



## THE AMALGAMATION OF DIGITAL AND LEADERSHIP AS A KEY ROLE IN ORGANIZATION: LITERATURE REVIEW

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### ABSTRACT

*Digital leadership became prominent to bridging Digital transformation in organizations. Despite, a lot of research in digital leadership topic has soared, it still misses the gap for the position of digital leadership. This research investigates the determination of digital leadership based on literature review from various research articles and presents the position of digital leadership. Therefore, this study was conducted with the Grounded Theory Literature-Review Method and perish n publish or perish to collect proper literature, data was presented using the matrix augmented of unit analysis, and the data was categorized by variable, theory, and unit analysis. The results showed three positions of digital leadership, firstly ten articles positioned digital leadership as independent variable. Secondly, one study conducted digital leadership as mediating variable, and lastly, there were two research studied digital leadership as moderating variable. This study concludes the theme of digital leadership was frequently used to develop digital transformation and performance for organizations. Leaders act as a supporter and connectors between corporate culture and team members to bridge the transformation. Furthermore, it remains a gap in digital leadership variable research topics such as: measuring dimensions of digital leadership, competence of the leader, and which leadership styles suitable for organizations.*

**Keywords:** *Digital leadership, transformation, Sustainability,, Resource-Based View, Social Exchange*

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## INTRODUCTION

In Indonesia, the COVID-19 pandemic regulation to encourage workers to change their working style from working from office to working from home to avoid contagious diseases was a “blessing in disguise”. Most of organizations adapt digital working styles and consequently, the growth of digital transformation reached unprecedented levels. Nonetheless, transitioning from traditional process to digitalization is a challenging situation, especially when individuals are familiar to working in the office environment. In the old paradigm, the theory of organizational change by (Lewin, 2015) established three developing processes as known as unfreeze, change, and refreeze to set the status quo. First, at the unfreeze stage, altered employee attitude was a critical factor to support change. The evidence from previous research (Cartwright & Schoenberg, 2006; Washington & Hacker, 2005) shows that the change initiatives in the first stages from unfreeze to change always failed. It becomes prominent to study from the organizational perspective macro, meso, and micro level.

The role of leadership as a key to developing group mechanisms and defined digital leadership as social interactions between leaders and followers, associated leadership style and technology information (Chatterjee et al., 2023; Eberl & Drews, 2021). Hence, The role of leadership became prominent, and research from (Avolio et al., 2000) emerged the term digital leadership was the combination of leadership style and skills to using technology, therefore this result enhanced the bear of fruit for other researchers to emphasize meticulously determining the digital leadership. Moreover, this reveals that these changes are not only challenges related to technological advancements but also involve developing leadership competencies that need to be updated. Research by (Bartsch et al., 2020) also indicates that during digital transformation, the challenges faced are more focused on leadership. To delve deeper into these causal factors, this study explores various sources using bibliometric network analysis with the help of VOS viewer software version 1.6.9. According to its creators (van Eck & Waltman, 2017), VOS viewer can be used to create maps based on network data and visualize them to explore the sequence of research. Data on the theme of digital transformation was collected 200 articles using the Publish or Perish application through a Google Scholar search, covering the period from 2018 to 2023.



The second issue concerns the suitable character and personality of the leader. (Prince, 2017) emphasizes that the core of leadership is the role of the leader itself; therefore, it is necessary to adapt the leadership style to be transformational or transactional. Following this, (Kane et al., 2019) mention that a crucial skill for digital leadership is having extensive knowledge of modern technology (being digitally savvy). (Antonopoulou et al., 2020) Antonopoulou (2020) further investigates the characteristics of digital leaders, dividing leadership into transformational and transactional styles, finding that transformational leadership positively impacts performance, whereas transactional leadership has a negative effect. Similar findings were reported by Kieser (2017) stated transformational leadership significantly contributes to organizational success. Furthermore, this study analyzed 10 contributions from the current Digital Leadership literature to answer the issues following the recommendations by Wolfswinkel et al to developed a definition of Digital Leadership and identified its determinants in a nomological network

## **LITERATURE REVIEW**

This research scrutinizes Adaptive Structuration Theory to propose the framework of digital leadership. (Orlikowski, 1992) describe the relationship between technology (digital) and human agents of institutions. Furthermore, (Avolio et al., 2000; Larson & DeChurch, 2020), Adaptive Structuration Theory was grand framework to investigate digital leadership, the effects of technology emerge from the interaction between teams on organizational structures and leadership is a part of accommodating the process. (Rains & Bonito, 2017) explains Adaptive structuration theory (AST) is the use and effects between employee of technologies in organizations. Besides the Adaptive Structuration Theory had a wide range of framework.

The Middle theory in this study was collected from several journal, it consist of: Upper Echelon Theory is a concept in organizational theory that suggests that the characteristics and values of top executives significantly influence the strategic choices and overall performance of an organization (Hambrick et al., 2001) Upper Echelon Theory also view as The experience, values, and personality of leaders influence their choices and, through these choices, affect organizational performance. This theory has become crucial for researching how the characteristics and experiences of leaders shape their perceptions, choices, and actions in ways that ultimately impact various corporate outcomes. (Shin et al., 2023); (Erhan et al., 2022); (Wang et al., 2022) (Hung et al., 2023) (Yusuf et al., 2023),

Resource-Based View Theory management framework that focuses on the internal resources and capabilities of a firm as sources of competitive advantage and sustainable performance (Shin et al., 2023) (Chatterjee et al., 2023), and Dynamic Capability focuses on an organization's ability to adapt, innovate, and respond effectively to changing environments. It emphasizes a firm's capacity to integrate, build, and reconfigure internal and external competencies in order to address rapidly changing markets, technologies, and competitive landscapes (Chatterjee et al., 2023) to explain digital leadership.

Social Exchange Theory (SET) provides a detailed perspective on social behavior by viewing it as a series of reciprocal exchanges (Ahmad et al., 2023; Cropanzano & Mitchell, 2005) According to this theory, social interactions function as transactions where individuals assess the rewards and costs involved. In both personal and professional contexts, relationships are maintained and developed through a series of reciprocal actions, with individuals strategically seeking to maximize their benefits while minimizing their disadvantages. Person-organization fit theory, organizations have characteristics that have the potential to be congruent with characteristics of individuals, and individuals' attitudes and behaviors will be influenced by the

degree of congruence or “fit” between individuals and organizations, Moreover person–organization fit theory assumes that is attitudes, behavior and other person level outcomes result not from the person or the organization independent of each other, but rather from the relationship between the person and organization (Zhu et al., 2022)

## **Theoretical and Conceptual Background**

Several researchers defined digital leadership is the skill of leader utilize digital resources to promote organizational and individual goals(Shin et al., 2023). Digital leadership also refers to the integration of technologies, tools, and instruments such as the Internet of Things (IoT), e-platforms (webinars), social media, artificial intelligence, Big Data, and Machine Learning (Abbu et al., 2022). Additionally, digital leadership is a combination of leadership skills that includes innovative leadership through a digital mindset, encompassing digital awareness and experience (Zhu et al., 2022).

Despite a lot of research had risen, it concludes that still don’t has a standardization for the position variable of digital leadership. This study proposes initial overview in theoretical review to elucidate the position of digital in constellations, The review process was conducted in four steps according to on Wolfswinkel, starting with a template to collect general information about the articles, such as publisher, context, paper type (theoretical review/research paper), and research design (observational, experimental, quantitative/qualitative).

## **METHODOLOGY**

This study use Grounded Theory Literature-Review Method to follows the approaches of (Wolfswinkel et al., 2013)A framework was introduced as the initial step, leading to the following steps for the literature review: (1) establish an audit trail to document the reviewers' processes, (2) outline the research scope, (3) conduct a literature search, (4) choose relevant publications based on the defined scope, (5) analyze the chosen literature, and (6) present the findings. The rest of this section explains how this approach was applied in this digital leadership literature review. The literature was collected from from 2018 to the end of December 2023, it was searched in various databases using Publish or Perish 8 consisting of Google Scholar, Emerald, Springer, and Science Direct). The search was based on the keywords “ digital leadership”. The result initial sample size of 200 journals and reduced by applying exclusion criteria, moreover this research gathered 13 journals meet the exclusion criteria to explain the change paradigm into digital transformation towards digital leadership.

Exclusion Criteria	Sample size after being reduced by exclusion criteria
Citation under 10	61
Systematic review	47
Using qualitative approach	30
Missing detail description of theory literature	26
Absence of constellation model	13

we inductively created codes about Digital Leadership and added these codes to every paper in the review. We evaluated the created literature database regarding the used codes and reflected outcomes. Third, we developed determinants and their relationships based on the collection of codes. Lastly, we summarized the concept matrix augmented with unit analysis (Webster & Watson, 2002).

Concept Matrix Augmented with Units of Analysis															
Articles	Concepts														
	A			B			C			D			...		
Unit of analysis	O	G	I	O	G	I	O	G	I	O	G	I	O	G	I
1					*				*						*
2	*				*	*		*							
...								*	*			*			

Legend: O (organizational), G (group), I (individual)

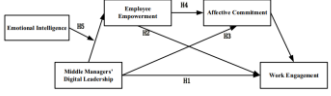
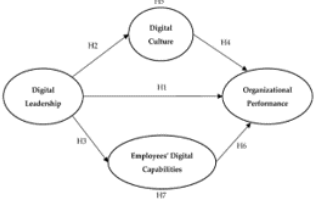
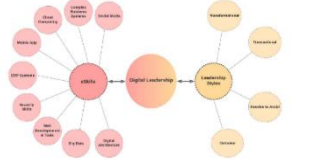
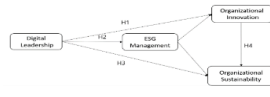
**Table 1: Concept Matrix**  
**Source:(Webster & Watson, 2002)**

The structuring of review use concept matrix of unit analysis, it consist of the name of article, country devided by position of variable, literature theory, unit of analysis to positioning each article in literature review.

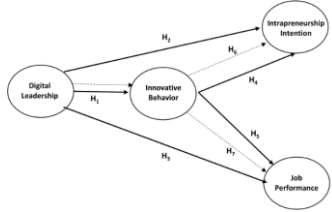
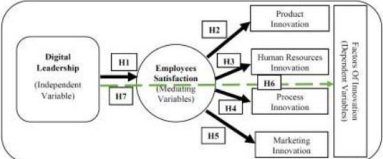
**RESULT AND DISCUSSION**

The table shows the information about the article, researcher and country divided by position of variable, theory, and unit analysis. Overall, Digital leadership as independent variables had five main theories to be used in this studies. First to elucidate, at independent variable there were three articles using upper upchelon Theory in individual unit analysis (Erhan et al., 2022; Sagbas et al., 2023; Yusuf et al., 2023) two articles using social exchange theory whereas one article in group unit analysis (Lyu, 2024) and two articles in individual unit analysis (Zhenli Li et al., 2024); (Allam Housni et al., 2023), three articles used Resources based view theory, it consist of two article individual level (Niu et al., 2022; Shin et al., 2023) and one article in group analysis (Wang et al., 2022), and one article using Person–organization fit theory as approach (Zhu et al., 2022)

Article	Researcher	Country	Constellation	Independent											
				Upper Upchelon Theory			Social Exchange Theory			Resouces Based View Theory			Person–organization fit theory		
				O	G	I	O	G	I	O	G	I	O	G	I
How does digital leadership improve organizational sustainability: Theory and evidence	(Lyu, 2024)	China	<pre> graph LR     DL[Digital leadership] --&gt; TKS[Team knowledge sharing]     TKS --&gt; TRP[Team work role performance]     TEA[Team Emotional Atmosphere] --&gt; TKS             </pre>					x							

<p>The Impact of middle manager middle leadership on employee engagement</p>	<p>(Zhenli Li et al.,2024)</p>	<p>China</p>						<p>X</p>							
<p>Sustainability and Organizational Performance in South Korea: The Effect of Digital Leadership on Digital Culture and Employees' Digital Capabilities'</p>	<p>(Shin et al., 2023)</p>	<p>Korea</p>									<p>X</p>				
<p>From conventional to digital leadership: exploring digitalization of leadership and innovative work behavior</p>	<p>(Erhan et al., 2022)</p>	<p>Turkey</p>			<p>X</p>										
<p>The Effects of Digital Leadership and ESG Management on Organizational</p>	<p>(Niu et al., 2022)</p>	<p>Korea</p>									<p>X</p>				

Innovation and Sustainability																				
Digital leadership and exploratory innovation: From the dual perspectives of strategic orientation and organizational culture	(Wang et al., 2022)	China	<pre> graph TD     DL[Digital leadership] --&gt; DEO[Digital entrepreneurship orientation]     DL --&gt; DOC[Digital organizational culture]     DEO --&gt; EI[Exploratory innovation]     DOC --&gt; EI     BDA[Big data analytics capabilities] --&gt; DEO         </pre>																X	
Digital Leadership and Employee Creativity : The Role of Employee Job Crafting and Person Organization Fit	(Zhu et al., 2022)	China	<pre> graph TD     DL[Digital Leadership] --&gt; EJC[Employee Job Crafting]     EJC --&gt; EC[Employee Creativity]     POF[Person-Organization Fit] --&gt; EJC         </pre>																	X
Exploring the role of digital leadership and digital transformation on the performance of the public sector organizations	(Yusuf et al., 2023)	Yunani	<pre> graph TD     DL[Digital leadership] --&gt; DT[Digital transformation]     DT --&gt; OP[Organizational performance]         </pre>																	X

<p>The Mediating Role of Innovative Behavior on the Effect of Digital Leadership on Intrapreneurship Intention and Job Performance</p>	<p>(Sagbas et al., 2023)</p>	<p>Turkey</p>				<p>X</p>								
<p>Digital Leadership and Innovation Mediated by Employees' Satisfaction: A Recovery Strategy after the Pandemic</p>	<p>(Allam Housni et., al 2023)</p>	<p>Lebanon</p>						<p>X</p>						

**Table 2: Article Matrix**

**Recourses Bases view Theory** Research from (Shin et al., 2023) in Korea collected 149 Employees in South Korea working in manufacturing, engineering, accounting/finance, human resources, supply chain/logistics, sales/marketing, services, and information technology. The results of this study indicate that digital leadership has an indirect mediating influence, as there is a positive and significant impact of digital leadership on digital culture and organizational performance, as well as a positive and significant impact of digital leadership on digital capabilities and organizational performance. Theoretically, this research contributes to both leadership behavior and the Resource-Based View (RBV) theory. In this study, Digital Leadership (DL) is the core variable, and organizational performance is the dependent variable. However, the findings reveal a significant direct influence but an insignificant indirect influence on organizational performance. Additionally, the results of this study contradict previous research, although digital culture has a partial mediating effect on the relationship between DL and organizational performance in the context of South Korea. Furthermore, based on the findings of (El Sawy et al., 2016). Digitalization enhances organizational capabilities. We also found that employees' digital capabilities have a partial mediating effect,

(Wang et al., 2022) developed a model based on a resource-based view and social information processing theory to examine the roles of digital entrepreneurial orientation and digital organizational culture in the relationship between digital leadership and exploratory innovation. Using a time-lagged survey data of 401 followers and 88 leaders, the results show that (a) digital leadership has a positive impact on exploratory innovation; (b) digital entrepreneurial orientation and digital organizational culture mediate the positive relationship between digital leadership and exploratory innovation; and (c) and mediating effect is positive moderated by big data analytics capabilities.

(Niu et al., 2022) conducted empirical analysis was conducted on Korean and Chinese companies. The results showed that digital leadership in both countries had a significant effect on ESGM and organizational innovation. Specifically, both digital leadership and ESGM together with organizational innovation played an important role in organizational sustainability in the entire model. However, between digital leadership and organizational sustainability, the mediating effect of ESGM and organizational innovation was different, viz., Korea had partial mediating effects and China had complete mediating effects. It is expected that this study would fill the research gap in the area of digital leadership in ESGM and contribute to the implementation of corporate ESGM strategies and organizational innovation.

### **Upper Echelon Theory**

(Erhan et al., 2022) conducted research in Turkey in 28 Department Head in Patras University, in this study, digital leadership perception of the employees influences innovative work behavior. As the results demonstrated, the perception of digital leadership significantly predicted innovative work behavior of the employees. It can be concluded that digital leadership significantly affects all four dimensions of innovative work behavior (idea generation, idea exploration, idea championing, idea implementation)

(Sagbas et al., 2023) data collected from 390 people working in the IT sector in Istanbul. Furthermore, it is observed that innovative behavior has a partially mediating impact on the effect of digital leadership on job performance. Considering the results, this study proves that digital leaders need to adopt innovative behavior so as to ensure performance and intrapreneurship in an organization.

(Yusuf et al., 2023) gathered 765 employees of public organizations. The results of this study indicate that digital leadership had a positive and significant effect on organizational performance, digital leadership had a positive and significant effect on digital transformation and digital transformation had a positive and significant effect on organizational performance

### **Social exchange theory**


(Shao et al., 2022) Based on Social Exchange Theory, this study explores how middle managers' digital leadership affects employee work engagement by analyzing survey data from 559 respondents at 11 publicly listed companies in Southwest China. It focuses on employee empowerment and affective commitment as key mediating variables and examines how emotional intelligence moderates these relationships. The findings indicate that middle managers' digital leadership significantly boosts employee work engagement. Employee empowerment and affective commitment mediate the relationship between digital leadership and work engagement. Additionally, emotional intelligence moderates the impact of digital leadership on employee empowerment and further influences the combined mediating effect of employee empowerment and affective commitment on the relationship between digital leadership and work engagement.

(Lyu, 2024) Using 130 team sample data from multiple regions and multiple industries for hierarchical regression, The results show that: (1) Digital leadership has a significant positive impact on team knowledge sharing (2) Digital leadership is completely mediated by team knowledge sharing (3) Team emotional climate positively regulates the positive relationship between digital leadership and team knowledge sharing. It is hoped that the research results can make academic and practical contributions to leadership digitalization to improve team performance and sustainable development

### **Person–organization fit theory**

(Zhu et al., 2022) based on a sample of 357 employees from various Chinese companies, The findings reveal the effect mechanism of digital leaders on employee creativity and enrich the literature on antecedents of employee creativity, First, digital leadership is positively related to employee creativity. The more digital leadership shown by the leader, the more effective it is in stimulating employee creativity. This findings agree with previous researches holding that digital leadership plays an important role in promoting employee creativity, Second, employee job crafting mediates the relationship between digital leadership and employee creativity. When enterprise leaders show digital leadership, job crafting of employees improves, stimulating their creativity. Third, person-organization fit positively moderates the relationship between digital leadership and job crafting. Person–organization fit theory posits that organizations have characteristics that have the potential to be congruent with characteristics of individuals and that individuals' attitudes and behaviors

Looking for to table 3, There is one articles gathered positioning digital leadership as moderating variable and Upper Upchelon Theory in Individual unit analysis

Article	Researcher	Country	Constellation	Moderating													
				Upper Upchelon Theory			Social Exchange Theory			Resouces Based View Theory			Person–organization fit theory				
				O	G	I	O	G	I	O	G	I	O	G	I		
Leadership Types and Digital Leadership in Higher Education: Behavioural Data Analysis from University of Patras in Greece	(Antonopoulou et al., 2020)	Greece				X											

**Table 3 : Upper Upchelon Theory Matrix Moderating Variable**

Lastly, at table 4 There are two articles gathered positioning digital leadership as independent variable

Article	Researcher	Country	Constellation	Moderating													
				Upper Upchelon Theory			Social Exchange Theory			Resouces Based View Theory			Dynamic Capabilities				
				O	G	I	O	G	I	O	G	I	O	G	I		
Mastering digital transformation: The nexus between leadership, agility, and digital strategy	(AlNuaimi et al., 2022)	UAE Abu Dhabi				X											
Digital workplace and organization performance: Moderating role of digital leadership capability	(Chatterjee et al., 2023)	India				X											

Table 4: Upper Upchelon Theory Matrix Independet Variable

### **Mediating variable**

(Antonopoulou et al., 2020) conducted research in 28 heads of departments from University of Patras (Greece) participated replying the Multi-factor Leadership Questionnaire (MLQ) and data were collected and then analyzed using SPSS statistical software. The findings of the study among others, indicate that the leadership outcome has a strong positive correlation with transformational leadership and a large negative correlation with passive - to avoid leadership, it was confirmed that the higher degree of transformational leadership implies greater efficiency and satisfaction for workers, and the high degree of transformational leadership co-exists with the great degree of implementation of digital leadership.

### **Moderating variable**

(AlNuaimi et al., 2022) the result of this study showed that digital transformational leadership and organizational agility positively influence digital transformation, and digital transformational leadership influences organizational agility. The finding of our study also indicates organizational agility to mediate the relationship between digital transformational leadership and digital transformation. (Chatterjee et al., 2023) conducted research model from dynamic capability view (DCV) theory. The study reveals that an organization's dynamic capabilities significantly and positively impact workplace digital transformation, which subsequently enhances employees' work-life balance, leading to improved employee and organizational performance. Additionally, this study extends the applicability of Resource-Based View (RBV) theory by emphasizing that employees, as the organization's human capital, possess valuable, rare, inimitable, and non-substitutable (VRIN) capabilities. These capabilities enable employees to contribute to better organizational performance, positioning them as key participants in the digital transformation journey.

## **CONCLUSION**

Based on the findings of this research, several conclusions can be drawn. First, digital leadership can act as a bridge to accelerate its members towards digital transformation. This is evident from the study by (Yusuf et al., 2023), which found that digital leadership can serve as a competitive advantage by enhancing the performance of organizations through the influence of individual leaders. Leaders with digital skills and knowledge can impact their organizations by providing strategies that adapt to changes and facilitate digital transformation. This aligns with the Resource-Based Theory (RBT), as digital leadership can be a crucial resource and capability for understanding sources of sustainable competitive advantage for companies (Nayal et al., 2022) and improving company performance. This is also supported by research from (AlNuaimi et al., 2022), which explains that digital leadership can drive digital transformation because the complexity of transformation requires cooperation and direction from leaders to their members. Additionally, research by (Hung et al., 2023) examines how leadership can moderate and strengthen the impact of digital transformation on organizational performance.

Second, digital leadership can also promote innovative performance. A study by (Erhan et al., 2022) explains that digital leadership significantly influences the four dimensions of innovative work behavior: Idea Generation, Idea Exploration, Idea Championing, and Idea Implementation. The findings of this study highlight the practical importance for leaders to understand that achieving sustainability for both the organization and employees involves embracing new

technologies and understanding the need for innovation. Employees who perceive their leaders as digitally skilled maintain ongoing exchange interactions and feel confident in the organization. Third, the research by (Wang et al., 2022) indicates that digital leadership has a positive impact on exploratory innovation. This suggests that leaders should fully recognize the importance of digital leadership and strive to enhance their digital literacy and leadership skills in various ways, such as through learning and active participation in relevant courses and forums. Companies can recruit digital leaders with creativity and forward-thinking. The study concludes that digital leadership is necessary to support exploratory innovation from the strategic business level to specific execution levels and reasonably internalize digital entrepreneurial orientation into the company's behavioral rules.

Several challenges and recommendations have been identified in the study of digital leadership:

First, the measurement dimensions of digital leadership need further exploration. Existing research has focused on samples that have already experienced transformation. Future studies should examine samples that have not yet start digital transformation to better understand these measurement dimensions. Second, the competencies required for employees to qualify for digital leadership remain unclear. Some researchers, such as (Abbu et al., 2022), have identified necessary character traits and competencies for digital leadership Leadership Framework and attributes of digital leadership. However, this needs further investigation, as previous studies used senior managers to assess their subordinates. Future research should include staff-level employees to ensure the validity of these findings. Third, the most suitable leadership style for digital leadership remains an interesting topic for further study, as no conclusive results have been reached on which style is best. This study recommends further developing the leadership styles proposed by Webber to provide a more detailed understanding of the appropriate leadership styles for digital leadership.

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