

# Conceptualization and Development of Digital Leadership to Drive Corporate Digital Transformation for Sustainable Success

\*Phongsak Phakamach 

Rattanakosin International College of Creative Entrepreneurship,  
Rajamangala University of Technology Rattanakosin, Thailand, [phongsak.pha@rmutr.ac.th](mailto:phongsak.pha@rmutr.ac.th)

Darunee Panjarattanakorn 

Rattanakosin International College of Creative Entrepreneurship,  
Rajamangala University of Technology Rattanakosin, Thailand, [darunee.pan@rmutr.ac.th](mailto:darunee.pan@rmutr.ac.th)

Samrerng Onsarpant

Faculty of Arts, Rajapruk University, Thailand, [samrerng2791@gmail.com](mailto:samrerng2791@gmail.com)

\*Corresponding author E-mail: [phongsak.pha@rmutr.ac.th](mailto:phongsak.pha@rmutr.ac.th)

**Abstract:** *The digital age, marked by persistent demands for transformation, compels today's workplaces to evolve into modern organizations powered by advanced digital technologies and innovation. This constant evolution exposes leaders to unique challenges birthed by escalating digitization. Consequently, Digital Leadership—defined by practical problem-solving skills—has become a prominent topic regarding the essential competencies managers must develop in this era. Digital Leadership is the discipline of steering an organization towards digital transformation to maintain competitiveness and agility in a swiftly changing landscape dominated by big data and social media. This discipline extends beyond managing businesses in the era of artificial intelligence or digital disruption; it also involves acquiring and deploying the right digital skills to foster technological changes and innovation under varying circumstances. This article explores the significance and benefits of proficient digital leadership in accomplishing business goals, delves into digital leadership's concept, characteristics, and skills, and provides a comprehensive roadmap for developing digital leadership, fostering progressive digital leaders, and driving corporate digital transformation for sustained success. It demonstrates that comprehending and appropriately applying digital transformation is crucial for corporate leaders. The article also posits that digital leadership depends on specific factors such as organizational agility, engagement of skilled staff, leadership skill development, support from technology partners, investment, cultural adaptation, and the alignment of new digital technologies with existing ICT. Lastly, the paper contends that building digital leadership skills necessitates comprehensive change management and strategic selection of digital talents or experts to propel the organization towards enduring success.*

**Keywords:** Leadership, Digital Leadership, Digital Transformation, Organization Development

## 1. Introduction

In virtual work environments, leadership can influence individual and team-related process factors, which mediate the relationship between the input, output and outcome of an organization in the digital economy era (Liao, 2017). The landscape of business processes and manufacturing methods has been significantly disrupted, necessitating the swift adoption of digital applications and various stages of digital transformation. In response to these changes, companies have prioritized reaping the benefits of digitalization to stay competitive and resilient. We concentrate on the affective and behavioural process factors since service employees exposed to the Covid-19 pandemic are likely to be emotionally affected in their working and living conditions, i.e. in terms of perceived insecurity or tension and could show behavioural changes in how they perform individually or in a team (Bartsch et al., 2021). In the 2020-2022 period, the Covid-19 pandemic has, besides the health concerns, caused an unprecedented social and economic crisis that has particularly hit service industries hard. The pandemic has dramatically accelerated the need to reshape to meet the challenges organizations face across the board. Moreover, the pandemic has forced rapid digital innovation and created the need for cross-functional teams that combine technology and innovation experts with business analysts to work collaboratively and at speed to develop new digital platforms, applications and solutions.

The Covid-19 period has compelled enterprises to adopt remote working, distance/online education, and training, increasing the demand for leaders with power or dominance in the digital world. Throughout this pandemic,

organizations favoured 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 (Kashive et al., 2022).

Over the past four decades, organizations have harnessed the power of modularity in software, decision-making, processes, and policy/business rules to foster agility, enabling them to adapt to fluctuating market conditions. Today's customers seek value creation at every point of interaction with an organization, which often influences their decisions regarding product or service purchases. As a result, organizations must incorporate modularity at the service encounter level, ensuring the capacity to adapt swiftly to evolving customer demands and expectations (Vial, 2019). In essence, organizations must develop the capability to construct 'service-level' agility, which enhances customer value creation through advanced digitization.

Before delving into digital leadership or transformation, defining our understanding of "digital" is vital. Often, we perceive "digital" as social media, websites, applications, digital publications, and marketing. This perspective is hardly surprising given that these platforms and tools are key mediums through which we engage with audiences and funders, showcasing our identities as artists, innovators, organizations, and leaders (Ziadlou, 2021).

Another perspective considers "digital" in terms of innovation and avant-garde technologies that potentially transform the art we create and how we disseminate it. It is; therefore, understandable why cultural leaders are intrigued by the possibilities these latest technologies present for reimagining art and heritage experiences (Erhan et al., 2022). Technologies like Virtual Reality (VR), Augmented Reality (AR), Extended Reality (XR), and Mixed Reality (MR) provide a robust creative toolbox. "Digital" refers to these elements but is not limited to them. A narrow focus on platforms or innovation alone could potentially restrict the growth of our organizations, limit our audience reach, and stifle our creative practice (Phakamach et al., 2022).

The new digital reality, eloquently described by Schiuma, Schettini, Santarsiero, & Carlucci (2022), is likened to the industrial revolution due to the massive shift in how people choose to communicate, consume media, learn, bank, shop, and organize their lives. It is a profound transformation that permeates virtually every facet of our daily existence.

Ruel, Rowlands, & Njoku (2020) outline several compelling reasons companies necessitate this emergent form of digital leadership. There are at least six significant factors:

1) *Pressure to Innovate*: With rapid technological advancements, business models, and products, every organization must stay ahead of the curve and constantly innovate (Khalili, 2017).

2) *Competition*: In the era of the digital economy, competitors—both major and minor—are merely a click away. Companies compete in a global market, making catching up with early pioneers are challenging once a newcomer successfully disrupts an industry.

3) *Decentralization*: Value creation is progressively decentralized, thanks to high-performance digital tools. Customers are gaining the ability to execute processes, further decentralizing power independently.

4) *Knowledge Revolution*: The volume of data available to companies is burgeoning exponentially, offering a competitive edge to those who can successfully harness it. Concurrently, digital marketplaces and platforms enhance transparency, provide more choices, and deliver superior customer experiences, setting new competitive standards.

5) *Smart Communication*: The swift shift to remote work necessitates organizations to facilitate efficient communication channels between teams scattered across various geographic locations and time zones. Establishing such smart communication pathways promotes agility in executing all activities.

6) *Evolving Workforce*: In a market where, digital skills are highly sought after, job seekers hold sway. Therefore, attracting and retaining talented employees has become a top priority for companies.

7) *Limitless response to demand*: consumers have more knowledge or channels to explore, and this causes the behavior of consumers to have the following characteristics: (1) Communicate all the time; (2) Must be proactive; (3) Must be socialized; (4) Adaptability; (5) Innovative; (6) Competitive; (7) Prefer famous brands; and (8) Likes to be necessary, or special (Robertson et al., 2022).

## 2. Digital Leadership Concept

GDS Group (2020) characterizes digital leadership as empowering others to take charge and fostering self-organized teams capable of optimizing daily operations. Leadership in this context transcends the traditional hierarchical structure, necessitating active participation, involvement, and contribution from all organization members.

Digital leadership is the strategic use of a company's digital assets to achieve business goals and can be dealt with both organizationally and at an individual level. Looking at it individually, those responsible for overseeing digital assets often carry out.

An effective digital leader will know the business goals and how their job responsibilities support them. At an organizational level, the digital leader can be a company that has successfully taken advantage of its digital assets to gain and maintain a competitive edge. These digital leaders will explore how technology can be used to help their

businesses become much more responsive to the needs of their customers and the ever-changing business requirements (Liao, 2017).

Weber, Krehl, Buetgen, & Schweikert (2019) characterize a digital leader as an individual who generates innovative ideas within a digital context and motivates their team in this environment. Such a leader excels at establishing enduring communication with their employees in a digital milieu, along with the capability to devise effective digital strategies. Phakamach et al. (2021) argue that a successful digital leader understands the importance of inbound data and the processes within the business that supports it. They place a high value on their communication, creativity and willingness to explore how new emerging technology and digital information can be used to help business projects. Therefore, they defined *digital leadership* as doing the right things for the strategic success of digitalization for the enterprise and its business ecosystem.

Uhl-Bien & Arena (2018) asserts that understanding the role of a digital leader is integral to comprehending what digital transformation truly entails. Fundamentally, this transformation involves utilizing new, rapidly evolving, and frequently changing digital technology to address challenges. However, why is digital leadership so pivotal? Foremost, efficient digital leadership facilitates an organizational workflow and business processes that enable swift deployment of new technologies, products, and services, all while ensuring the maintenance of existing legacy applications and ICT operations. Nevertheless, what are the specific benefits that stem from such digital leadership? (Wang & Cardon, 2019; Ziadlou, 2021).

1) *It builds a digital climate and culture:* different departments within a business will require different digital tools to improve their work and develop a higher-performance work process. Digital climate and culture can always create valuable innovations. An effective digital leader helps make this happen within the organization by giving them the right tools.

**Example:** Companies can use Google Drive to create and access specific documents containing specific information. Each edit is saved, and people can see who added, removed or changed any information in real time. Additionally, remote employees can collaborate and share documents via this platform.

2) *It makes employees more productive and competent:* the tools provided to the organization are designed to increase productivity levels; however, without digital leadership to motivate this, employees could struggle to implement and get the most out of these tools. Digital Leadership ensures that the workforce can use it immediately to build competencies and skills.

3) *Good leadership improves customer satisfaction:* a satisfied customer will have no reason to leave the business for a competitor, but a dissatisfied one will have several reasons and eventually become loyal to a competitor's products and services. Digital Leadership can help by improving and introducing convenience, speed and customer support, making customers increasingly satisfied with the product or service.

There are many ways that digital leadership can help increase revenue. Some of these are: (1) Improving retention rate: when can better serve the customers with digital tools, they become increasingly satisfied and turn into loyal customers and (2) Increasing the number of customers served: digital tools help to serve the customers at a lower operational cost.

4) *Revenue Growth and Expenditure Reduction:* The equation is straightforward; servicing a larger customer base in a shorter timeframe is an efficient strategy for enhancing revenue within the business.

5) *Development of growth patterns:* digital leaders often seek ways to operate for organizations to create distinctive and modern identities. Organizations can sustainably exist and thrive in typical environments and transformative change.

Nicolás-Agustín, Jiménez-Jiménez, & Maeso-Fernandez (2022) cite the notable individuals at Dot Everyone, an organization devoted to fostering digital literacy among leaders. They propose that “being a leader in the digital age implies comprehending technology as much as one understands finances, human resources, or the law.” Leaders with this digital understanding can make confident, informed, and impactful decisions for their organizations and users.

Leadership skills development is a perpetual process. All of us can enhance our digital comprehension by staying abreast of digital trends and tools and practising skills that bolster our leadership capabilities. In the digital context, this does not necessarily require everyone to be technologists or coders. Rather, what is needed is sufficient digital understanding to recognize our skills deficiencies and determine whom we can collaborate with to ensure our projects and organizations prosper. Additionally, adept digital leadership is essential for transforming our organizations to adapt to the Internet era through building new capacities, structures, and work methodologies (Ngayo Fotso, 2021).

So, where does one begin? A curiosity about our users and audiences and a willingness to learn how we can adapt to serve them better hold immense potential for cultural organizations. Nation cultural organizations are exploring agile and design thinking approaches to organizational and program development, informed by user needs. Understanding the needs of our users and how our work could meet these requirements can make our work more appealing, relevant, accessible, and cost-effective. By drawing insights from data about our users and their needs, we can usher in a

transformation in cultural leadership and organizations, enabling them to thrive in the Internet era. This also helps us to break away from the restrictive thinking of digital as only about platforms or innovation (Machado et al., 2021). Jakubik (2021) has noted that most conventional organizations grapple with defining the term “digital” and this ambiguity also extends to the concept of digital leadership. We often encounter difficulties when we delve into seeking definitions due to the plethora of fragmented interpretations. Here are a few potential meanings:

- 1) Leadership that harnesses digital tools and technologies;
- 2) Leadership focused on guiding digital natives;
- 3) Leadership during digital transformation;
- 4) Leadership engaged with a digital sales channel within traditional businesses;
- 5) Leadership concerned with big data and the digitization of information.
- 6) Leadership related to human resource management in the digital era.
- 7) Leadership involved in innovation for humanity.

The complication arises because, within each of the contexts above, the interpretation of leadership itself could vary, necessitating different tools. For instance, in the first scenario, we might envision digital leaders occupying specific roles (which could also apply to the fourth case). The second point resonates strongly with the leadership seen in start-ups, with abundant literature trying to distil the successful traits of unicorn leaders. The third point is arguably the most intriguing, as it encapsulates the genuine needs of most companies. Lastly, points 6 and 7 are intricately linked to human behavior and needs.

Denning (2021) and Caredda (2021) illustrate digital leadership as another concept akin to the transformation that's very “hot” in recent managerial literature and discussions. The discourse swings between two poles: those who attempt to entirely redefine the concept of leadership as applied to the digital realm and those who minimize its impact, relegating it to a new technological variable without significantly altering the principles of traditional leadership models.

Hizir (2022) advises that amid digital transformation, every organization needs to adapt quickly to all dimensions of its strategy to be aware of the current and future trends in its development. Leaders inevitably play an important role in leading the organization to its goals amidst fierce competition to gain an edge and maintain its longest-lasting existence. Moreover, a digital leader will: 1) Use data-driven analysis rather than subjective analysis; 2) Set vision rather than an aspiration; 3) Develop customer or citizen-based strategy rather than inside-out plans; 4) Outline coherent action rather than disjointed performance programmes; 5) Focus on outcomes rather than outputs.

Above all, the digital leader will recognize that digital transformation is not about technology but strategy, structure, culture, capabilities and understanding the customer or citizen (Leavy, 2020). Technologies and new digital capabilities allow leaders to have access to data not possible before, to undertake rapid testing before, and to interrogate systems not possible before. However, technology is a tool to be used by the leader rather than the endgame. The biggest mistake being made by leaders is to regard the introduction of new technology and digital capabilities such as websites, social media and online activity as fulfilling the requirements of digital leadership. The digital leader does not need to understand how the technology works; but rather to learn how to use it to create a competitive advantage (Carvalho et al., 2022).

Digital leaders can leverage various digital tools and content to accomplish their organization’s goals. Therefore, it can be concluded that digital leaders are proactive in exploring how information and communication technology (ICT) can help their organizations be more responsive to customer needs, deliver better products and services (or deliver differently) and adapt to rapidly changing environments. In other words, Digital leadership involves strategically using a company’s digital assets to establish authority and pursue the business’s goals.

### **3. Digital Leadership Characteristics and Skills**

There must be an understanding of what digital leadership means and what it means to be a digital leader. This topic discusses the attributes and skills of effective digital leadership for executives, showing the elements and indicators needed to apply them to develop skills in the next phase.

Caredda (2021) describes these as 4 specific characteristics and three behaviours that characterize agile leaders, as shown in Figure 1. The four characteristics are:

- 1) *Humble*: They can accept feedback and acknowledge that others know more than they do.
- 2) *Adaptable*: They accept constant change and that changing their minds based on new information is a strength rather than a weakness.
- 3) *Visionary*: They have a clear sense of long-term direction, even in the face of short-term uncertainty.
- 4) *Engaged*: They are willing to listen, interact, give feedback, and communicate with internal and external stakeholders, combined with a strong interest and curiosity in emerging trends.

The three key behaviors encompass (1) Hyperawareness: This involves constantly scanning internal and external environments for opportunities and threats, commonly known as SWOT analysis. (2) Informed Decision-Making: Leaders utilize data and informatics to make evidence-based decisions. (3) Swift Performance: They can move rapidly, often prioritizing speed over perfection.

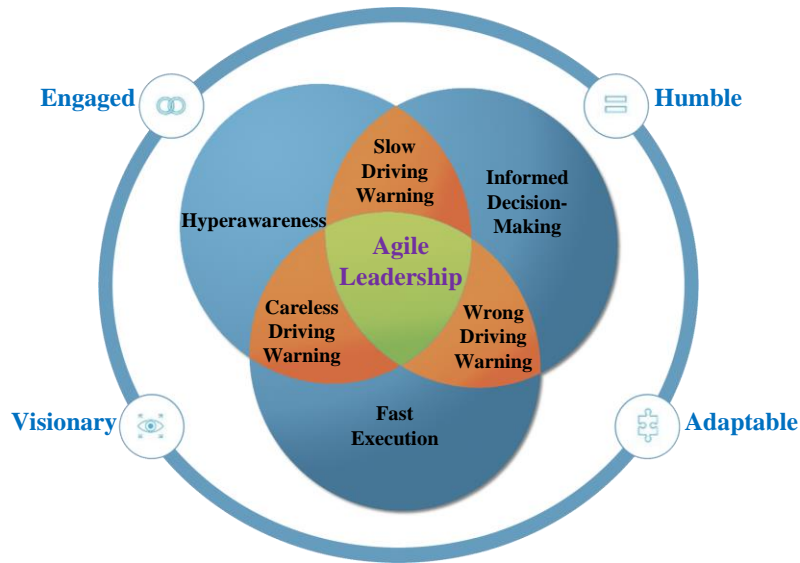


Figure 1. Agile leadership framework (Phakamach et al., 2021; Schiuma et al., 2022)

In today’s world, digital leadership is an apparent balancing act requiring unique skills to drive success for that leader, the organization and the overall workforce. Caredda reported that 42% of major companies now believe that it is increasingly important to develop leaders and that success in this digital age heavily depends on it. What skills, then, are essential for digital leaders? As demonstrated in Figure 2, we have identified some of the critical competencies of digital leadership in the digital era (Phakamach et al., 2021). These are:

1) *Communication/Collaboration*: The digital realm allows us to maintain round-the-clock team connectivity. By leveraging technology, digital leaders can construct a crucial communication network from the top to the bottom of the organization. To execute this, digital leaders must formulate a strategy and be cognizant of their target audience.

**Example:** Virtual meetings serve as an ideal instance. Given that managers often grapple with packed schedules and may be out of town, virtual meetings allow them to participate in company meetings remotely. Consequently, they remain updated about the latest developments and can relay information virtually.

2) *Vision and Focus*: with a solid and clear vision, it is easier to get the workforce onboard, and arguably it is the trait that makes digital leaders stand out from the rest.

3) *Digital Literacy*: Research conducted by the Harvard Business Review involving 1,000 CEOs revealed that 90% believe their business is either being disrupted or reinvented by digital business models. However, when queried about their capabilities, 70% confessed that they lacked the necessary skills, leadership or operating structure to adapt. A prevalent issue plaguing industries is that the older generation, often called “digital immigrants”, must acquaint themselves with new technologies. It is incumbent upon digital leaders to master these technologies and tools and ensure their entire workforce is also on board.

4) *Strategic Thinking/Planning*: The most accomplished digital leaders possess a clear vision for the future and devise a strategy that fosters a digital culture within their organization, thus preparing it to embrace changes. For this transformation to occur, it is imperative to have a cohesive strategy delineating the digital agenda.

5) *Technology and Innovation*: The digital landscape is in a perpetual state of evolution in the digital age. Therefore, leadership must be willing to explore new technologies, demonstrating flexibility and adaptability in cultivating a digitally competent workforce. Digital leaders must possess a sound understanding of the technologies the organization is set to utilize to monitor their initiatives' results. Technological initiatives can also enhance how companies cater to customer needs. Business models in the digital realm should be versatile, ready to incorporate available new technologies and digital leaders can facilitate this transition. Though this process often involves taking calculated risks,

such as adopting new systems ahead of other businesses with little evidence or examples of success, the potential rewards could be significantly advantageous. This brings us to the next point - critical thinking and risk-taking.

6) *Critical Thinking and Risk-Taking*: Organizations often tread cautiously when prioritizing speed and innovation over tried and tested technologies. However, risk-taking is an integral aspect of digital leadership. As Mark Zuckerberg, the CEO of Facebook, highlighted, “the biggest risk is not taking any risk. In a world that is changing really quickly, the only strategy that is guaranteed to fail is not taking risks.”

7) *Adaptability and Responsibility*: when changes happen in an industry or business, the digital leader can be adaptable and ready to make decisions that will have minimal impact on the business. A leader unwilling to change or be proactive will condemn the business. Furthermore, Forbes believes that adaptability and responsibility are the primary skills of a digital leader.

8) *Talent Identification*: Effective digital leaders can identify areas within their business that require enhancement and where talent might be underrepresented. They understand that people are as indispensable as technology.

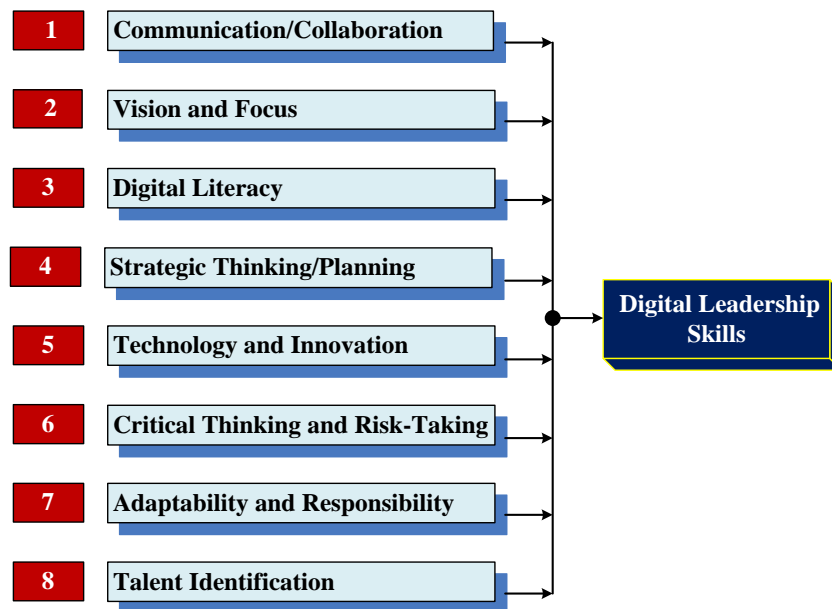


Figure 2. Digital leadership skills (Phakamach et al., 2021)

As per the assessments, digital leaders boast a unique blend of digital acumen and experience and a vision to drive businesses towards their digital objectives. They also can adapt their ideologies and strategies to fluctuating circumstances (Phakamach et al., 2021). The discussion underlines that leadership is a crucial component of any management system, instrumental in optimizing efficiency to accomplish business objectives. Effective leadership can inspire and propel the workforce towards achieving set goals.

Roux (2020) contends that digital skills encompass knowledge, the comprehension of information requirements from digital technology sources, and the adeptness at employing digital tools and facilities to input, organize, and integrate digital resources. Numerous articles have explored various digital skills, but three skills continually emerge as vital for digital leaders to embody or incorporate into their strategy. These include:

1) *Programming*: This skill is not exclusive to developers. A fundamental understanding of programming is also a key skill for digital leaders, as it aids in supporting their projects.

2) *Project Management*: The ability to effectively coordinate people, budgets, and resources is among the most desirable technical skills. A competent project manager can deliver projects efficiently and assign the appropriate personnel to accomplish tasks. The significance of this lies in the fact that having the right team can help resolve any issues that may arise along the way.

3) *Big Data & Business Intelligence Analysis*: This delivers crucial information businesses can leverage to maintain market share and delineate their competitive edge. Big data analysis plays a pivotal role in business processes. Examining large data sets is crucial for identifying correlations, spotlighting valuable customers, and assessing market trends. Correctly analyzing this data leads to more effective sales strategies and opens up increased revenue opportunities.

4) *Information Security*: Security is a major concern across all businesses. Data breaches can have severe consequences, ranging from the loss of customers to damage to the brand's reputation. Hence, having technical security specialists on board is critical, a consideration that all digital leaders must consider.

Weber, Krehl, Buettgen, & Schweikert (2019) describes six characteristics of digital Leadership:

- 1) Recognizing that digital is not always about the scale of flashy projects. It is about transforming people and ways of working;
- 2) Developing digital skills across the organization, not just within a separate department;
- 3) Instead of a digital strategy, integrating digital processes and technologies to serve and shape business and artistic strategies;
- 4) Providing leaders with a mandate and budget to test and embed digital technology and agile ways of working;
- 5) Starting all programmes and projects with user research and user needs, iterating what to do and how to do it in response to feedback; and
- 6) Motivating and inspiring teams and boards about the advantages of digital transformation, providing concrete proof of concept, even if successful experiments are initially small in scale.

Moreover, Ranjith Kumar, Ganesh, & Rajendran. (2022) stated that an effective digital leader is someone who: leads, inspires, educates, enables, empowers, fosters partnerships, and is accountable.

#### 4. Planning Digital Roadmap in Digital Leadership

Leaders in the digital era can emerge from any level within an organization. Agility, participation, trust, networking, and openness are the key attributes of a digital leader. The process of digital leadership harnesses four critical platforms to facilitate business transformations: (1) An innovation platform encouraging teams to discover value-creating ideas through digital transformations; (2) An agile system and business platform designed to develop and deliver ICT applications rapidly; (3) A platform that promotes proactive work and effective communication; and (4) A learning platform that cultivates reflective discourse and builds organizational capacity. In addition, an adoption platform is dedicated to determining the appropriate timing and methods for implementing digital transformations. All digital leaders are tasked with developing a digital roadmap. This fundamental document delineates business objectives and pinpoints the digital initiatives that will aid in achieving these goals. Essentially, it acts as a blueprint for actions that align with the digital strategy (Hearsum, 2015; Liu et al., 2018; Busse & Weidner, 2020). This roadmap comprises both short-term and long-term targets and clearly assigns responsibilities to key stakeholders. Furthermore, it offers clear, succinct direction regarding the initiatives the business should prioritize, and this roadmap should be disseminated throughout the organization. However, how does one go about creating such a digital roadmap? (Aboobaker & KA, 2021). As depicted in Figure 3, here are several helpful steps:

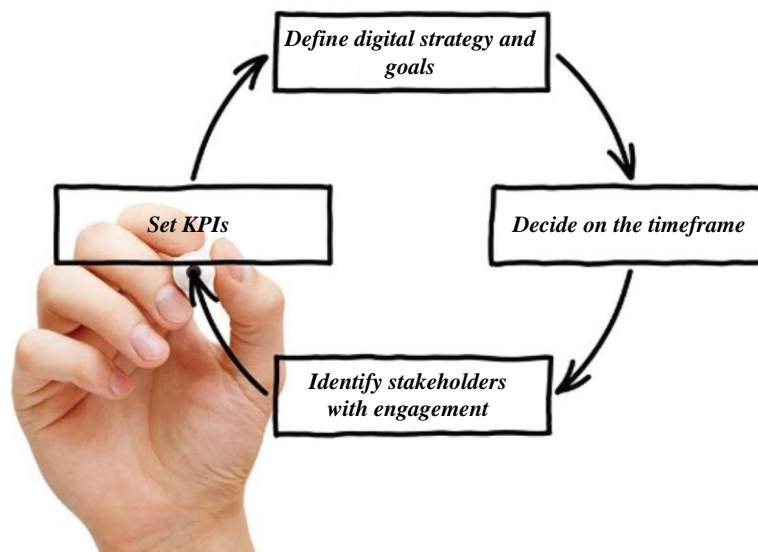


Figure 3. Digital roadmap (Busse & Weidner, 2020)

1) *Define the digital strategy and goal:* Begin by establishing a clear vision of the potential benefits of the digital strategy. These benefits might encompass brand amplification, increased sales revenue, or enhanced customer experiences. Use these goals as a basis for defining your digital strategy. Establishing clear digital goals and strategies will act as the primary drivers, making the transition to digital leadership meaningful and operationally viable.

2) *Establish a timeline:* Your digital roadmap should clarify when you expect certain elements of the project and the overall project to be completed. As you formulate your strategies, set a realistic timeframe for achieving your goals. Consequently, a clearly defined timeline will enable those transitioning to digital leadership to effectively review and evaluate the strategies and activities implemented within a specific period.

3) *Identify and engage stakeholders:* For the roadmap to success, it is necessary to ascertain who is accountable for which tasks, who is involved in the process, what the current operational status is, whether future preparations to achieve the goal within the designated timeframe are feasible, and how to maintain alignment with the roadmap. Digital leaders must ensure that stakeholders are involved and fully engaged with the proposed strategy.

4) *Establish Key Performance Indicators (KPIs):* KPIs are crucial for evaluating and measuring the strategy's success and identifying lagging elements needing adjustment or evolution.

However, developing digital leadership is essential for building a new generation of corporate leaders. Nowadays, it is found that this is a true of business organizations at all levels. Public and private sectors, especially education sector, require different leadership development styles. It will depend on the organization's structure, culture, vision, and mission as to what their identity is. Therefore, learning about the role of digital leaders is critical for sustainable growth.

## 5. Progressive Digital Leadership

Digital leaders should be fully immersed in the realm of technology. This requires staying abreast of the latest innovations and transformations in the digital business landscape. These leaders should utilize digital tools comprehensively in their personal and professional lives while investing in continuous digital education for themselves and their team members. Digital technologies such as big data and analytics, cloud computing, the Internet of Things (IoT), artificial intelligence (AI), e-commerce, online and social media marketing, and smart mobile technologies are of particular relevance. Becoming proficient in these areas is imperative for digital leaders (Leavy, 2020).

Henry (2019) posits that forward-thinking digital leaders look beyond their organizations to develop a more credible perspective. They see potential challenges as opportunities for growth. However, they must prioritize the welfare of their workforce and customers above everything else. Progressive leaders typically possess certain qualities, including:

1) *Leading by example:* By exemplifying excellent leadership, they establish the standards for the leadership expected in their business. This approach fosters a culture where others are motivated to emulate these practices.

2) *Articulating their vision:* What is their envisaged future for the organization? They cannot expect their workforce to follow a path they do not comprehend or believe in. Sharing the vision is crucial because it ensures everyone is aligned and working toward the same objectives.

3) *Creating their value:* value creation is essential for managing a digital enterprise because the value is a measure of efficiency growth, and success in developing the organization towards sustainable goals.

4) *Celebrating Success:* Acknowledging achievements expresses appreciation for those who accomplished them. People are inspired by their successes. Recognizing these victories reinforces the desired actions, encouraging repetition throughout the organization.

The digital tools and solutions that enhance processes, productivity, efficiency, and competitiveness are at the core of any digital transformation. Nonetheless, constructing an appropriate technology stack necessitates thoroughly examining all operations to comprehend precisely which solutions should be deployed, where, and in what priority sequence. Comprehending how, when, and where technology can augment productivity or refine internal processes is a pivotal skill in digital leadership (Kashive et al., 2022). Leaders and executives should be aware and focus on various issues in adapting to accommodate the business disruption, including:

1) Focusing on digital strategy and strategy over technology;

2) Having an organizational culture and atmosphere that supports digital initiatives;

3) Organizations must have faith in the digital agility of their leaders;

4) Digital strategies and strategies can drive digital development;

5) The effectiveness of a digital transformation strategy depends on the core organizational scope and objectives;

6) Digitally thriving organizations will build skills to understand strategy and tactics;

7) Employees want to work with digital leaders; and

8) Risk tolerance has become a cultural norm.

Indeed, one of the most effective investments a digital leader can make is in a modern, robust enterprise resource planning (ERP) system. Long regarded as the bedrock of strong and sustainable digital transformations, ERP solutions are engineered to provide digital leaders with a comprehensive overview of the entire organization. They consist of a



powerful suite of business process management, communication, and collaboration tools that consolidate all aspects of an organization, including product development, planning, human resources, finance, accounting, public relations, sales and marketing, into a single database and user interface. Thus, the ERP system becomes the central hub for planning, controlling, and executing all business processes. It lays a flexible groundwork for digital leaders to incorporate the technologies required to enhance their organization's digital maturity and sophistication (Tulowitzki et al., 2022).

However, digital leaders must select their enterprise tools judiciously. Certain ERP systems are dauntingly extensive and intricate, require several months to implement, and an even longer time to train employees. These factors can challenge ensuring that change processes are streamlined and that the transformation is a lasting success. Finally, Vial (2019) stated 5 traits of a successful digital leader: vision, curiosity, collaboration, experimental, and networking proficiency.

## 6. Successful Digital Leaders

In today's dynamic world, new technologies such as big data analytics, robotics, artificial intelligence and machine learning are forcing leaders to navigate organizations through difficult times. The recent pandemic once again accelerated the pace of technological change and confronted organizations with a radical shift in reality. Working from home became the rule, and the interfaces to customers, suppliers and network partners were increasingly digitalized to stay in contact and continue to offer services (Khaw et al., 2022). Digital leaders have a deep understanding of business goals and can craft careful plans to leverage digital assets for a competitive edge. Digital transformation has caused companies to adopt new digital technologies, so this form of leadership ensures those are leveraged in the best way possible. Digitally ready leaders lay the foundation of digital transformation and streamline organizations in a way that allows them to reap maximum benefits from disruptions. They accommodate and inspire employees to change the way they work, revolutionize the processes, increase profitability, and lead organizations to amazing success. This topic presents the issue of qualifications of successful digital leaders. This is to give readers an overview of the potential of digital leaders and their applications for the development of digital leadership for the most effective management of the organization, shown in Figure 4.

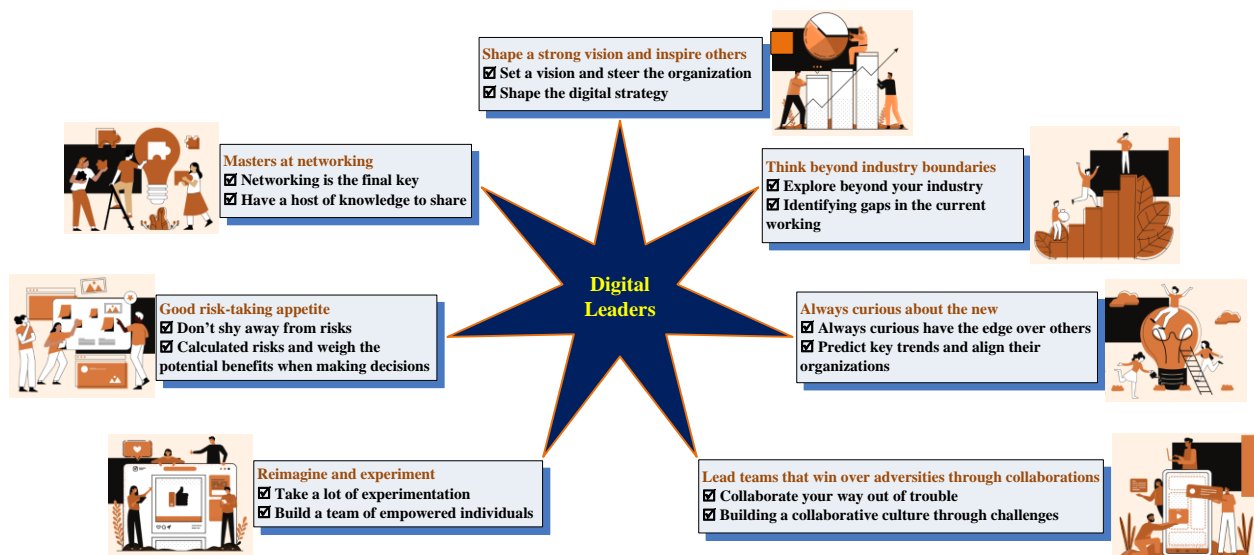


Figure 4. Successful digital leaders (Phakamach et al., 2021)

1) *Shape a strong vision and inspire others*: a clear roadmap with an end goal is necessary to shape the digital strategy. Digital leaders must have a thorough understanding of their organization, sound technical knowledge and digital literacy.

2) *Think beyond industry boundaries*: digital leaders don't settle for what's already been done. Identifying gaps in the current workings and using digital technologies to bridge them will make you a pioneer.

3) *Always curious about the new*: with the new technologies and innovations taking over the world rapidly, digital leaders who are always curious have the edge over others. This will help them predict key trends in the industry and align their organizations to make the most out of them

4) *Lead teams that win over adversities through collaborations*: digital transformation is a volatile field, and if the organization needs to be successful, everybody on the team needs to adapt to the changing technologies and innovations. Being receptive and building a collaborative culture that will support the team through challenges is crucial for a leader.

5) *Reimagine and experiment*: there is no easy road to digital transformation; it will take a lot of experimentation and failed attempts; the one way to succeed is to build a team of empowered individuals who aren't afraid to fail.

6) *Good risk-taking appetite*: digital leaders take calculated risks and weigh the potential benefits when making decisions, sometimes giving them valuable insights that they can use later on.

7) *Masters at networking*: industry professionals have a host of knowledge to share. Leaders need to make use of their network of connections and help build a strong future together.

Another key aspect of self-development to become an organization's digital leader in the age of transformative digital transformation is the use of executives' digital leadership development model by framing or self-development goals consisting of (1) inspiring, (2) building confidence, (3) relying on good governance, (4) allocating time to access, (5) leading to change, and (6) virtualization, etc. Therefore, the application of all of the aforementioned models and methods in the above material can drive to become a digital leader with high potential for the effective development of an organization and supporting sustainable growth.

## 7. Corporate Digital Transformation for Sustainable Success

Hernandez (2018) imparted her experiences and insights, discussing seven principles for leaders in the sphere of digital transformation and examining how such transformation affects the role of leadership and the overall organization's sustainable success as follows:

1) *Value-Driven Leadership*: People gravitate towards companies or organizations that exhibit a strong sense of values. However, a leader's values also play a crucial role. To be an individual people wish to follow, you must be familiar with your values, communicate them openly, and remain authentic.

2) *Coaching of Humans and Bots*: In the digital transformation era, leaders must develop new coaching techniques suitable for an ecosystem composed of both humans and robots. With a workforce of (human and AI) employees, subcontractors, stakeholders, and remote workers, leaders must devise novel ways to connect with everyone. This comprehensive approach can cultivate high-level teamwork.

3) *Fostering Innovation*: Amidst new teams of people working collaboratively, there might be confusion about the most effective modes of cooperation. To foster innovation, agile methods must be employed, despite differing perceptions of agility. A leader must simplify and clarify task allocation and working mechanisms to guide the team towards a shared objective. Thus, driving innovative organizations can offer a competitive edge, fostering sustainable growth.

4) *Awareness of Security and Integrity*: As we transition to a more digital world, matters of security and integrity must climb higher on our agenda. Leaders must stay updated on these issues, understanding and assessing the risks while posing the right questions.

5) *Harnessing the Power of Diversity and Inclusion*: Diversity and inclusion extend beyond mere statistics. To truly benefit from diversity and inclusion as drivers of innovation, leaders must recognize and cultivate every individual's potential, providing them with the tools they need to grow.

6) *Learnability and Adaptability*: Continuous learning, development, and adaptability are essential for everyone, especially leaders. Rapid learning ability is a key skill for ensuring sustainable success.

7) *Sustainability as Humans and Leaders*: The concept of work-life balance may be outdated, but we still need to identify strategies catering to work performance and relaxation. Reflect on your relaxation strategies and focus on aspects that bring value to your life. Embodying these principles as a role model for your colleagues and team can be the secret to sustainable digital leadership.

## 8. Conclusion and Recommendations

Digital leadership, or Leadership 4.0, represents a contemporary management style that instigates and fuels an organization's digital transformation, infusing business processes with agility and flexibility. This article elucidates the advantages of efficacious digital leadership in reaching business objectives. More broadly, digital leadership encompasses the conduct of businesses in the era of artificial intelligence and the acquisition of the requisite digital competencies to stimulate technological changes and innovation. Digital Leadership hinges on various critical factors such as organizational agility, the engagement of skilled staff, leadership, support from technology partners, investment, culture, alignment of novel digital technologies with existing ICT infrastructure, and learning from unsuccessful projects. The primary challenge lies in contextually managing and harmonizing these factors. This

leadership style also demands key leadership capabilities in fostering internal and external collaboration to co-develop ideas and strategies for digital transformation.

Digital leadership is characterized by a vision for digital transformation, the ability to craft flexible and adaptable policies, digital acumen and intelligence, the motivation of employees, a tolerant attitude towards mistakes, and empathic and conciliatory behaviors. Digital leadership mirrors other leadership styles, such as visionary, entrepreneurial, transactional, transformative, and democratic. Therefore, in the context of the evolving concept of digital leadership, this study is expected to significantly contribute to adopting digital leadership practices in the face of digital transformation. By scrutinizing the current leadership practices of managers, the goal is to enhance managerial effectiveness in practice.

Lastly, what qualifies one to be a digital leader? Although this article has outlined a digital leader's attributes and necessary traits, it is worth summarizing that leading by example, sharing their vision with the business, and possessing essential digital leadership skills are all vital traits. Robust communication skills and sound decision-making also substantially influence the success of a digital leader.

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## Authors' information

**Phongsak Phakamach** is an assistant professor and lecturer in the Graduate Department of Educational Administration and Strategies, Rattanakosin International College of Creative Entrepreneurship (RICE), Rajamangala University of Technology Rattanakosin Rattanakosin (RMUTR), Nakhon Pathom, Thailand. His current research interests include educational provision, leadership and educational change, digital transformation in education, educational innovative organization, educational technology and innovation development, and the use of educational technology and innovation.

**Darunee Panjaratanakorn** is lecturer in the Graduate Department of Educational Studies, Rattanakosin International College of Creative Entrepreneurship (RICE), Rajamangala University of Technology Rattanakosin Rattanakosin (RMUTR), Nakhon Pathom, Thailand. Her current research interests include educational communications and technology, leadership and educational change, digital transformation in education, educational technology and innovation development, and the use of educational technology and innovation.

**Samreng Onsompant** is an assistant professor and lecturer in the Graduate Department of Educational Administration, Faculty of Arts, Rajapruk University, Nonthaburi, Thailand. His current research interests include educational administration, leadership and educational change, digital transformation in education, educational innovative organization, knowledge management in digital education, and the use of educational technology and innovation.

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