

SITUATIONAL LEADERSHIP IN FACING DIGITAL TRANSFORMATION IN THE INDUSTRIAL 4.0 ERA: IN IMPROVING TEACHER PERFORMANCE

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Abstract: *This study employs a qualitative method with a literature review approach to gain an in-depth understanding of situational leadership in responding to the challenges of digital transformation in the Industry 4.0 era. The approach involves examining relevant literature sources such as books, scientific articles, and journals related to leadership concepts, particularly situational leadership, as well as the role of school principals as leaders in educational settings. Data analysis is conducted qualitatively through stages of data reduction, information selection, synthesis, and interpretation of theoretical perspectives and relevant empirical findings. Information is categorized based on key themes such as technology adaptation, the role of school principals as change agents, and the development of teacher competencies in the digital era. The results of this study are expected to provide a comprehensive understanding of the importance of situational leadership in enhancing teacher performance amid the continuously evolving dynamics of education.*

Keywords: Situational Leadership; School Principal; Digital Transformation; Teacher Performance.

Introduction

The rapid development of information and communication technology in the 21st century has driven significant changes in various sectors of human life, including the world of education. The Era of the Fourth Industrial Revolution marks the integration of digital technology, the internet, and automation systems in various work processes, known as cyber-physical systems (Matt & Rauch, 2020). This digital transformation has given rise to an era of disruption, which is a fundamental change in systems and work patterns due to the emergence of technological innovations such as artificial intelligence (AI), big data, the Internet of Things (IoT), and smart automation (Tjandrawinata, 2016). The Industrial Revolution 4.0 not only impacts technological aspects but also the psychological structure of individuals, including mindset, beliefs, and behavior (Suwardana, 2017). In the context of education, this challenge demands the emergence of adaptive, competent, open-minded human resources with high digital literacy skills. Teachers, as key actors in the implementation of education, play a vital role in preparing students to compete amid global disruption. Therefore, improving teacher performance becomes the main focus in realizing relevant and high-quality educational transformation.

Improving teacher performance in the digital era is not only about technical training but also requires adaptive and responsive leadership support to the dynamics of change. One of the relevant approaches in this context is situational leadership. Situational leadership is a flexible leadership style, where leaders adjust their approach based on the readiness, ability, and needs of subordinates in achieving organizational goals. In complex digital transformation situations, school principals as educational leaders are required to recognize the conditions and potential of teachers and manage change with a strategic and participatory approach. Furthermore, educational institutions in the Industry 4.0 era need to formulate policies that support digital-based learning, improve the quality of technological infrastructure, and foster a culture of innovation within the school environment (Menristekdikti, 2018). As mandated in Law Number 20 of 2003 on the National Education System, education is a conscious and planned effort to create an active, creative, and enjoyable learning atmosphere in order to optimally develop the potential of students.

The progress of a nation in the present and future greatly depends on the quality of education and the leadership applied within it. Educational leadership that is adaptive to digital transformation will influence how

teachers develop professionally, in terms of pedagogical competence, digital literacy, and work ethics. In this regard, the role of the principal as a transformational and situational leader is crucial in guiding, motivating, and nurturing teachers to meet the challenges of the times. Thus, in facing the changes brought by the Industrial Revolution 4.0, effective situational leadership strategies are needed to encourage the improvement of teachers' performance. This becomes an important prerequisite to ensure that the educational process runs in accordance with the demands of the digital era, while also creating a superior, innovative, and globally competitive generation. In the context of education, teachers play a central role in succeeding in digital transformation. However, many teachers are still not ready to face this era, especially the generation of educators who are considered digital immigrants, who struggle to optimally utilize technology in the learning process. Data from the 2019 UKG shows that the average competency of teachers in Surabaya City is still below the national target, which is 63.48 out of a target of 80. The transformation of education in the digital era demands that teachers not only master pedagogy but also be able to integrate technology into the teaching and learning process. Digital literacy competence has become crucial to master, encompassing the ability to access, analyze, create, and collaborate in the digital space. Unfortunately, the level of digital literacy among teachers and the millennial generation is still relatively low. Various challenges such as limited training, lack of motivation, and inadequate facilities hinder the improvement of teachers' competencies. Therefore, situational leadership is needed that can adjust the leadership style to the conditions and readiness of teachers in the field. Educational leaders must be able to direct, guide, and empower teachers to adapt to technological advancements, thereby enhancing their professionalism and performance.

This research aims to examine how situational leadership can support teachers in facing digital transformation and improving their performance in the Industry 4.0 era. With the right leadership, teachers are expected to enhance their digital literacy and utilize it effectively in the learning process.

Method

This research uses a qualitative method with a literature study approach. The qualitative research method aims to understand phenomena in depth through the collection and analysis of data from various sources relevant to the previously established focus of the problem. This method involves the process of data collection, description, reduction, information selection, and drawing conclusions that are presented informatively (Rakhmawati et al., 2024). The literature review approach is conducted by examining relevant library sources, such as books, articles, and scientific journals. Literature study is a series of activities that includes the process of reading, taking notes, and processing information obtained from written materials to serve as the basis for analysis and interpretation in research.

In the context of this research, the data sources examined include literature on the concept of leadership in general, particularly situational leadership, as well as the role of the school principal as a leader in the educational environment. The main focus is on how situational leadership styles can respond to the challenges of digital transformation in the Industry 4.0 era, particularly in efforts to improve teacher performance.

Data analysis is conducted qualitatively through the process of synthesis and interpretation of various theoretical perspectives and relevant empirical findings. The researchers identified and categorized information based on important themes such as technology adaptation, the role of school principals as change agents, and the need for teacher competency development in the digital era. Thus, the results of this research are expected to provide a comprehensive understanding of the importance of situational leadership in driving the improvement of teacher performance in facing the continuously evolving dynamics of education.

Findings and Discussion

Findings

The findings of this study indicate that situational leadership plays a crucial and scientifically supported role in facilitating the digital transformation process in schools, particularly in improving teacher performance. This leadership model allows school principals to adapt their leadership style according to the varying levels of digital literacy, readiness, and psychological conditions of teachers in the context of Industry 4.0. These results are consistent with Hersey and Blanchard's Situational Leadership Theory, which emphasizes the importance of leadership flexibility in accordance with follower maturity levels. The analysis of literature shows that school principals who apply a directive leadership style are more effective in guiding teachers who are still unfamiliar with digital technology. This approach ensures structured guidance, clear instructions, and close supervision, which are essential during the early stages of digital adaptation. Conversely, principals who implement a delegative leadership style for teachers with high autonomy and digital fluency create a sense of trust, allowing those teachers to innovate and develop independently. This adaptability increases teacher motivation, job satisfaction, and

productivity key indicators of improved teacher performance.

The findings also highlight that situational leadership contributes to the creation of an innovative school environment, where teachers are encouraged to explore new digital tools, design interactive media, and implement blended or online learning strategies. Principals who utilize a participatory approach and support teacher-led initiatives tend to build a culture of experimentation and collaboration, aligning with research that associates transformational leadership with innovation-driven outcomes (Bass & Avolio, 1994). Another significant finding is the role of contextual supervision in enhancing teacher performance. Supervision under situational leadership is not limited to administrative assessment but also includes mentoring on digital technology use and personalized coaching. This type of supervision is proven to be more effective in addressing individual challenges and promoting sustainable professional growth among teachers. The study also finds that open and two-way communication, as part of situational leadership, strengthens trust between principals and teachers. Principals who actively listen, respond empathetically, and provide constructive feedback are able to foster stronger relationships with staff, reduce resistance to change, and build a unified vision for digital transformation.

Furthermore, the findings reveal that situational leadership supports the transformation of school culture in adapting to the digital era. Principals who are able to identify and address shifts in values, behaviors, and professional expectations can guide the school community through cultural change processes, creating a more responsive and innovation-oriented environment. Situational leadership is also found to be effective in managing stress and resistance to change among teachers during digital transitions. Principals who recognize the psychological pressures faced by teachers and provide emotional support, counseling, and motivational reinforcement can reduce anxiety and increase readiness for change.

Lastly, the findings emphasize that the effectiveness of situational leadership in the digital era depends heavily on the principal's understanding of each teacher's individual profile, including their strengths, weaknesses, and developmental needs. The leadership approach becomes more impactful when supported by school policies that promote digital literacy, continuous professional development, and access to adequate technological infrastructure.

Discussion

The findings of this study reinforce the premise that situational leadership is a relevant and effective approach in responding to the challenges of digital transformation within educational settings, particularly in improving teacher performance. Situational leadership, as developed by Hersey and Blanchard (1982), emphasizes the importance of adapting leadership styles based on the readiness and capabilities of subordinates. In the context of schools, a principal's flexibility in leadership style becomes essential to navigate the complex dynamics of technological change. The results indicate that principals who are able to assess teachers' digital readiness and respond accordingly whether through directive, participative, or delegative leadership successfully foster a working environment that supports learning and innovation. This finding aligns with Goleman's (2000) concept of emotional intelligence in leadership, where empathetic and adaptive leaders tend to build stronger interpersonal relationships and effectively motivate their subordinates.

This discussion highlights that situational leadership not only functions in decision-making and task execution but also serves as a catalyst in developing a school culture that embraces innovation. Principals who allow teachers to actively participate in decision-making processes help foster a sense of ownership and confidence in implementing technology in the classroom, consistent with Fullan's (2001) theory on educational change. In terms of supervision, the contextual approach adopted by school leaders reflects the principles of effective mentoring and coaching, as described by Darling-Hammond et al. (2017), where supervision is not merely an administrative tool but also a professional development mechanism that supports holistic teacher growth. Adaptive supervision enables principals to assist teachers not only technically but also psychologically, particularly in managing the pressures brought on by digitalization. The findings also underscore the importance of effective communication in sustaining a stable relationship between school leaders and teachers. Two-way communication, as demonstrated in the results, supports transformational leadership theory, which emphasizes shared vision, empowerment, and interpersonal relationships. By fostering open and empathetic dialogue, principals not only issue directives but also provide essential psychosocial reinforcement during times of change.

Additionally, the principal's ability to understand individual teacher characteristics proves to be a crucial aspect of situational leadership. Awareness of each teacher's strengths and weaknesses allows leaders to make more targeted decisions. This is consistent with the leadership competency framework by Leithwood et al. (2006), which argues that leadership effectiveness heavily depends on human resource management and evidence-based decision-making. However, the implementation of situational leadership is not without challenges. Differences in

teacher backgrounds, heavy workloads, and resistance to change emerge as significant obstacles that must be managed strategically. In this regard, the principal must serve not only as an administrative leader but also as an instructional leader who facilitates collaboration, reflection, and continuous professional development. Ultimately, this discussion affirms that the effectiveness of situational leadership is highly dependent on the synergy between the principal's individual capacity and the supporting systems available – such as school policies, technological infrastructure, and ongoing training. Without systemic support, even the most adaptive leadership will not function optimally. Thus, situational leadership should not only be viewed as a personal skill, but also as an integral component of a responsive and forward-looking school governance model.

The influence of leadership on digital transformation and teacher performance is widely acknowledged in educational research. Hersey and Blanchard (1969) argue that situational leadership is most effective when leaders can adapt their behavior based on the competence and commitment levels of their followers. In the school context, this approach allows principals to guide teachers differently depending on their readiness to integrate technology into teaching practices. Teachers with low digital literacy may require directive and coaching styles, while more competent teachers benefit from delegative or supportive approaches.

Northouse (2021) supports this by explaining that adaptive leadership fosters stronger engagement and performance because it meets individual developmental needs. The ability of school leaders to adjust leadership styles enhances teachers' motivation and accountability in facing digital challenges. This aligns with Leithwood et al. (2006), who emphasize that effective school leadership directly contributes to instructional quality and student learning outcomes by shaping organizational culture and encouraging professional growth. Fullan (2014) states that leadership in times of change must not only focus on structure and policies but also prioritize building relationships and capacity among staff. In the context of digital transformation, principals must foster collaboration, provide training, and create a psychologically safe environment for experimentation and innovation. According to Bass and Avolio (1994), transformational leaders who inspire a shared vision and demonstrate individual consideration are more successful in leading schools through technological changes.

In practice, this means that principals must become instructional leaders who understand both technological demands and the human factors that influence change. As Yukl (2013) notes, effective leaders manage change by balancing task-oriented and relationship-oriented behaviors. This is especially critical when addressing resistance among teachers who are digital immigrants. Leaders who engage in mentoring, coaching, and capacity-building are more likely to sustain teacher engagement and improve performance in the long term. In conclusion, expert perspectives reinforce the strategic role of situational leadership in navigating digital transformation. By applying flexible and responsive leadership approaches, school principals can effectively support teacher adaptation, foster digital literacy, and improve overall educational quality.

Digital transformation in education is a response to the rapid technological advancements of the Industry 4.0 era. Teachers, as key actors in the learning process, must adapt quickly. In this context, the role of the school principal becomes essential. Situational leadership is relevant as it addresses the varying readiness, abilities, and attitudes of teachers toward technology. Principals can apply different styles – directive for less tech-savvy teachers, and delegative for those already competent – based on the needs of their staff. The effectiveness of this approach lies in the leader's ability to identify and respond to the readiness level of teachers.

The principal's role goes beyond administration; they guide the school community in achieving educational goals. Leadership influences direction, motivation, and outcomes. Effective leaders possess communication skills, emotional intelligence, and the ability to manage change and diversity (Abi, 2019; Jhuji, 2020). Developing teacher competence is vital in this era. This includes pedagogical, personal, professional, and social competencies with digital foundations (Wulandari & Trihantoyo, 2020). However, many teachers still lack digital literacy. Therefore, principals must ensure adequate training, e-literacy support, and a collaborative environment (Royani, 2020; Wildgans-Lang, 2020).

Situational leadership allows principals to create supportive environments that foster innovation and adaptation. By aligning leadership style with individual teacher needs, principals enhance motivation, professional development, and overall performance. This leads to improved instructional quality and student outcomes. Challenges include differences in teacher background, time constraints, lack of training, and resistance to change. Principals must address these through open communication, relevant training, emotional support, and inclusive decision-making. Regular meetings, collaborative projects, and digital platforms also support team synergy and collaboration. Supporting teachers' emotional and professional needs is crucial. According to Hersey and Blanchard (1969, 2007), leadership effectiveness depends on the match between leadership style and follower readiness. Flexibility in leadership is key, particularly during stressful periods. Principals must also foster innovation by encouraging experimentation with digital tools and creative teaching strategies.

Supervision should serve as both control and development. Constructive feedback strengthens teacher motivation. Effective communication reinforces relationships, eases change processes, and enhances digital adoption. Coaching and mentoring help overcome resistance and build teacher confidence. In addition, successful digital transformation requires strong school policies and infrastructure. Visionary leadership aligns strategic goals with operational practices. Situational leadership thus serves as a bridge between vision and execution, enabling schools to thrive in the digital age. In conclusion, situational leadership is a strategic and effective approach in managing educational change. Principals who are adaptive, communicative, and supportive are better equipped to lead digital transformation, improve teacher performance, and nurture a culture of innovation.

To support the effective implementation of situational leadership in driving digital transformation, schools should provide principals with targeted training that enhances their ability to assess teacher readiness and apply appropriate leadership styles. This will enable principals to manage change more strategically and responsively. Additionally, digital literacy programs for teachers need to be tailored according to their current competencies, offering basic, hands-on training for those less familiar with technology and advanced courses for more proficient teachers. Establishing mentoring and coaching systems where tech-savvy teachers assist their peers can foster collaboration and create a supportive learning environment. Schools should also offer flexible scheduling for professional development activities to accommodate teachers' workloads and minimize burnout. The use of digital platforms for communication and collaboration should be encouraged to facilitate continuous interaction and resource sharing beyond regular hours. Recognition and incentives for teachers who actively enhance their digital skills and innovate in teaching practices can further motivate professional growth. At the policy level, sufficient funding for up-to-date digital infrastructure and supportive policies that encourage ongoing training and flexible leadership are essential. Finally, principals should conduct regular, contextual supervision that provides constructive, individualized feedback, fostering a positive atmosphere for continuous teacher improvement. These practical steps can help optimize situational leadership's impact on teacher performance and the overall success of digital transformation in education.

Conclusion

Situational leadership plays a vital role in supporting teachers to adapt and thrive in the face of digital transformation during the Industry 4.0 era. School principals, as educational leaders, must be flexible, responsive, and strategic in aligning their leadership styles with the diverse readiness levels and competencies of teachers. Effective situational leadership not only enhances teacher performance but also fosters innovation, digital literacy, and a collaborative school culture. However, to fully optimize its impact, several practical steps are necessary. These include targeted leadership training for principals, differentiated digital literacy programs for teachers, peer mentoring systems, flexible professional development schedules, and enhanced digital infrastructure. Furthermore, the use of digital platforms for collaboration, recognition of innovative practices, and regular contextual supervision are essential to sustain momentum. With these practical strategies in place, situational leadership can become a powerful driver of educational transformation, ensuring that schools remain adaptive, inclusive, and future-ready.

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