

DIGITAL LEADERSHIP: A SYSTEMATIC CONCEPTUAL LITERATURE REVIEW

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ABSTRACT

Digital Leadership is a leadership style that focuses on implementing digital transformation within an organization. It enables enterprises to digitize their work environments and learning cultures. As such, it is a critical component of the literature for maintaining the competitiveness and survival of organizations in the twenty-first century. By reviewing secondary sources, a conceptual framework for digital leadership was developed; the value of digital leadership was discussed and studies on the qualities of digital leaders were described. The following questions were posed: "What is digital leadership?" "What are the attributes of a digital leader?" and "How important is a digital leader?" As a result of this research, a digital leader is defined as a leader who has innovative ideas on a digital level, motivates his employees in a digital environment, is capable of establishing sustainable communication with his employees in a digital environment and developing digital strategies.

Keywords: Leader, Leadership, Digital Leader, Digital Leadership, Digital Transformation.

DİJİTAL LİDERLİK: SİSTEMATİK KAVRAMSAL LİTERATÜR TARAMASI

ÖZ

Dijital Liderlik, örgüt içindeki dijital dönüşümü gerçekleştiren, örgütlerin iş ortamını ve öğrenme kültürlerini dijitalleştirebilen liderlik modelidir. Bu nedenle, literatürde 21. yüzyılda örgütlerin rekabet edebilirliğini ve hayatta kalmasını sağlamada önemli bir unsur temsil etmektedir. Yapılan araştırmada ikincil kaynaklardan değerlendirilerek dijital liderlikle ilgili kavramsal bir çerçeve oluşturulmuş, dijital liderliğin önemi, dijital liderlerin özelliklerine yönelik yapılan çalışmalar özetlenmiştir. Araştırma, "Dijital Liderlik nedir?", "Bir lideri dijital lider yapan özellikler nelerdir?" ve "Dijital liderin önemi nedir" sorularına yanıt aramıştır. Araştırmanın sonucunda dijital lider, dijital zeminde yenilikçi fikirlere sahip, çalışanlarını dijital ortamda motive eden, çalışanlarıyla dijital ortamda dahi sürdürülebilir iletişim kurabilen, dijital stratejiler geliştirebilme yeteneğine sahip lider olarak tanımlanmıştır.

Anahtar Kelimeler: Lider, Liderlik, Dijital Lider, Dijital Liderlik, Dijital Dönüşüm.

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INTRODUCTION

Businesses are beginning to adapt their transactions to the digital world as a result of the rapid advancement of technology. They continue to engage with clients via websites and to boost output through the use of smart technology and systems (e.g., AI). The fact that the businesses that facilitate these transactions have benefited over time has permitted the formation of digitalization targets for other firms in the same industry and the emergence of digitalization competition between enterprises. Competition between enterprises has spread to the market over time, resulting in market changes. The objective of digital transformation is continual optimization as a firm that is capable of sensing and responding rapidly to market developments. This type of transition does not occur by chance and is extremely rare to occur organically (Maryanne, 2018: 66). Businesses have been digitalized, which has resulted in the digitization of leaders and the emergence of the notion of digital leadership. Due to the rarity of spontaneous digital transformation, digital leaders are required who can plan and execute systematic activities toward the goal of digitalization, empower their employees to act in accordance with this goal, adapt to changes, and design strategies that balance technology and human factors. Due to the necessity of adopting disruptive technology to boost productivity, value creation, and social welfare, digital transformation can be helped by the characteristics of digital leaders (Ebert, 2018). To adopt disruptive technology, a corporation may need to establish a sustainable digital learning culture. Digital leaders are those that prioritize the methodical growth of a digital learning culture throughout the company. There are numerous reasons why digital transformation projects fail; one such cause is that critical components of change management are overlooked in respect to employees and customers who must alter their work and interaction with the business (Correani, 2020). As a result of its digital knowledge and experience, digital leadership can help lower the likelihood of failure in digital transformation projects. The continuing development of smart technology in the workplace, which results in more digital workplaces, presents certain issues in terms of managing and addressing these new business settings (Haddud, 2018). The concept of the digital leader is intended to address these issues. The complexity and uncertainty, exacerbated in part by the growing pace of globalization and technological change, necessitate the development of human resources equipped with the skills necessary to assist enterprises in overcoming the obstacles inherent in digital transformation (Sousa, 2019: 328). Businesses require leaders with digital competencies to ensure that skilled staff are able to adapt to the digital world. This establishes a clear separation between process automation and optimization, as digital transformation methods extend beyond the process paradigm, affecting goods, services, and business models as a whole (Matt, 2015). These change processes have intensified in recent years, most notably with the Covid19 pandemic (Yıkılmaz, 2021a). The ability to redesign businesses digitally is largely driven by a clear digital strategy that is supported by executives that promote an

adaptable and innovative culture (Kane, 2015). Additionally, leaders are expected to be competent at addressing and overcoming the obstacles inherent with digital leadership (Van Wart, 2017). Thus, the digital transformation process requires a leader capable of defining and managing a radical change strategy, rather than simply digitizing business processes and transactions or integrating new digital technologies into the organizational context (Yıkılmaz and Sürücü, 2021). Additionally, to overcome the challenges associated with digital transformation, leaders must develop a blend of digital and human skills, primarily the ability to communicate effectively in a digitized environment, foster cooperation among geographically dispersed followers, encourage initiative, and shift attitudes (Cortelazzo, 2019). Digital leaders assist businesses in achieving digital transformation by establishing a vision and empowering employees to carry it out, motivating employees, valuing their ideas and ensuring that employees have a voice in decision-making, and designing and implementing versatile and flexible policies in response to the rapid advancement of technology. In this context, the paper discusses the notion of digital leadership and intends to explore it in detail, owing to the critical role they play in the digital transformation process and their decisive contribution to the efficacy of the digital era. The paper outlined the notion of digital leadership within the context of existing literature and discussed its key characteristics. The study is considered to make significant contributions to the literature by presenting studies on the concept of digital leadership and increasing awareness of the impact of the leader element in an organization on success in the context of digital transformation and future organizational management approaches.

LITERATURE REVIEW

Systematic content analysis

The systematic content analysis of the literature review was used as the research approach in this study. It is a systematic, quantitative, and qualitative strategy for doing a literature review that may be used in both domains (Wilding, Wagner, Seuring & Gold, 2012). The quality and quantity of research on the concept of digital leadership, which originated in the digital age and might be regarded a requirement, is highly debated in the literature. To aid future study, a rigorous conceptual review of the literature on Digital Leadership was done. As a result, this study, "What is Digital Leadership?" was done to address the following questions: "What traits define a leader as a digital leader?" and "What is the digital leader's significance?" To assure data quality, the emphasis is on studies published in peer-reviewed academic journals. The majority of the review was conducted using publications from the Scopus and Web of Science databases. Scopus was used to eliminate unscientific and unscientific literature from Web of Science datasets. Apart from the Scopus and Web of Science databases, a Google Scholar search was undertaken to uncover relevant supplementary papers. Five keywords were chosen from the specified databases based on the literature. Due to the association of leadership with the digital component, combinations of the phrases "digital", "digital age", and "digital

transformation" were produced under the label "Leadership". Regardless of the combination, a literature search using the keywords "Digital Leadership", "Leader 4.0", "e-leader", and "Digital Leader" was undertaken. Following the scanning, it was found that twenty studies were appropriate for the investigation. The definitions of digital leadership in the literature have not reached a point of unification. It has been discovered that the Digital Leader is defined by some writers as accomplishing a goal connected to information communication technology, leading the digital transformation phase, and demonstrating a leadership style appropriate for digital surroundings. As a result, digital leadership has been referred to in the management literature as e-leadership (Phillip, 2021). In terms of publication year, the first contribution on digital leadership dates all the way back to 2002. The papers identified reflect an increase in the number of studies on Digital Leadership in the literature. The majority of publications identified were published in 2016, which corresponds to current research showing their significance. The analysis of the literature reveals a rising prevalence of the term "digital leadership" in scholarly publications (Kokot, 2021). The following section of the study will address the notion of digital leadership, its significance and qualities, as well as the research findings.

Digital leadership concept

Leadership is described as the capacity to guide a firm toward achieving its objectives and establishing a sustained competitive advantage. To maintain a sustainable competitive advantage, firms must have technical products and systems that speed and enable production, communication, and cost reduction, as well as the ability to use these products and systems optimally (Uğural et al., 2020). In summary, firms must embrace digitization. To achieve sustainable, effective, and efficient digitalization, a solid digitalization plan requires leaders who can guide employees toward digitalization. The concept of a digital leader has become critical in determining an organization's ability to fulfill its digitalization goal. Due to the fact that this notion is frequently used interchangeably with the concept of e-leadership, the concept's first appearance can be attributed to an essay authored by Avolio (2000). However, Peter Fisk (2002) pioneered the idea of "digital leadership" independent of e-leadership as the focus of thorough research. According to Fisk (2002), digital leaders are visionary, motivators of change, capable of combining ideas within the business for projects, and establishing connections through the creation of new opportunities for partnerships/joint ventures/outsourcing and other forms of collaboration (Fisk, 2002). The Upper Echelons Theory serves as the foundation for the concept of digital leadership. According to this idea, managerial background characteristics make organizational results (strategic choices and performance levels) more predictable. (Hambrick and Mason, 1984). As a result, it is claimed that organizations led by individuals that exhibit the attributes necessary for digital leadership are likewise digital. According to the definitions of Digital Leadership, Avolio's (2000) research on e-leadership is regarded as the "Concept of Digital Leadership." According to Avolio, digital leadership is a "process of social transformation in which advanced information technology mediates in order to affect individuals, groups,

and/or organizations' manners, attitudes, emotions, thoughts, and behaviors." Fisk (2002) discusses the relationship between digital leadership and transformative leadership in his paper. According to Fisk (2002), a digital leader is imaginative, pushing for change, capable of uniting the organization's ideas and objectives, and capable of connecting firms through partnerships/joint ventures/outsourcing and creating new opportunities for them (Fisk, 2002). Wilson III (2004), on the other hand, asserts that the digital leader is defined by their leadership in the fundamental sectors of the information society (information processing, communication and broadcasting, publication, and multimedia) and their contributions to the information society's transition. The leadership established Duan (2005) defines the fundamental fields of information technology (internet service providers, internet content providers, internet application providers and the other technology based areas such as the data processing, communication and the content). Kurubacak (2006)'s perspective on digital leadership is centered on the role that digital leadership can play in social activism, and he defines digital youth leadership as "vigorously preserving the power partnerships necessary for their purposes, respecting democratic practices that include citizens, appearing consistent in order for their policies to be represented, and playing autonomous roles for the purposes of their own online interactions." Borins (2010) examined digital leadership from a political perspective, examining former US President Obama's actions in the virtual world, and concluding that a digital leader is a composite of channel selection (Virtual World), IT procurement, and organizational integration of ITs. Sheninger (2014) discussed the digital leadership style that must be used in education, stating that digital leadership is "capable of determining the direction, influencing others, and initiating sustainable change through information gathering and networking in order to anticipate the necessary changes for the school's future success." Altınay (2016) defined digital leadership in his research as the capacity to follow current technology in order to reconstruct knowledge according to its fundamentals. While Van Wart (2016) stated that digital leadership is synonymous with e-leadership and that it is the ability to effectively select and use information communication technologies to accomplish personal and organizational goals, Narbona (2016) defined digital leadership as a leadership style used with digital means in the virtual world in his research on Pope Francis social media actions. According to Larjovuori (2016), digital leadership is the capacity to identify and develop the skills and talents necessary to engage all people of the business in the digitization process. According to Omar A. El Sawy (2016), who conducted research on the LEGO Company's digital transformation, digital leadership involves "demonstrating the appropriate behaviors for businesses and business ecosystems to strategically digitalize." According to Zhong (2017), digital leadership is about leading and inspiring digital transformation, establishing and maintaining a digital learning culture, facilitating and improving professional growth based on technology, as well as providing and maintaining a digital organization. Oberer ve Erkollar (2018) conducted an analysis of the traits that leaders should possess throughout the Industry 4.0 era and concluded that digital leaders are those that are agile, cross-hierarchical, team-oriented, and embrace a collaborative approach

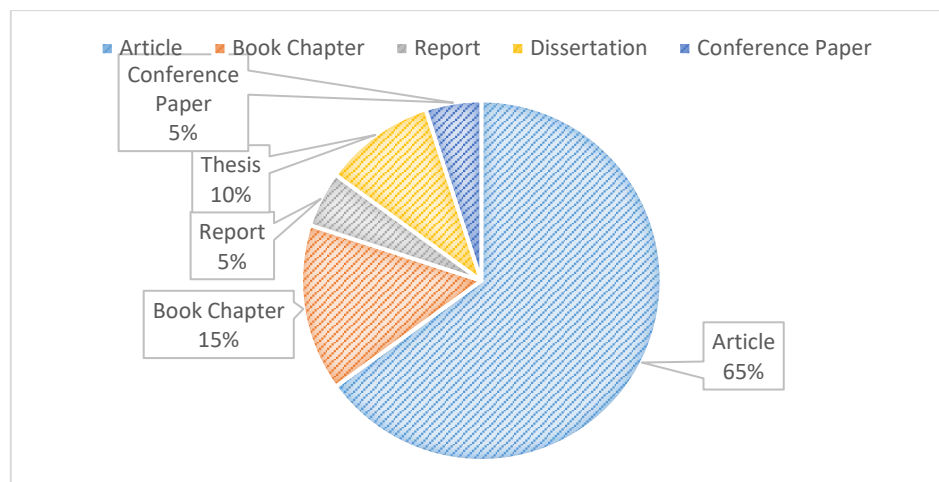
with a strong emphasis on innovation. Tanniru (2018) defined digital leadership as a process that requires an agile IT and business architecture in order to bring ideas to life rapidly, hence improving and sustaining an innovation culture. According to Stana (2018), digital leadership is a social influence process facilitated by technology that can occur at any organizational level and is intended to affect an individual's, group's, or organization's attitude, emotion, thinking, behavior, and performance. Despite widespread belief/majority, Mihardjo (2019) believes that digital leadership is a product of digital culture and skill. According to Antonopoulou (2019), digital leadership entails achieving a goal related to information communication technologies while balancing human resource and information communication technology utilization. Schiuma (2021) examined the capabilities that leaders should possess when it comes to digital know-how in the present digital age. Finally, Peng (2021) states that individuals or organizations in the age of digital technology can fully transform teams, entire organizations, and employees into digital thinkers by leveraging digital insight, digital decision making, digital implementation, and digital guidance to ensure that their goals are met. He characterized digital leadership as "the capacity to influence people to literally embrace it."

Table 1: Digital leadership concept literature review

Author	Year	Type	Definition	Keywords	Variables
Avolio	2000	Research Paper	Stage of social change mediated by Advanced Information Technology to produce a change in attitude, emotion, thought, behavior and/or performance with individuals, groups and/or organizations	e-leadership, information technology.	Information Technology, Social Change
Fisk	2002	Research Paper	Visionary, motivating for transformation, ability to combine ideas within the organization for initiatives, ability to connect partnerships/joint ventures/outourcing and all collaborations by creating new possibilities	Digital Transformation,	Vision, Transformation, Connection, Unity
Wilson III	2004	Book Chapter	Leadership in the basic sectors of the Information Society and its contributions to the transition to the information society.	Transformational Leadership,	Information Society, Leadership
Duan	2005	Thesis	Leadership in key sectors of information technology (internet service providers, internet content providers, internet application providers and other technology-based areas such as computing, communications and content).	Digital Leadership,	Information Society, Leadership

Kurubacak	2006	Research Paper	Maintaining strong partnerships of power sufficient for their purpose, respecting civic democratic practices, ensuring that their policies are ostensibly consistent so that they can be represented and playing independent roles for the purposes of their own online interactions, interacting with multicultural unions and engaging with various inquiries into the complex nature of digital youth leaderships It is a form of leadership that has the task of representing the diversity of its ideologies.	Information society,	Online interaction
Borrins	2010	Book Chapter	A leadership style with a mix of channel (Virtual World) selection, IT (Information Technology) procurement and organizational integration of ITs	Leadership	Information Technologies, Virtual World, Integration
Sheninger	2014	Research Report	Being able to establish relationships to set direction, influence others, and initiate sustainable change through access to information and to anticipate changes necessary for future school success.		Sustainable Change, School Success
Altnay	2016	Research Paper	Managers defined the digital leader as organizers who follow modern technology to reconstruct knowledge.	China, Leadership,	Information, Modern Technology
Van Wart	2016	Research Paper	Ability to effectively select and use Information Communication Technologies to achieve personal and corporate goals	Information Technology, Information Technology Leadership	Information Technologies, Goals
Narbona	2016	Research Paper	Leadership style applied with digital tools in the virtual world	Digital Youth Leadership, Politics, Social Media, Social Activism,	Digital Tools, Virtual World, Leadership
Larjovuori	2016	Conference Paper	The ability to involve all members of the organization in the digitization process and to recognize and develop the skills and abilities needed to achieve it	Online interaction	Digitization, organization,
El Sawy	2016	Research Paper	To exhibit the right behaviors in order to ensure the digitalization of the business and business ecosystem strategically	Information Technologies, Social Media, Politics, Digital Leadership	Right Behaviors, digitalization

Zhong	2017	Research Paper	Inspiring and leading its digital transformation, creating and maintaining a digital learning culture, supporting and developing technology-based professional development, providing and maintaining digital organization management	Digital Leadership, Sustainable Change, School Success, Education	Digital Transformation, management
Oberer, Erkollar	2018	Research Paper	A fast, cross-hierarchical, team-oriented and collaborative approach with a strong focus on innovation	Digital management,	Innovation, team-oriented, speed
Tanniru	2018	Book Chapter	A process necessary to develop and maintain a culture of innovation by rapidly bringing ideas to life using an agile Information Technology and business architecture	Knowledge construction	Innovation, business architecture, Information Technology
Stana	2018	Conference Paper	A process of social influence mediated by technology that can occur at any hierarchical level in an organization and to bring about a change in attitude, emotion, thought, behavior and/or performance in individuals, groups and/or organizations	Leadership,	Technology, Social Impact
Mihardjo	2019	Research Paper	A combination between digital culture and digital competence	Technology-assisted learning	Digital Culture, Digital Competence
Antonopoulou	2019	Research Paper	To reach a goal related to Information Communication Technologies in line with the use of human resources and Information Communication Technologies	E-leadership, ICT adoption, Government ICTs	Information Communication Technologies
Schiama	2021	Research Paper	Competence that leaders need to develop in today's digital age	Digital Leadership, Pope Francis, Transcendent Leadership, Twitter	Digital Age, Competence
Peng	2021	Research Paper	In the age of digital technology, individuals or organizations have the ability to guide teams, entire organizations, employees to fully embrace digital thinking, using digital insight, digital decision making, digital implementation and digital guidance to ensure their goals are met.	Digital Leadership, Digitization, Organization, Digital Competence, Employee Welfare	Digital Thinking

Chart 1: Distribution of studies by types

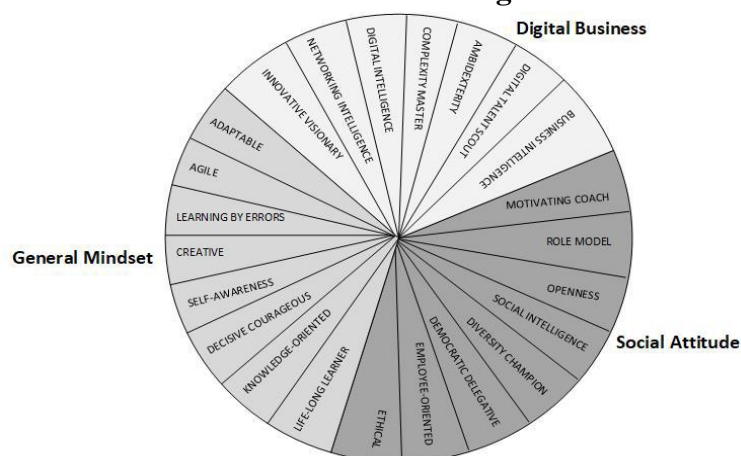
The majority of studies (65%) are articles, 15% are book chapters, 10% are papers, and the remainder are reports and theses. According to the literature, digital leadership is a leadership style exemplified by individuals who have innovative ideas in the digital environment, motivate their employees in the digital environment, communicate with their employees in a sustainable manner even in the digital environment, and are capable of developing digital strategies. If we are to classify the research in the literature, we can state that the notion is defined for two distinct purposes. These include the leadership style necessary for achieving information and communication technology-related objectives (Avolio, 2000; Altınay, 2016; Van Mart, 2016; Antonopoulou, 2019), digital transformation, and leadership in the digital world (Duan, 2005; Kurubacak, 2006; Sheninger, 2014; Omar A. El Sawy, 2016; Narbona, 2016; Zhong, 2017; Oberer and Erkollar, 2018; Stana, 2018; Schiuma, 2021; Mihardjo, 2019; Peng, 2021). We can assert that since the Industry 4.0 era, the research in the literature have altered the definitions of digital leadership. Since the Industrial Revolution 4.0, the concept of digital leadership has been included into the literature as a means of achieving leadership in the digital realm and facilitating further digital transformation.

Importance and characteristics of digital leaders

Digitization has become an unavoidable fact of life for businesses. Digitization has been a goal for organizations due to the benefits it delivers in terms of increased communication and document preservation. Subsequently, digital transformation was defined as more than the use of computers or the Internet in various business functions; it encompassed the incorporation of new digital technologies such as social media, artificial intelligence, and big data into business processes, as well as the subsequent development of new business models (Klein, 2020). Many businesses now are strapped for cash and must be extremely selective about the technologies they finance, adopting New Information Technologies in ways that align with their business and strategic objectives, including sales and marketing initiatives (Andal Ancion, 2003: 34). Organizations that are unable to innovate in order to thrive and compete will face a larger

risk of failing (Prakasa, 2020). Leaders should understand that the transformation brought about by technology has the potential to significantly boost productivity and provide a competitive edge (Lokam, 2015). The critical lesson here is that we must view digital transformation as a thorough process of organizational culture change (Ehlers, 2020). Leaders who do not use internal digital platforms to communicate effectively across their organizations miss out on major potential to improve corporate culture and organizational performance (Cardon, 2019).

Chart 2: Characteristics of digital leaders



Source: Klein, M. (2020). Leadership Characteristics in the Era of Digital Transformation. *Business & Management Studies: An International Journal (BMIJ)*, 8(1), 883–902, 895.

The leader will increasingly act as an online influencer and integrator of virtual identities that are aligned around their own ideals and objectives (Dimitrov, 2018). Digital leadership has been demonstrated to have a bigger impact on digital disruption than innovation management (Wasono, 2018). The sustainable competitive advantage afforded by technology and digitalization enables businesses to create a digitalization objective and guides organizations in determining how to accomplish this goal. Several of the problems raised in the subject of directing digital transformation and developing strategies resulted in research on what leaders should do to facilitate an organization's digital transition and what characteristics they should have. In firms that have completed their digital transformation, the strategies that must be designed for digital environments have driven employees to seek answers to questions about digital environment orientation (Sağbaşı, 2021). It has raised the question of how the leaders charged with these responsibilities should tackle the situation. According to a study, responsive leadership, community leadership, learning and innovative leadership, open leadership, agile leadership, participatory leadership, network leadership, trust leadership, digital leadership, and collaborative leadership are all examples of leadership in the Industry 4.0 era (Guzman, 2020). The reason for the rising interest in digital leadership during the Industry 4.0 period is that companies and academics are gradually noticing the changes and benefits brought about by digitalization and digital environments for institutions.

Bennis (2013) asserts that digital technologies have altered the nature of leadership and management.

Leaders in the digital era might come from any level of the company (Gudergan, 2021). The digital leader's important variables are agility, participation, trust, networking, and openness (Petry, 2018). The digital leadership process leverages four critical platforms to facilitate business transformations (Tanniru, 2018):

- An innovation platform that encourages teams to discover value-creating ideas through digital transformations;
- An agile system and business platform for rapidly designing and delivering IT applications;
- A learning platform that fosters reflective discourse and organizational capacity building;
- They serve as an adoption platform for determining when and how to implement digital transformations.

Digital leadership is founded on the systematic interaction and interdependence of three functional areas (strategic leadership, entrepreneurialism, and digital technology) (Temelkova, 2018). Employee identification with the organization should be enabled or encouraged through digital leadership (Meier, 2017). It entails considering online self-awareness and harmony, navigating the debate surrounding cyber kindness, and figuring out how to be a digital citizen capable of inspiring positive social change (Ahlquist, 2014). Governance is the process of establishing a digital organization, including its vision, values, structure, culture, and decision-making procedures, as well as adjusting personnel management, virtual teams, knowledge management, and communication and cooperation on an individual basis (Eberl, 2021). Collaborating on digitalization projects involves coordination of the capabilities of senior management and the information technology department in order to clearly define roles and duties (Larjovuori, 2016). Digital leaders act on three levels: they encourage members of the organization to consolidate knowledge gained through their individual activities, they consolidate and share knowledge within the team or group to foster deeper understanding, they mediate knowledge between members of the organization or groups, and they bring outside knowledge into the organization (Zupancic, 2016). Digital leaders are responsible for maintaining effective communication with employees, the executive team, and the information technology team inside the business, as well as coordinating across these three groups in order to realize digitalization or digital applications. Digital leaders must be transparent, unbiased, and sympathetic in order to facilitate communication between these three groups and to resolve inter-unit issues. Additionally, the digital leader's expertise of business, digital literacy, and management science will enhance the success

of the open, unbiased, and empathic policies and behaviors that the digital leader is expected to exhibit.

The organizational changes required for digital leadership and digital business strategy have necessitated a reassessment of the corporate information technology function and the position of the chief information officer (El Sawy, 2016). CIOs, it has been found, require digital leaders to facilitate digital transformation. Boards that do not successfully design their digital futures and control, guide, and manage strategy, investment, and business technology risks face an uncertain future (Valentine, 2015). To design a digital workplace, CIOs must convince their organizations to appoint a digital workplace or employee experience leader, define customer and employee experience, and design the digital workplace, based on customer and employee experience and led by an evidence-based approach to employee experience management. They must establish a distinction between systems that enhance employee experience and employee well-being (Dery, 2017).

The availability of new digital technology results in the development of innovative digital solutions (Joas, 2020). Digital leadership is a subset of all information technology roles associated with high-level innovation (El Attoti, 2016). Given the interrelated nature of digital and IT capabilities, it is critical for digital leaders to collaborate and build effective collaborations that contribute to the success of Digital Transformation programs (Engesmo, 2020). Digital leaders champion an agile company environment, which enables quick innovation and increased customer satisfaction (Bolte, 2018). Personal competence of the leader, as well as the capacity to apply various methodologies and tools such as mindset and design-based thinking, are essential dimensions for digital leaders (Oberer, Erkollar, 2018). When innovation, difference, and transparency are permitted, technology progresses. Individuals who come into contact with innovations frequently lose interest in innovation. Due to a lack of information on innovation, their viewpoint on work may suffer. Employees have the potential to change their attitude toward a new digital system or element for the better, motivating them, which is why digital leaders are necessary. Digital leaders should be mature in their views toward employee errors in digital settings, report employee errors in a non-offensive manner, and instill in employees the belief that they can achieve competency in the digital environment by learning from their errors.

Digital advancements have not yet reached their full potential. Changes in digital worlds occur frequently and swiftly, necessitating that digital leaders adopt a reactionary position capable of quickly adapting to these changes. It is vital to evaluate what will happen when digital elements that are controlled and strategically provide a competitive edge over other organizations are no longer capable of providing that advantage, as well as how to adapt to a more advanced digital technology or system. Digital leaders must comprehend emerging and established technical trends and display leadership across the entire value chain (product process-people) (Bowen, 2021). Thus, the reason for the digital leader's

ongoing development of plans and strategies for digital transformation is that the elements, systems, that are strategically superior as a result of rapid technological progress lose their worth over time. On the other hand, the ability of a digital leader to accurately foresee future changes in the digital field differs according to his or her interaction with digitalization and digital systems. Leaders who lack digital expertise may struggle to comprehend why employees are having problems with a new digital system and to assist their staff.

The digital leader's goals and initiatives must be promptly implemented throughout the workplace. The effectiveness of plans and strategies is contingent upon effective communication with employees and accurate assessment of opportunities and capabilities. Through various methods (like as surveys and digital competency tests), digital leaders can elicit employees' thoughts on digital transformation and ensure that the digital strategy being developed is grounded in reality. To develop alternate plans and strategies, digital leaders must be able to think in several dimensions.

Digital leadership is defined by a leader's contribution to the transformation into a knowledge community and skill in technology (Shah, 2020). The objective of digital leaders can be defined as bringing digital transformation to life and allowing businesses to maximize their potential in the digital environment. Digital expertise and experience are critical to facilitating the achievement of these objectives. Digital knowledge and experience can assist you in determining the types of challenges you may encounter in the digital environment and the actions that should be demonstrated to overcome these challenges. The digital leader must possess a digital skill set, which is defined as the abilities required to comprehend digital technologies, to handle them effortlessly, and to employ them sensibly (Hensellek, 2020). Leaders must have a primarily digital vision and approach when it comes to digital transformation (McCarthy, 2021). The abilities and characteristics required for digital leadership are generally change-related and refer to managers' and organizations' transition and digital preparedness (Gfrerer, 2021). They have always guided the company in adapting to changing times, connecting people to open working ecosystems, balancing human and technological participation in work, thinking innovatively and holistically (Asri, 2020), promoting sharing through the use of digital resources (Westerman, 2014: 148), and communicating timely and openly (Asri, 2020). (Abbu, 2020). Digital leaders are able to adapt to changing technological, political, and sectoral requirements. They should be able to adapt their business to changing requirements as a result of external influences. Otherwise, organizations that have effectively adapted may find themselves falling behind in the sector's competition. Digital leaders possess digital literacy and knowledge, vision, the capacity to design customer-centric strategies, agility (the ability to adapt to changing market conditions), a willingness to take risks (creating an experimental environment), and the ability to collaborate (Promsri, 2019). Individuals who will lead digital transformation should be willing and skilled to learn new technologies, according to Kazım (2019). Willingness

and talent can help leaders stay on track in the face of disappointments. Employees might detect their boss' passion and motivation, which can serve to increase their own desire and motivation. It possesses a transformative vision, progressive viewpoints, digital literacy, and the capacity to produce change-oriented or adaptable behaviors and tactics (Kane, 2019). They should possess the following abilities: knowledge management, critical thinking, creativity, problem solving, cooperation, communication, technique, self-direction, lifelong learning, ethical awareness, cultural awareness, and adaptability (Van Ee, 2020). Leaders of digital transformation must cultivate critical thinking, create problem-based learning settings to improve people's thinking abilities and knowledge acquisition, and care for people's progress through personal and professional development programs and trust. They are not scared to assign them a difficult work that requires a sense of responsibility and a willingness to take risks (Schiuma, 2021). Digital leaders prioritize participative behaviors above authoritarian behaviors in order to demonstrate the organization's knowledge of digitalization. They make an effort to keep their staff engaged in the digital transformation process. What enables an organization to undergo such a transformation or shift is the vision and decision-making of its executives, who connect digitalization to a developing corporate need (Sainger, 2018). Digital leaders are continually developing forward-thinking goals and strategies to assure continuity in the digital realm or throughout digital transformation, and digital literacy, expertise, and experience are critical for achieving the goals and successfully implementing the strategies. Organizations rely on leaders who are informed about digital transformation projects and possess emotional intelligence to recognize when their capabilities in this area are restricted and delegate responsibility for these challenges to others (Sow, 2018). Leaders who are willing to empower other employees to accomplish the transformation objective and who are able to respond to setbacks with understanding and empathy will be able to avert employee demoralization and motivation in the digital world. Successful digital leaders of the future will possess great coaching abilities, enabling them to foster dynamic, empowering, and high-performance cultures (Brett, 2019: 32). Digital leaders are characterized by an inventive mindset, networking intelligence, adaptability, motivational coaching, digital intelligence, democratic compromise behaviors, and a capacity to learn from their failures (Klein, 2020). Digital leaders with vision, courage, inspiration, intellectual stimulation, passion, strategic thinking/planning, focus, collaboration, innovation, adaptability, communication, emotional intelligence, spiritual intelligence, responsibilities and accountability, technology, entrepreneurial, and adaptive ideas should be able to shape societies, solve problems, and think critically (Daud, 2021). According to the evaluations, digital leaders possess a specific amount of digital expertise and experience, a vision for businesses to achieve their digital goals, and the ability to adjust their ideas and policies to changing situations.

Due to the qualities of digital leadership, it can be compared to other leadership styles. Digital leadership practices are inextricably linked to emotional intelligence and leadership types such as transformational and transactional leadership (Aldawood, 2019).

It should be led by a visionary figure, have a digital-age learning culture, professional development, systematic improvement, and digital citizenship (Agustina, 2020). To overcome obstacles and seize opportunities, digital leaders must demonstrate a high level of entrepreneurial leadership success (Kazim, 2019). Maintaining service workers' effectiveness in a "virtual environment" demands leadership conduct that is "task and relationship-oriented" (Bartsch, 2020). More democratic leadership styles, more consistent manager behavior in pursuit of the firm's objective, and more effective strategic management processes all contribute to the growth of digital transformation processes (Porfrio, 2021).

CONCLUSION

Business processes and manufacturing methods have been disrupted, digital applications and alternative digital transformation stages have been rapidly adopted to address this scenario (Yıkılmaz, 2021a), and the benefits of digitalization have been the companies' top priority. The Covid-19 period has compelled enterprises to adopt remote working, distance/online education, and training, hence increasing the demand for leaders with power or dominance in the digital world. Throughout this epidemic, organizations favored leaders who established clear roles and objectives, shared leadership, communicated with employees, prioritized employee emotional well-being, protected company financial health, and promoted organizational resilience (Dirani, 2020). Absence of participation in internal digital channels represents a significant missed opportunity for executives to establish corporate legitimacy (Wang, 2019). Digital leaders, who are at the forefront of digitalization and digital sectors, guarantee that employees achieve digital goals while also positively impacting organizational performance. The widespread adoption of digital awareness by the majority of employees can result in the development of a digital learning culture and a decrease in the time required to reach the next level of digitalization.

As a result, there has been an increase in studies on digital leadership. This increase can be attributed to the growing relevance of digital leadership in company life. According to the available literature, the general characteristics of digital leadership are as follows: a leader who has a vision for digital transformation, is capable of developing flexible and adaptable policies, possesses digital knowledge and intelligence, motivates his employees, allows them to make mistakes, and demonstrates empathic and conciliatory behaviors. We can say that digital leadership resembles other leadership styles in various ways. Visionary leadership, entrepreneurial leadership, transactional leadership, transformative leadership, and democratic leadership are all examples of these leadership styles. The study's shortcomings include a lack of complete research on digital leadership, a lack of business and management papers, and the use of English, Turkish, and German materials. However, it demonstrates the term "digital leadership" becoming more prevalent in scholarly journals over time (Kokot, 2021). Although theoretically demanding and growing in popularity in practice, research on digital leadership is still in

its infancy (Gfrerer, 2020). In this context, while expanding the literature on the developing concept of digital leadership, it is anticipated that the study will contribute significantly to the adoption of digital leadership practices with a view toward digital transformation by reviewing managers' current leadership practices in order to improve managerial effectiveness in practice.

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