

Original Research Article

Leadership change in the wave of digital transformation: Leadership model construction and development path from tradition to futureZhou Xian^{1,2}*1 Kangfang Biotechnology, Zhongshan, Guangdong, 528400, China**2 Pan Asia Business School of Yunnan Normal University, Kunming, Yunnan, 650000, China*

Abstract: Digital leadership is a product of the digital era, representing the ability of leaders to influence their own behaviours, the behaviours of subordinates, and the performance of teams and organisations through the mediation of digital technology in the process of organizational management. and the performance of teams and organisations through the mediation of digital technology in the process of organisational management. This paper constructs a digital leadership 5x4 matrix based on the input side, which includes five levels of individual factors, subordinate relationships, management situations, team factors, and organisational leadership. This paper constructs a digital leadership 5x4 matrix based on the input side, which includes five levels of individual factors, subordinate relationships, subordinate relationships, team factors, and organisational factors, and the output side, which comprises four levels of traits, behaviours, perceptions, and influences. Leaders should strengthen five key aspects of digital capabilities: digital communication ability, digital social ability, digital change ability, digital team ability, and digital communication skills. Leaders should strengthen five key aspects of digital capabilities: digital communication ability, digital social ability, digital change ability, digital team ability, and digital trust ability to foster effective digital leadership and promote organisational development.

Keywords: Leader; Digital Leadership; Leadership Matrix

1. Introduction

In today's rapidly evolving digital era, the form and content of leadership are undergoing profound changes. Digitalisation is not only affecting the mode of operation of businesses, but also reshaping the roles and functions of leaders. Digital leadership is the ability of leaders to influence their own behaviour, the behaviour of their subordinates, and the performance of their teams and organisations, mediated by digital technologies. Compared to traditional leadership, digital leadership places a greater emphasis on adaptability, flexibility, and proficiency in the use of digital tools.

In order to better understand the construction of digital leadership, this study synthesises the views of several scholars, combines macro and micro perspectives, and proposes a digital leadership matrix. This matrix is based on the leadership model proposed by Hernandez, which emphasises the two dimensions of input and output. Input consists of five dimensions: leader-subordinate, hierarchical relationship, leadership context, team and organisation; and output is conveyed through traits, behaviours, perceptions and influences. This framework provides a clear path for leaders to cultivate and develop digital leadership.

2. Construction of Digital Leadership Matrix

The construction of the Digital Leadership Matrix provides a theoretical foundation for understanding how leaders perform in a digital context. The input side of the matrix includes leader and subordinate characteristics, hierarchical relationships, team characteristics, and organisational factors. These factors play a key role in the

digital management environment.

2.1. Leader characteristics

Personal characteristics of leaders have a significant impact on the formation of digital leadership. For example, extroversion, strong self-efficacy, and a young age group enhance a leader's digital leadership. Extroverted leaders are more likely to establish good communication with team members, and leaders with a strong sense of self-efficacy are more effective at motivating their subordinates.

2.2. Characteristics of subordinates

The personality and age of subordinates also influence how well leaders communicate with them through digital technology. Younger subordinates are usually more receptive to digital technology and are able to adapt more quickly to the demands of digital management.

2.3. Leader-subordinate relationship

Transformational leaders are more likely to develop effective digital leadership. Their ability to inspire and interact well with virtual teams can facilitate positive communication mechanisms. Effective subordinate-subordinate relationships not only enhance employee motivation, but also promote good online and offline communication.

2.4. Team characteristics

Digital technology is dominant in virtual teams, and the extent of its use is closely related to team characteristics. The transparency of digital technology can limit selfish and unethical behaviour by leaders and increase employee motivation to communicate.

2.5. Organisational factors

Organisational support is an important driver for leaders to implement digital technologies. Technical and material support not only improves leaders' digital leadership, but also demonstrates organisational expectations, which further motivates leaders to improve their digital leadership skills.

Based on the above analysis, the constructed 5×4 matrix of digital leadership is shown in Table 1. The matrix not only integrates multiple dimensions of leadership, but also provides a comprehensive perspective to understand the role of digital leadership in organisational management.

3. The Path to Improve Digital Leadership

The Digital Leadership Matrix provides a clear framework for leaders to improve digital leadership. In order to improve digital leadership holistically, leaders should focus on the following five areas:

3.1. Digital communication skills

Digital communication capability refers to a leader's ability to skilfully use digital technology to enable the uploading and downloading of information and data. This includes not only communicating with superiors through digital technology to understand their expectations and organisational development strategies, but also communicating with employees through online communication for task allocation and emotional exchange. In this process, leaders need to be aware of possible misunderstandings caused by distorted information, and thus a combination of online and offline communication is necessary for critical issues and important tasks.

3.2. Digital social competence

Compared with digital communication skills, digital social skills emphasise coordination and control at the macro level. Leaders should use digital technology to create a positive working environment within the organisation, encourage employees to speak freely on the communication platform, express their views and opinions, and improve the overall quality of communication within the organisation. When conflicts of viewpoints arise, leaders should actively coordinate and build positive interpersonal relationships.

3.3. Digital change capability

Digital change capability refers to a leader's ability to use digital technology to improve organisational productivity in order to enhance management efficiency, work patterns and production techniques. Leaders should make full use of the value of digital technology to actively create new working models, enhance organisational operational efficiency and promote the flattening of organisational structures.

3.4. Digital team capability

Digital team capability refers to a leader's ability to build, motivate and maintain an effective digital team. In the context of innovative teams, the use of digital technology can transcend the limitations of time and space and facilitate instant communication among team members. Leaders should encourage their innovation teams in a timely manner through digital technologies to enhance their enthusiasm for innovation.

3.5. Digital trust capability

Digital trust capability refers to a leader's ability to win the trust of subordinates by using digital technology. Leaders should actively use digital technology to demonstrate integrity and honesty, for example, by posting information related to promotions, salaries and personnel transfers on the organisation's internal public platform, thus creating a fair and just atmosphere. Leaders can also set up a feedback section for employees to remain anonymous and encourage them to speak up.

4. Conclusion

As digital transformation accelerates, the development and enhancement of digital leadership becomes particularly important. Leaders need to examine and improve their digital leadership skills from multiple dimensions. By strengthening digital communication skills, digital social skills, digital change skills, digital team skills and digital trust skills, leaders will not only be able to effectively manage their teams, but also lead their organisations towards higher performance and innovation in the wave of digital transformation.

Digital leadership does not happen overnight; it requires leaders to learn and adapt in practice. In the digital age, leaders need to have an open mind, strong adaptability and a keen eye for new technologies. Only then will they be able to demonstrate true leadership and drive sustainable organisational growth in a rapidly changing business environment.

References

- [1] AVOLIO B J, KAHAI S, DODGE G E. E-leadership: Implications for theory, Research and Practice [J]. *The Leadership Quarterly*, 2000, 11(4):615-668.
- [2] YAMMARINO F J, DANSEREAU F, KENNEDY C J. Viewing Leadership Through an Elephant's Eye: A Multiple-Level Multidimensional Approach to Leadership [J]. *Organizational Dynamics*, 2001,

29(3):149-163.

- [3] KAHAI S S, SOSIK J J, AVOLIO B J. Effects of Participative and Directive Leadership in Electronic Groups [J]. *Group and Organisation Management*, 2004, 29(1):67-105.
- [4] ROMAN A V, WART M V, WANG X H, et al. Defining E-leadership as Competence in ICT-Mediated Communications: an Exploratory Assessment [J]. *Public Administration Review*, 2018, 79(2):853-866.
- [5] ZACCARO S J, BADER P. E-Leadership and the Challenges of Leading E-Teams: Minimising the Bad and Maximising the Good [J]. 2003, 31(4):377-387.