31. Niu, S., Park, B. I., & Jung, J. S. (2022). The Effects of Digital Leadership and ESG Management on Organisational Innovation and Sustainability. *Sustainability*, 14(23), 15639. <https://doi.org/10.3390/su142315639>
32. Orkamo, M., Ukko, J., Rantala, T., & Saunila, M. (2025). Leadership behaviours to promote organisational performance in private sector digital transformation – A systematic literature review. *Digital Business*, 5(2), 100155. <https://doi.org/10.1016/j.digbus.2025.100155>
33. Palmucci, D. N., Giovando, G., & Vincurova, Z. (2025). The post-COVID era: Digital leadership, organisational performance and employee motivation. *Management Decision*, 63(7), 2452–2485. <https://doi.org/10.1108/MD-04-2024-0865>
34. Pham, H. Q., & Vu, P. K. (2022). Unravelling the Potential of Digital Servitization in Sustainability-Oriented Organisational Performance—Does Digital Leadership Make It Different? *Economies*, 10(8), 185. <https://doi.org/10.3390/economies10080185>
35. Qiao, G., Li, Y., & Hong, A. (2024). The Strategic Role of Digital Transformation: Leveraging Digital Leadership to Enhance Employee Performance and Organisational Commitment in the Digital Era. *Systems*, 12(11), 457. <https://doi.org/10.3390/systems12110457>
36. Shin, J., Mollah, M. A., & Choi, J. (2023). Sustainability and Organisational Performance in South Korea: The Effect of Digital Leadership on Digital Culture and Employees' Digital Capabilities. *Sustainability*, 15(3), 2027. <https://doi.org/10.3390/su15032027>
37. Tian, H., Han, J., Sun, M., & Lv, X. (2025). Keeping pace with the times: Research on the impact of digital leadership on radical green innovation of manufacturing enterprises. *European Journal of Innovation Management*, 28(3), 900–927. <https://doi.org/10.1108/EJIM-11-2022-0647>
38. Tran, A. V., & Khoa, B. T. (2025). Integrating leadership, identity, and knowledge systems for sustainable performance in the era of digital transformation. *Discover Sustainability*, 6(1), 887. <https://doi.org/10.1007/s43621-025-01842-1>
39. Valentinov, V., Van Assche, K., & Hermans, F. (2023). Toward a digital transformation of the theory of the firm: Emergence as framework for organisational sustainability. *Canadian Journal of Administrative Sciences / Revue Canadienne Des Sciences de l'Administration*, 40(3), 270–282. <https://doi.org/10.1002/cjas.1668>
40. Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Qi Dong, J., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda.

- Journal of Business Research, 122, 889–901.
<https://doi.org/10.1016/j.jbusres.2019.09.022>
41. Yahya, A., . A., Rozik, T. A., & Nabil, S. A. (2024). Green and Digital Leadership: Impact on Sustainable Performance, Mediating Environmental Knowledge Sharing, Moderating Technological Innovation. Journal of Ecohumanism, 3(7).
<https://doi.org/10.62754/joe.v3i7.4499>
42. Jin Li, Fangfang Zhu, Feng Lu, & Yunfei Zhang (2025). How Supply Chain Integration Mediates the Impact of Digital Leadership on Sustainable Innovation: A Case Study of Enlight Media. Journal of Logistics, Informatics and Service Science. 12(3), 163–186.
<https://doi.org/10.33168/JLISS.2025.0311>
43. Zada, M., Zada, S., Dhar, B. K., Ping, C., & Sarkar, S. (2025). Digital Leadership and Sustainable Development: Enhancing Firm Sustainability Through Green Innovation and Top Management Innovativeness. Sustainable Development, 33(5), 6704–6716.
<https://doi.org/10.1002/sd.3488>