# DIGITAL TRANSFORMATIONAL LEADERSHIP OF WILLIAM TANUWIJAYA (FOUNDER OF TOKOPEDIA)

Ardi\*, Yohana F. Cahya Palupi Meilani, Veronica Sinaga

Faculty of Economics and Business, Universitas Pelita Harapan, Tangerang, Indonesia

e-mail: ardi.kho@lecturer.uph.edu (Corresponding Author indicated by an asterisk \*)

#### **ABSTRACT**

Technology and the internet are helping to create new ideas and opportunities by digitizing customers, businesses, products, services, and processes. Businesses can influence every digital area, including consumers, employees, partners, business processes, and a global network of companies and objects. These circumstances result in fundamental adjustments in social behavior and associated repercussions. Organizations require digital transformational leadership to adapt to innovation, creativity, and change capacity. This research aims to explain the idea of digital transformational leadership as a trait of future CEOs of digital businesses. Evidence from the literature suggests that digital transformational leaders enhance organizational innovativeness and performance in many successful businesses. The founder of the Indonesian technology company Tokopedia, William Tanuwijaya, is analyzed using descriptive and phenomenological methodologies for his digital transformational leadership style. As a preliminary study, the research discusses how William's digital transformational leadership philosophy and tactics helped Indonesian market startup Tokopedia prosper.

Keywords: digital transformational leadership; organizational innovativeness; organizational performance

#### INTRODUCTION

Leadership topic is still a fascinating subject to study because it determines how long an organization will last. Leadership essentially means responsibility. The topic of leadership continues to be worth studying because it has been continuously debated throughout human civilization. Leadership development programs have been discussed over the past two decades as a response to the urgent need to prepare public and corporate leaders to face challenges and uncertainties, especially in the digital transformation era. Leadership is the backbone of organizational development because, without good leadership, organizational goals are challenging to achieve. The leadership model plays a vital role in improving team member performance. All external factors that can improve a team member's performance come from aspects and management models (Junaidah et al., 2022). According to earlier research, transformational leadership is a type of leadership that is thought to be able to revolutionize an organization (Atapattu & Ranawake, 2017). Organizations, especially instructors, have undergone an irreversible transformation because of digital technology. Organizations, work environments, and processes are changing due to digitization, posing new problems for leaders to solve (Ly, 2023). According to the most recent Eurobarometer survey results, most participants think digitization positively impacts society, the economy, and quality of life. Digital technology has, in fact, significantly changed people's daily lives and company operations during the past ten years (European Commission, Directorate-General for Communications Networks, Content and Technology, 2020). Digital transformational leadership in digital transformation emphasizes organizational strategy, structure, culture, and competencies more than the technology itself. Digital executives need to grasp how these technologies may aid a company's growth and development, not how they function. Digital transformational leadership may be used in various industries, not just for digital startups in e-commerce and internet enterprises. Digital transformational leadership includes using artificial intelligence technologies and data analysis to analyze market

behavior and using robots and automation in factories or the Internet of Things (Chen et al., 2016). Based on information and communication technologies, research from numerous earlier studies has shown that digital transformational leadership affects organizational innovativeness and performance and business success in a variety of contexts and industries, including manufacturing, services, social work, strategic projects, startup e-commerce, and app organization (ICT) (AlNuaimi et al., 2022). They are using the aspects of citizen and community involvement and decentralized monitoring of service delivery. Dema et al. (2023) demonstrate the effects of digital transformational leadership enabling innovative digital governance. Another study demonstrates the impact of a significant association between digital transformational leadership on organizational innovativeness, which is mediated through empowering knowledge-based interaction (Ardi et al., 2020). An app-based marketplace has been introduced in Indonesia by a business called Tokopedia. While competing with national and international rivals, this local Tokopedia app has become a lucrative enterprise. In this perspective, the development of digital transformational leadership traits and actions by essential members of the organization is a sign of organizational success. In this descriptive study, William Tanuwijaya, a prominent figure in Tokopedia Indonesia, provides information about the nature of digital transformational leaders and an analysis of their main characteristics.

# LITERATURE REVIEW

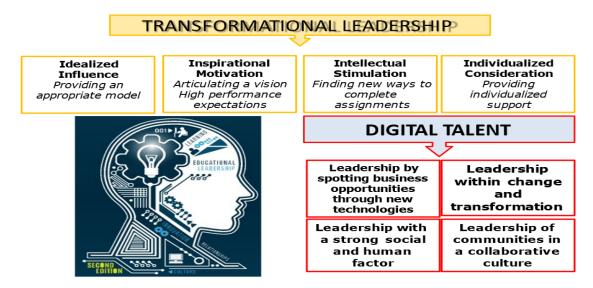
Leadership is the interaction between group members, so leaders are innovators and agents of change, people whose behavior influences others more than the behavior of others they influence, and leadership itself occurs when group members motivate the interests of one another to change. Leadership is defined as the process of influencing and directing various tasks related to the activities of group members. Leadership is also defined as the ability to influence various strategies and goals, influence commitment and adherence to tasks to achieve common goals, and influence groups to identify, maintain, and strengthen the organizational culture as it develops (Hujala, 2013). Leadership must be accompanied by practical communication skills, conflict resolution skills, and knowledge of how to solve problems that may arise in groups. Leaders must also be able to convey the mission, vision, and company policies to the organization's members. In addition, it is also necessary to build team member morale, help employees progress professionally, and contribute positively to the company's mission (Berkovich & Hassan, 2023). Digital transformational leadership styles are linked to the team's overall success, the degree to which evaluators feel their leaders motivate them (extra effort), the effectiveness with which they feel their leaders interact at different organizational levels, and their satisfaction with their leader's work methods, compared to others (Antonopoulou et al., 2021).

Digital transformational leadership is needed for industrial revolution 4.0, synonymous with technology and innovations. Digital leadership is the ability of a leader or aspiring leader to guide the organization or business they lead toward a digital transformation (du Toit, 2022). A change can be called innovation, not merely a forced situation like the pandemic Covid-19. For individuals who want to grow a firm in the period of the fourth industrial revolution, digital transformational leadership is necessary. Both at the organizational and individual levels, digital transformational leadership exists. Digital transformational leadership is a leadership style that can adapt to the rapid development of technology, changes in business behavior, and innovation of profit schemes (Sunaryo et al., 2023). In addition to technical expertise, soft skills are indispensable in digital transformational leadership, formulated into seven supporting pillars of digital leadership

(Cahyarini, 2021): a. Participate and build an ecosystem of organizational goals achievement; b. Build effective communication; c. Understand today's technology; d. Build networks with stakeholders (collaborative); e. Be wise with technological developments; f. the ability to assess and take advantage of big data.

Digital Transformational leadership is based on four ideas about leading: idealized influence, inspiring motivation, intellectual stimulation, consideration for the individual, and digital talent (Ardi et al., 2020).

# DIGITAL TRANSFORMATIONAL LEADERSHIP

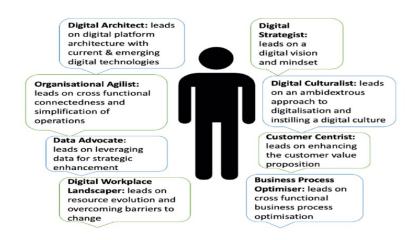


A leader's ideal charisma or influence gives followers a sense of purpose and direction. When managers set an example for their staff, it inspires motivation. Leadership transforms organizational competence, digitalization, and innovation. Digital transformational leadership inspires employees to acquire, transfer, and apply knowledge for innovative performance. It shows a strong relationship between digital transformational leadership and organizational innovativeness, mediated by empowering knowledge-based interaction (Ardi et al., 2022). A corporate environment that transitions from an economy of product value to a business model based on experience and knowledge needs the assistance of leaders (Susanti & Ardi, 2021). To strengthen the firm's position in the market and maintain its competitiveness, transformational executives aim to make strategic decisions and work to give changes within the organization shape. One necessity for digitizing systems is a transformational leader because traditional leaders are less helpful with technological advancements and are unaware of the value of digital technology to business performance (Durmaz et al., 2022). Combining a deep emotional bond with his or her followers and a shared dedication to a higher moral purpose, digital transformational leadership is the process by which a leader encourages group or organizational performance above and beyond what is expected. By raising their followers' awareness of the significance of task results and inspiring them to put the needs of the team or organization ahead of their self-interest, transformational leaders inspire their followers to perform not just to the level of expectation but also above it (Ahyat et al., 2022). Leadership emerges from the constructs and actions of employees and managers. Manager-Employee Relationships and Interactions Shaping Leadership (Ehlers, 2020). Digital transformational leadership behavior is positively linked to emotional behavior at the individual and team levels, supporting harmonious cooperation in organizations (Winasis et al., 2021).

Bach and Sulíková (2021) convincing empirical evidence that digitalization positively relates to digital leadership during the Industrial Revolution 4.0. For example, Digital leadership is acting in a way that benefits enterprises, business ecosystems, and the long-term strategic success of digitalization. To put it another way, digital leadership entails adopting new perspectives on workplace practices, business models, IT operations, mindsets, and enterprise platforms. Digital transformational leadership provides a view and way to realize a new business strategy to survive and compete in this modern era; by doing digital transformational leadership, we realize that we are also digitizing. Digital transformational leadership has several unique characteristics, such as being wise with technological developments, Participate and building an ecosystem of organizational goals achievement, and having the ability to assess and take advantage of big data; when world leaders have and implement these characteristics, they are also digitizing because digitalization is an implementation process of digital transformational leadership (Asri & Darma, 2020).

Previous research has found that transforming into digitalization in an organization requires some managerial skills. The digitalization era started during the digital transformation; an organization will continuously have to deal with changing environment to make the most of the technological innovations such as new digital infrastructure and strategy (Mihardjo et al., 2019; Oberer & Erkollar, 2018). Therefore, managers must have a transformational leadership style, precisely a digital transformational leadership style, to enable digital transformation and organization integration with firm steps and planned methods; a new type of leadership is needed to keep up with the new challenges. A leader who practices digital transformational leadership is recognized as having a risk-taking mindset, adaptability, working with customers and employees, adopting disruptive tactics, and being open to innovation (Yücebalkan et al., 2018). With a solid and practical leadership understanding of where digital transformation is prominent, digital transformational leadership develops as a leader with a vision, developing strategic plans, having digital competencies, being followed by his subordinates, and possessing transformative qualities (Sasmoko et al., 2019). Digital transformation leadership leads the transformation of the executive team and is responsible for determining when, where, and how digital disruption is embraced. The leader has three habits that will help companies win in the digital age, such as following emerging technology trends, determining the direction of the digital development strategy, and leading the tea to adapt quickly and precisely (Swift et al., 2018).

## 8 Characteristics of Digital Transformational Leadership



Milestone: Journal of Strategic Management Vol. 3, No. 2, September 2023

Faculty of Economics and Business

Pelita Harapan University

Figure 1. Characteristics of Digital Transformational Leadership

Source: McCarthy et al. (2021)

According to McCarthy et al. (2021), eight characteristics make a successful digital transformational leader. Each characteristic defines traits that are important to the digital transformation process. These characteristics are used by managers who are good role models, encouragers, innovators, and coaches to "transform" their followers or team member into better and more productive people.

Digital Architect:	Create digital services platform, innovate digitally enabled operations, and use relevant technologies to deliver a resilient digital architecture.
Organizational Agilist:	We are exploring and exploiting the necessary resources to implement digital transformation successfully.
Data Advocate:	Create a data-driven mindset, successful data strategy, and architecture using digital technology.
Digital Workplace Landscaper:	Develop, and manage a digital workplace and improve employees' experience by giving technical solutions that transform the work environment and increase flexibility for the organization.
Digital Strategist:	Create a digital transformation strategy as the top priority, communicate digital vision, and change the organizational mindset to adapt to digital transformation. This can be done by advising the top management team on digital transformation.
Digital Culturalist:	Create a digital organizational culture that can be embraced top-down and bottom-up and a passion for digital transformation at the management level and employees.
Customer Centrist:	Develop and increase customer collaboration, customer experience, and business services to generate more excellent value for customers using digital services.
Business Process Optimizer:	It optimizes business processes focusing on how digitalization will enhance business process effectiveness.

## RESEARCH METHOD

This study employs a phenomenological methodology adaptable to unique or specific cases. This descriptive study examines a character's digital transformational leadership style and explains digital transformational leadership and how it works in William Tanuwijaya. Information and reviews of the William Tanuwijaya and Tokopedia literature from 2016 to 2020 were gathered from print and online media. This procedure entails locating and assessing references from secondary data sources, such as interview notes, dialogues, and analyses of texts on relevant topics; conducting in-depth evaluations of cases; and presenting the findings using direct and lengthy quotations. The method used in this study is an explanation method because the research aims to find and study the phenomenon being studied so that the problem can be better understood based on a quick review of current literature and a real-world case study. When searching for papers and news on the connection between digitalization and digital transformational leadership, the keywords "digital transformational leadership" and "digital leadership" were used.

Pelita Harapan University

#### RESULTS AND DISCUSSION

William Tanuwijaya was born on November 11, 1981, in Pematangsiantar, North Sumatra. He attended school in his hometown from kindergarten through high school. While he continued his education in Jakarta, he had just moved away from his birthplace. William had never left his hometown before, but his father and uncle allowed him to complete his studies in Jakarta. With a heart full of curiosity, William was eager to visit Jakarta as soon as possible. He boarded a ship then and traveled to Jakarta for four days and three nights. He attended Bina Nusantara University for his education. He was Coming to Jakarta for reasons other than school. However, this determined man works part-time as an internet cafe operator (Warnet) daily from 9 p.m. to 9 a.m. to fill his free time. He completed his information engineering bachelor's degree in 2003 despite working and studying full-time. After graduating from college, he began working for a company that provided services to the entertainment business. He worked for PT Bisa Net Indonesia for four months, then transferred to PT Signet Pratama for nine months, and worked as a software developer until March 2005. William was allowed to work as the IT and Business Development Manager at PT Indocom Mediatama for almost two years because of his knowledge and experience. He came up with the concept for Tokopedia's online mall in 2007. Despite not coming from a family of entrepreneurs, William is adamant about growing this online mall company. When his father was diagnosed with cancer while he was growing his business, he did not return home because he was the only provider for the family and could not quit his career—The outcome of his labor which assisted in supporting his parents. One of the most extensive digital-based buying and selling businesses in Indonesia is Tokopedia.com. Since its formal start, PT Tokopedia has quickly expanded to become one of Indonesia's leading internet enterprises. Tokopedia enables any individual, small business, or brand to build and operate an online shop by implementing the online marketplace and mall business model. Since its debut through the end of 2015, everyone can utilize Tokopedia's essential services for free. Tokopedia offers a program to help micro, small, and medium businesses (MSMEs) and individuals expand their enterprises by marketing their products online. Tokopedia has a vision to "create a better Indonesia through the Internet." On August 17, 2009, Tokopedia.com's history was formally introduced to the public under the sponsorship of PT Tokopedia was established on February 6, 2009, by William Tanuwijaya and Leontinus Alpha Edison. PT Indonusa Dwitama provided seed funds to PT Tokopedia in 2009. Tokopedia then obtained more funding from international venture capitalists in the ensuing years, including East Ventures (2010), CyberAgent Ventures (2011), Netprice (2012), and SoftBank Ventures Korea (2013). Subsequently, in October 2014, Tokopedia became the first technology business in Southeast Asia to get an investment from Sequoia Capital and SoftBank Internet and Media Inc. for USD 100 million, or roughly Rp. 1.2 trillion (SIMI). Tokopedia reportedly obtained an investment of USD 147 million, or roughly Rp 1.9 trillion, in April 2016 (Finansialku, 2023). A safer and more convenient online shopping experience is made possible by Tokopedia, a corporation that provides access to the Internet to all individuals and business owners in Indonesia. Because a marketplace can only succeed by helping other people succeed, Tokopedia thinks that the marketplace is the most beautiful business model ever created. Characteristics and behaviors of digital transformational leadership of William Tanuwijaya It may be found that William Tanuwijaya's leadership traits and actions align with those described in the literature on digital transformational leadership.

The following remarks (Finansialku, 2023) show the leadership in Tokopedia. "I failed to start Tokopedia, two years of fundraising still failed, and trying to start a networking group also failed. Even finding staff failed," William said at the 2019 Transformation Festival held at the Dhanapala Building of the Ministry of Finance. However, he admits his defeat was a valuable experience as he experienced it at a young age. "I was lucky enough to have a business relatively young. You learn a lot from failure," he admits. Creating a business at 26 certainly requires courage and extra work, but it is always accompanied by energy and a fighting spirit. Therefore, as the leader of Tokopedia, William Tanuwijaya encourages the younger generation to be brave enough to try new things and face failures. Until now, Tokopedia is always striving to innovate and grow its business to achieve equality in the digital economy. As of September 2020, Tokopedia had over 9.2 million sellers and 90 million monthly active users. William then broke through, including having BTS as partners and brand ambassadors for the South Korean group. This effort was made because BTS has a positive outlook and a message in line with the spirit of Tokopedia. "Dream as high as the sky, for even you are still among the stars." With a big vision and dreams, William runs Tokopedia with many famous people as his inspiration. Including working with former Bank Indonesia Governor Agus Martowardojo as Tokopedia Commissioner on May 24, 2018. "Wisdom is important to Tokopedia, and I also needed the anti-ego character Pak Agus," said William of Bisnis.com. Looking back on the history of founders like Jack Ma and Steve Jobs, William Tanuwijaya concluded that a leader is not the most influential person running a business. William says, "In the case of Uber, the founders were so cultured that the business seemed to have grown beyond their reach, and they were still revered so that they could not build on their success. It was not the mission that was guarded; it was the power," he spoke. Therefore, William tries to build Tokopedia, making it a company with a vision and a mission rather than an institution that relies on leaders. He does not want to be like Steve Jobs so "should be replaced" William Tanuwijaya is not a conservative leader but still values the experience of leading great people, William Tanuwijaya can be said to have a millennial style leader who makes Tokopedia shine (Rofiyandi, 2022).

## **CONCLUSION**

We live in a digital age. Individuals and organizations want leaders who comprehend the influence of digital technology on the company and community, adapt to change, and unite individuals in addressing the present problems. To remain competitive in the digital world, digital leaders must be transformational leaders who motivate and inspire others to achieve exceptional results. Many research findings from the past indicate that digital transformational leadership influences organizational innovativeness and performance and corporate success in various industries and contexts. Using a phenomenological approach, this study examined the digital transformational leadership abilities of William Tanuwijaya, founder of Tokopedia, Indonesia's most prominent e-commerce start-up in the digital era. It is evident from the analysis of William Tanuwijaya's leadership style that he exhibits the traits and behaviors of digital transformational leadership. Understanding the attributes and actions of digital transformational leadership is essential for leaders to attain improved performance and become inspirational. Digital transformational leaders are essential to the societal and digital transformation of organizations and the environment. Thus, it is proposed that leaders in the digital era should be familiar with digital transformational leadership and employ its characteristics in their daily activities.

In order to effectively drive change for companies during times of crisis, like the one brought in by Covid-19 and Industry Revolution 4.0, and allow them to recover and continue

to function financially and sustainably, this essay finds that a. mix of digital transformational leadership and digitalization is essential; b. The characteristics of digital leadership are not enough to make progress or innovation in a company to solve a problem; c. proper implementation is needed for digitalization to occur and the creation of a merger between digital leadership and digitalization; d. Real case studies such as ZOOM Meetings, Gojek, and QRIS result from digital transformational leadership and digitalization, which ultimately help the company's internal, external, and business aspects, e. The leader implements the characteristics of digital transformational leadership; the digitalization strategy will be created; f. Digitalization will continue to grow along with the times, so the digitization process must always be included in every company strategy; g. Leaders that lead from the future realize that the digital world leads the world.

# **Implications**

Based on the research results, it can be concluded that every leader has a style for solving every threat, challenge, and obstacle, as well as distractions that can curb acceleration in achieving the organization's vision and mission. Digital transformational leadership is expected to bring change to the organization. The readiness of all members and leaders is shown to be open to any policies that lead to digital transformation, learning and adapting to technological advances, and balancing organizational needs that are effective and efficient in managing administrative systems and public services. Changes in the mindset that grow and develop according to organizational needs result from the efforts of educators and educational staff to carry out the process of self-transformation. To become a change agent, readiness must start with oneself as an effort to change, share, and collaborate to create a professional work climate. Digital transformational leadership transforms organizational capabilities, digitization, and innovation. Leaders need to support the development of a business environment that shifts from an economics of product value to a business model based on digital and knowledge.

This essay looks at the relationship between digital transformational leadership and the digital age we live in now. To gain a deeper understanding of the connection between digital transformational leadership and business success in the digital era, it is recommended to conduct additional research focusing on the relationship between digital transformational leadership, job satisfaction, and business performance at Tokopedia. To strengthen the results, further research about digital transformational leadership contributes to supporting innovative digital governance through citizen and community involvement and decentralized monitoring of service delivery.

#### REFERENCES

- Ahyat, M., Sahar, S., Afriwan, O., Saniah, E. Y., & Saputra, A. M. (2022). Digital transformational leadership a village head on organizational citizenship behavior through work climate and job satisfaction village officials in Lombok Island. *Jurnal Manajemen Industri dan Logistik*, 6(2), 242–255. <a href="http://dx.doi.org/10.30988/jmil.v6i2.1047">http://dx.doi.org/10.30988/jmil.v6i2.1047</a>
- AlNuaimi, B. K., Singh, S. K., Ren, S., Budhwar, P., & Vorobyev, D. (2022). Mastering digital transformation: The nexus between leadership, agility, and digital strategy. *Journal of Business Research*, 145, 636–648. <a href="https://doi.org/10.1016/j.jbusres.2022.03.038">https://doi.org/10.1016/j.jbusres.2022.03.038</a>

- Antonopoulou, H., Halkiopoulos, C., Barlou, O., & Beligiannis, G. N. (2021). Transformational leadership and digital skills in higher education institutes: During the COVID-19 pandemic. *Emerging Science Journal*, 5(1), 1–15. <a href="https://doi.org/10.28991/esj-2021-01252">https://doi.org/10.28991/esj-2021-01252</a>
- Ardi., Bernarto, I., Berlianto, M., & Nanda, K. (2022). Empowering knowledge-based interaction in the digital startup. *International Journal of Data and Network Science*, 6(4), 1273–1286. <a href="https://doi.org/10.5267/j.ijdns.2022.6.007">https://doi.org/10.5267/j.ijdns.2022.6.007</a>
- Ardi., Djati, S. P., Bernarto, I., Sudibjo, N., Yulianeu, A., Nanda, H. A., & Nanda, K. A. (2020). The relationship between digital transformational leadership styles and knowledge-based empowering interaction for increasing organizational innovativeness. *International Journal of Innovation, Creativity, and Change, 11*(3), 259–277. <a href="https://www.ijicc.net/images/vol11iss3/11322">https://www.ijicc.net/images/vol11iss3/11322</a> Ardi 2020 E R.pdf
- Atapattu, M., & Ranawake, G. (2017). Transformational and transactional leadership behaviours and their effect on knowledge workers' propensity for knowledge management processes. *Journal of Information dan Knowledge Management*, 16(03), 1750026. https://doi.org/10.1142/S0219649217500265
- Bach, C., & Sulíková, R. (2021). Leadership in the context of a new world: Digital leadership and industry 4.0. *Managing global transitions*, 19(3), 209–226. <a href="https://doi.org/10.26493/1854-6935.19.209-226">https://doi.org/10.26493/1854-6935.19.209-226</a>
- Berkovich, I., & Hassan, T. (2023). Principals' digital transformational leadership, teachers' commitment, and school effectiveness. *Education Inquiry*, 1–18. <a href="https://doi.org/10.1080/20004508.2023.2173705">https://doi.org/10.1080/20004508.2023.2173705</a>
- Cahyarini, F. D. (2021). Implementasi digital leadership dalam pengembangan kompetensi digital pada pelayanan publik. *Jurnal Studi Komunikasi dan Media*, 25(1), 47–60. https://doi.org/10.31445/jskm.2021.3780
- Chen, L., Zheng, W., Yang, B., & Bai, S. (2016). Transformational leadership, social capital, and organizational innovation. *Leadership dan Organization Development Journal*, 37(7), 843–859. https://doi.org/10.1108/LODJ-07-2015-0157
- Dema, H., Hamid, H., & Barisan, B. (2023). Transformational leadership in supporting innovative digital governance. *Jurnal Studi Pemerintahan*, 14(1). <a href="https://doi.org/10.18196/jgp.v14i1.13528">https://doi.org/10.18196/jgp.v14i1.13528</a>
- du Toit, J. A. (2022). Digital transformational leadership in open distance learning: Understanding progressive transparency. *UnisaRxiv*. https://doi.org/10.25159/UnisaRxiv/000045.v1
- Durmaz, O., Hawrami, S. S., & Hamasaeed, A. M. (2022). The suitable leadership for Industry 4.0. *Journal of Global Economics and Business*, 3(8), 113–124. <a href="https://doi.org/10.31039/jgeb.v3i8.43">https://doi.org/10.31039/jgeb.v3i8.43</a>
- Ehlers, U. D. (2020). Digital leadership in higher education. *Journal of Higher Education Policy and Leadership Studies*, 1(3), 6–14. https://doi.org/10.29252/johepal.1.3.6
- Hujala, E. (2013). Contextually defined leadership. In *Researching leadership in early childhood education* (pp. 47–60). Tampere University Press.

- Finansialku (2023, July 26). Kisah sukses William Tanuwijaya pendiri Tokopedia. <a href="https://www.finansialku.com/kisah-sukses-william-tanuwijaya-pendiri-tokopedia/">https://www.finansialku.com/kisah-sukses-william-tanuwijaya-pendiri-tokopedia/</a>
- Ly, B. (2023). The interplay of digital transformational leadership, organizational agility, and digital transformation. *Journal of the Knowledge Economy*, 1–20. <a href="https://doi.org/10.1007/s13132-023-01377-8">https://doi.org/10.1007/s13132-023-01377-8</a>
- Junaidah., Giatman., & Maksum, H. (2022). Kepemimpinan, tranformasi digital dan mindset dalam meningkatkan mutu pendidikan. *ZONAsi: Jurnal Sistem Informasi*, *4*, 80–89. <a href="https://doi.org/10.31849/zn.v4i.12642">https://doi.org/10.31849/zn.v4i.12642</a>
- McCarthy, P., Sammon, D., & Alhassan, I. (2021). Digital transformation leadership characteristics: A literature analysis. *Journal of Decision Systems*, 32(1), 1–31. https://doi.org/10.1080/12460125.2021.1908934
- Mihardjo, L. W. W., Sasmoko., Alamsjah, F., & Elidjen. (2019). Digital leadership role in developing business model innovation and customer experience orientation in Industry 4.0. *Management Science Letters*, 9(11), 1749–1762. <a href="https://doi.org/10.5267/j.msl.2019.6.015">https://doi.org/10.5267/j.msl.2019.6.015</a>
- Oberer, B., & Erkollar, A. (2018). Leadership 4.0: Digital leaders in the age of industry 4.0. *International Journal of Organizational Leadership*, 7(4), 404–412. <a href="https://doi.org/10.33844/ijol.2018.60332">https://doi.org/10.33844/ijol.2018.60332</a>
- Rofiyandi, Y. M. (2022, June 18). *William Tanuwijaya, kisah pendiri Tokopedia di jajaran orang terkaya*. Katadata.co.id. <a href="https://katadata.co.id/redaksi/ekonopedia/62ac8f53e3ca7/william-tanuwijaya-kisah-pendiri-tokopedia-di-jajaran-orang-terkaya">https://katadata.co.id/redaksi/ekonopedia/62ac8f53e3ca7/william-tanuwijaya-kisah-pendiri-tokopedia-di-jajaran-orang-terkaya</a>
- Asri, A. A. S. M. A. N., & Darma, G. S. (2020). Revealing the digital leadership spurs in 4.0 industrial revolution. *International Journal of Business, Economics & Management,* 3(1), 93–100. <a href="https://doi.org/10.31295/ijbem.v3n1.135">https://doi.org/10.31295/ijbem.v3n1.135</a>
- Sasmoko, S., Mihardjo, L. W. W., Alamsjah, F., & Elidjen, E. (2019). Dynamic capability: The effect of digital leadership on fostering innovation capability based on market orientation. *Management Science Letters*, 9(10), 1633–1644. <a href="https://doi.org/10.5267/j.msl.2019.5.024">https://doi.org/10.5267/j.msl.2019.5.024</a>
- Sunaryo, W., Yusnita, N., Herfina, H., Wulandari, D., & Suhendra, S. (2023). The effects of digital transformational leadership, work environment and motivation on reinforcing job satisfaction: Evidence from vocational schools. *International Journal of Data and Network Science*, 7(2), 883–890. https://doi.org/10.5267/j.ijdns.2022.12.023
- Susanti., & Ardi. (2022). The effect of digital transformational leadership, creative self-efficacy on innovative behaviour mediated by perceived organizational support. *JIIP-Jurnal Ilmiah Ilmu Pendidikan*, 5(8), 3111–3120. https://doi.org/10.54371/jiip.v5i8.802
- Swift, M., Lange, D., Pike, J., dan Donald, L. (2018). Leaders for the digital age, the role leaders play in achieving digital sustainability. Korn Ferry Institute.
- European Commission, Directorate-General for Communications Networks, Content and Technology (2020). European enterprise survey on the use of technologies based on artificial intelligence: Final report. Publications Office of the European Union. https://data.europa.eu/doi/10.2759/759368

Winasis, S., Djumarno, D., Riyanto, S., & Ariyanto, E. (2021). The effect of transformational leadership climate on team member engagement during digital transformation in the Indonesian banking industry. *International Journal of Data and Network Science*, *5*(2), 91–96. <a href="https://doi.org/10.5267/j.ijdns.2021.3.001">https://doi.org/10.5267/j.ijdns.2021.3.001</a>

Yücebalkan, B., Eryılmaz, B., Özlü, K., Keskin, Y. B., & Yücetürk, C. (2018). Digital leadership in the context of digitalization and digital transformations. *Current academic Studies in Social Science*, *1*, 489–505.