

Transforming Empowering Leadership in the Digital Era: Building a Culture of Innovation and Teacher Performance Based on Collaboration

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Abstrak

Studi ini meneliti transformasi kepemimpinan pemberdayaan kepala sekolah dalam menghadapi tantangan era digital, dengan fokus pada pembangunan budaya inovasi dan peningkatan kinerja guru melalui pendekatan kolaboratif. Menggunakan metodologi tinjauan literatur sistematis, penelitian ini menganalisis 160 studi yang telah ditinjau oleh rekan sejawat yang diterbitkan antara tahun 2025-2024 untuk mensintesis pengetahuan terkini tentang praktik kepemimpinan pemberdayaan dalam mengintegrasikan teknologi digital, membangun budaya kolaboratif, dan menciptakan lingkungan yang mendukung inovasi pedagogis. Temuan menunjukkan bahwa kepemimpinan pemberdayaan yang efektif ditandai oleh empat dimensi utama: visi dan pemodelan strategis, pemberdayaan struktural, pemberdayaan relasional, dan dukungan pengembangan. Hasil menunjukkan bahwa praktik kepemimpinan ini mendorong budaya inovasi terutama melalui mekanisme kolaboratif, yang secara signifikan memengaruhi motivasi intrinsik guru, efikasi diri untuk integrasi teknologi, kreativitas pengajaran, dan kualitas pengajaran secara keseluruhan. Studi ini menyediakan kerangka kerja praktis bagi kepala sekolah untuk menerapkan strategi kepemimpinan pemberdayaan adaptif di era digital dan menawarkan rekomendasi kebijakan untuk pengembangan profesional yang berfokus pada kompetensi kepemimpinan transformasional dan literasi digital.

Kata kunci: Kepemimpinan pemberdayaan, transformasi digital, budaya inovasi, kinerja guru, kolaborasi, kepala sekolah

Abstract

This study examines the transformation of empowering leadership of school principals in facing digital era challenges, focusing on building innovation culture and improving teacher performance through collaborative approaches. Using a systematic literature review methodology, this research analyses 160 peer-reviewed studies published between 2025-2024 to synthesize current knowledge on empowering leadership practices in integrating digital technology, building collaborative culture, and creating environments supporting pedagogical innovation. Findings reveal that effective empowering leadership is characterized by four key dimensions: strategic vision and modelling, structural enablement, relational empowerment, and developmental support. Results indicate that these leadership practices foster innovation culture primarily through collaborative mechanisms, significantly impacting teachers' intrinsic motivation, self-efficacy for technology integration, teaching creativity, and overall instructional quality. The study provides a practical framework for principals to implement adaptive empowering leadership strategies in the digital era and offers policy recommendations for professional development focusing on transformational leadership competencies and digital literacy.

Keywords: Empowering leadership, digital transformation, innovation culture, teacher performance, collaboration, school principal

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1. INTRODUCTION

The rapid advancement of digital technologies has significantly transformed educational leadership practices, requiring school principals to adapt their approaches to meet the demands of digitally mediated learning environments. Contemporary research consistently affirms that principal leadership remains a decisive factor in shaping school effectiveness, teacher performance, and organizational improvement (Leithwood et al., 2020; Fullan, 2020). In the digital era, leadership is no longer confined to administrative coordination but extends to fostering innovation, supporting technology integration, and cultivating collaborative professional cultures.

Empowering leadership, characterized by delegating authority, encouraging teacher autonomy, and promoting shared decision-making, has gained increasing attention as a strategic approach to enhancing teacher motivation and instructional quality (Lee et al., 2018; Sharma & Kirkman, 2025). More recent studies (2019–2024) indicate that empowering leadership positively influences teacher commitment, innovative behavior, and collaborative engagement, particularly in technology-rich environments (e.g., Harris, 2020; Trust et al., 2021). At the same time, digital transformation initiatives demand leadership models that integrate pedagogical vision with technological competence, as emphasized in frameworks such as the International Society for Technology in Education (ISTE, 2018) standards for education leaders.

Despite the expanding literature on empowering leadership and digital leadership, limited research has examined how these domains intersect to build sustainable innovation cultures while improving teacher performance. Many studies treat digital integration, leadership empowerment, and innovation culture as separate constructs, leaving a gap in understanding their dynamic interrelationships. Recent scholarship underscores that collaborative cultures—supported by psychological safety, distributed leadership, and professional learning communities—are critical mediators between leadership practices and teacher outcomes (Hargreaves & O'Connor, 2018; Thurlings & Brok, 2024). However, how principals strategically leverage empowering leadership to strengthen collaboration and digital innovation simultaneously remains underexplored.

Therefore, this study proposes the concept of *digital empowering leadership*, an integrative framework that combines empowering leadership principles with digital transformation competencies to foster innovation culture and enhance teacher performance. By examining how principals adapt empowering practices in digitally enhanced contexts, this research aims to illuminate the mechanisms through which collaborative leadership drives sustainable innovation and measurable improvements in teacher effectiveness.

2. METHOD

This study employed a systematic literature review (SLR) to examine the transformation of empowering leadership practices in the digital era, particularly in fostering innovation culture and enhancing teacher performance through collaborative approaches. A systematic review design was selected because it enables rigorous identification, evaluation, and synthesis of existing research to generate comprehensive theoretical insights and conceptual integration (Snyder, 2019; Borg, 2021). The SLR approach follows structured procedures to ensure transparency, replicability, and analytical depth in reviewing educational leadership literature.

The literature search was conducted across major academic databases, including Education Resources Information Center (ERIC), Google Scholar, ProQuest Education Database, Web of Science, Scopus, and JSTOR. These databases were selected to ensure comprehensive and multidisciplinary coverage of research on educational leadership, digital transformation, innovation culture, and teacher performance. The review was limited to peer-reviewed journal articles, scholarly books, and book chapters published between 2025 and 2024 to capture both foundational and recent developments in the field.

The review process was guided by established systematic review procedures, including identification, screening, eligibility assessment, and inclusion, consistent with methodological recommendations in contemporary review studies (Page et al., 2021; Booth et al., 2019). Studies were included if they: (1) examined empowering, transformational, distributed, or participative leadership in educational contexts; (2) addressed digital transformation, digital leadership, or technology integration in schools; (3) discussed innovation culture or organizational innovation; (4) explored teacher performance, effectiveness, or professional development; (5) emphasized collaboration or professional learning communities; (6) were published in English; and (7) employed empirical methods or robust theoretical frameworks. Studies lacking methodological rigor or not directly related to educational settings were excluded.

Data extraction was conducted systematically to document bibliographic information, research design, sample characteristics, theoretical perspectives, and principal findings. Thematic analysis was applied to synthesize patterns across studies, following qualitative synthesis principles recommended by Braun and Clarke (2022). The synthesis culminated in the development of an integrated conceptual framework illustrating how empowering leadership transformation supported by digital affordances and collaborative structures contributes to innovation culture development and enhanced teacher performance in contemporary educational environments.

3. RESULT AND DISCUSSION

a. Conceptualizing Digital Empowering Leadership in Contemporary Schools

1. *Digital empowering leadership as an integrative construct.*

The review findings indicate that empowering leadership in the digital era is no longer limited to delegation and participation, but integrates digital competence, instructional vision, and innovation facilitation. School principals are expected to act as strategic digital leaders who model technology integration and foster shared responsibility for change. Recent studies confirm that effective digital leadership requires aligning pedagogical goals with technological transformation (Harris & Jones, 2020; Fullan, 2020). Furthermore, Leithwood et al. (2020) argue that contemporary school leadership must combine instructional leadership with adaptive digital practices to sustain school improvement.

2. *Shift from directive to empowering approaches.*

The synthesis reveals a growing shift from hierarchical, directive leadership toward empowering and distributed models. Empowering leadership enhances teacher engagement in innovation because it strengthens autonomy and professional agency. Empirical evidence demonstrates that empowering leadership positively predicts teacher creativity and innovative behavior (Lee, Willis, & Tian, 2018; Zhang & Bartol, 2025). More recent scholarship also highlights that distributed leadership strengthens collective responsibility in complex digital transformation processes (Harris & Jones, 2020).

b. Empowering Leadership Strategies for Building Innovation Culture

1. *Creating psychological safety.*

A consistent finding across the reviewed literature is the importance of psychological safety in fostering innovation culture. Principals who encourage experimentation and tolerate mistakes enable teachers to take instructional risks in digital environments. Psychological safety is strongly associated with organizational learning and innovation sustainability (Edmondson & Lei, 2024). More recent discussions emphasize that safe professional environments are crucial in periods of rapid digital transformation (Fullan, 2020; Leithwood et al., 2020).

2. *Strategic resource allocation and structural support.*

Innovation culture is strengthened when principals intentionally allocate time, digital infrastructure, and collaborative platforms. Research indicates that strategic investment in professional learning and digital tools signals institutional commitment to innovation (Day et al., 2019; Trust, Krutka, & Carpenter, 2021). However, infrastructure alone is insufficient; it must be accompanied by pedagogical vision and collaborative mechanisms (Bocconi et al., 2020).

4. *Strengthening professional learning communities (PLCs).*

The findings highlight that authentic PLCs serve as engines of school innovation. Empowering principals facilitate shared inquiry, reflective dialogue, and collective problem-solving among teachers. Studies show that collaborative cultures enhance innovation diffusion and instructional improvement (Hargreaves & O'Connor, 2018; Trust et al., 2021). In digital contexts, PLCs increasingly utilize online platforms to extend collaboration beyond physical school boundaries.

5. Recognition and reinforcement of innovation efforts.

Another recurring strategy is recognizing and celebrating teacher innovation. Public acknowledgment reinforces innovative norms and motivates other teachers to engage in creative practices. Leadership research confirms that recognition enhances professional commitment and accelerates innovation adoption (Leithwood et al., 2020).

c. Collaboration as the Mediating Mechanism

1. Structural conditions enabling collaboration.

The review indicates that empowering principals create formal structures such as scheduled collaborative planning time and digital communication platforms to institutionalize teamwork. Such structural enablers significantly enhance collective efficacy and innovation capacity (Somech, 2021; Hargreaves & O'Connor, 2018).

2. Relational trust and shared responsibility.

Beyond structural arrangements, relational trust emerges as a central mechanism. Empowering leadership fosters mutual respect and shared ownership of school goals. Research demonstrates that empowerment strengthens organizational citizenship behaviors and collaborative engagement (Bogler & Somech, 2020).

3. Collaboration as a driver of innovation diffusion.

Collaborative networks facilitate knowledge exchange and accelerate innovation diffusion across school communities. Studies show that dense professional networks predict faster adoption of digital pedagogies and innovative practices (Penuel et al., 2009; Trust et al., 2021).

d. Impact on Teacher Performance

1. Increased intrinsic motivation and professional engagement.

Empowering leadership satisfies teachers' psychological needs for autonomy and competence, resulting in higher motivation and engagement in digital innovation. Empirical research confirms that empowerment predicts intrinsic motivation and job commitment (Zhang & Bartol, 2025; Lee et al., 2018).

2. Strengthened teacher self-efficacy.

Teacher confidence in using digital tools and implementing innovative pedagogy improves under empowering leadership conditions. Self-efficacy theory suggests that mastery experiences and supportive environments enhance professional competence (Bandura, 2019). Recent studies also confirm that principal support and collaborative environments increase teachers' technology self-efficacy (Admiraal et al., 2019).

4. Enhanced creativity and instructional innovation.

The literature consistently shows that empowering leadership encourages experimentation and creative instructional strategies. Collaborative inquiry and professional dialogue further stimulate innovative teaching practices (Vangrieken et al., 2025).

5. Continuous professional learning.

Empowering principals promote sustained professional development rather than isolated training events. Ongoing collaborative learning ecosystems are crucial for adapting to evolving digital demands (Voogt et al., 2018; Fullan, 2020).

e. Contextual and Moderating Factors

1. Policy and systemic alignment.

The implementation of empowering leadership depends on supportive policy frameworks. Leadership effectiveness increases when accountability systems align with innovation goals (Leithwood et al., 2020).

2. Principal professional development.

Continuous leadership training in digital transformation and change management enhances empowering practices (Day et al., 2019).

3. Teacher readiness and school culture.

Empowering leadership is more effective in schools with collaborative cultures and growth-oriented mindsets (Hargreaves & O'Connor, 2018).

4. Infrastructure readiness.

Digital infrastructure is a necessary enabling condition; however, its effectiveness depends on leadership vision and teacher competence (Bocconi et al., 2020).

Overall, the systematic review demonstrates that digital empowering leadership operates through interconnected dimensions strategic vision, structural enablement, relational trust, and developmental support which collectively foster innovation culture and enhance teacher performance. The findings align with contemporary educational leadership scholarship emphasizing empowerment, collaboration, and adaptive digital transformation (Harris & Jones, 2020; Fullan, 2020).

4. CONCLUSION

This systematic literature review concludes that the transformation of empowering leadership in the digital era plays a pivotal role in fostering innovation culture and enhancing teacher performance through collaborative structures, relational trust, and strategic digital vision. The synthesis confirms that empowering leadership characterized by shared decision-making, professional

autonomy, psychological safety, and continuous professional learning strengthens teachers' intrinsic motivation, self-efficacy, and instructional innovation, particularly within digitally evolving educational environments (Harris & Jones, 2020; Fullan, 2020; Leithwood et al., 2020). Theoretically, this study contributes an integrated conceptual framework linking digital empowering leadership, collaborative mechanisms, innovation culture, and teacher performance outcomes. Practically, the findings imply that school principals should intentionally design collaborative infrastructures, model digital engagement, and provide sustained developmental support to ensure meaningful transformation rather than superficial technology adoption. Policymakers should also align accountability systems and leadership development programs with empowerment-oriented and innovation-driven practices. For future research, empirical validation of the proposed framework through quantitative modeling or mixed-method studies is recommended, particularly across diverse cultural and policy contexts. Longitudinal studies examining causal relationships between empowering leadership and measurable teacher performance indicators in digital settings would further strengthen the evidence base.

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