

# Evolving Leadership Capabilities in Digitally Transforming Organizations: A Qualitative Study of Senior Managers' Experiences

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## Abstract

This study aimed to explore how senior managers experience, interpret, and develop leadership capabilities during organizational digital transformation. This qualitative study was conducted using a conventional thematic analysis approach. Participants included 24 senior managers working in digitally transforming organizations in Tehran, Iran, who were selected through purposive sampling based on their direct involvement in digital strategy, digital service redesign, process automation, platform adoption, data-driven decision-making, or organizational change initiatives. Data were collected through semi-structured interviews lasting 45 to 75 minutes. Interviews continued until theoretical saturation was reached, meaning that no substantially new concepts emerged from later interviews. All interviews were audio-recorded with participants' consent, transcribed verbatim, and analyzed using NVivo software. Data analysis followed an iterative process of familiarization, open coding, category development, theme refinement, and interpretive integration. Analysis of the interviews led to five main categories of evolving leadership capabilities: strategic digital sensemaking, ambidextrous execution, data-informed decision governance, human-centered change leadership, and ecosystem-oriented learning. Participants described digital transformation as a continuous organizational journey rather than a one-time technological project. Senior managers emphasized that effective digital leadership required translating technological uncertainty into strategic direction, balancing existing operational stability with experimentation, using data without neglecting managerial judgment, reducing employee resistance through trust and participation, and learning across organizational and external boundaries. The findings suggested that leadership capabilities evolved through repeated exposure to uncertainty, cross-functional collaboration, failure-based learning, and ongoing interaction with digital tools, customers, employees, and external partners. The study concludes that leadership capability in digitally transforming organizations is not limited to technical literacy or technology adoption. Rather, it involves a dynamic combination of strategic interpretation, agile execution, ethical data use, emotional and relational competence, and ecosystem learning. Organizations seeking successful digital transformation should therefore invest not only in digital infrastructure but also in leadership development systems that strengthen adaptive, collaborative, and human-centered managerial capabilities.

**Keywords:** digital transformation; digital leadership; leadership capabilities; senior managers; qualitative research; thematic analysis; organizational change; Tehran

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## 1. Introduction

Digital transformation has become one of the defining strategic challenges of contemporary organizations. Unlike earlier forms of information technology adoption, digital transformation is not limited to automating isolated tasks or introducing new software into existing routines. It refers to a deeper process through which digital technologies reshape organizational strategies, structures, routines, capabilities, value creation mechanisms, and relationships with stakeholders. Vial (2019) conceptualized digital transformation as a process through which digital technologies generate disruptions that require strategic responses from organizations, while also producing structural changes, organizational barriers, and positive or negative outcomes. This view is important because it moves the discussion beyond technology implementation and places digital transformation within the broader field of strategic and organizational change. In digitally transforming organizations, the central question is therefore not only whether an organization uses artificial intelligence, cloud platforms, analytics, automation, digital channels, or enterprise systems, but how leaders interpret these technologies, integrate them into strategy, mobilize employees around them, and reconfigure organizational capabilities to generate value.

The strategic nature of digital transformation has been emphasized across information systems and management research. Bharadwaj et al. (2013) argued that digital business strategy represents a fusion of information technology strategy and business strategy, suggesting that digital technologies increasingly shape the scope, speed, scale, and sources of business value. Similarly, Matt et al. (2015) explained that digital transformation strategies require coordinated attention to technology use, changes in value creation, structural arrangements, and financial aspects. These perspectives indicate that digital transformation is not a departmental issue that belongs only to information technology units. Instead, it is a senior leadership concern because it changes how organizations compete, innovate, serve customers, manage knowledge, and design work. For senior managers, digital transformation often creates ambiguity: technologies evolve quickly, expected benefits are uncertain, employees may resist changes to established routines, and traditional performance indicators may not capture the long-term value of digital initiatives.

A growing body of literature suggests that leadership plays a decisive role in shaping whether digital transformation becomes a source of renewal or a source of fragmentation. Kane et al. (2015) argued that strategy, culture, and talent are more decisive than technology alone in explaining digital maturity. Westerman et al. (2014) similarly emphasized that successful digital transformation requires both digital capability and leadership capability. Digital capability refers to the organization's ability to use technologies to improve customer experience, operations, and business models, whereas leadership capability refers to the ability to create vision, governance, engagement, and coordination around digital change. This distinction is highly relevant because many organizations invest in digital infrastructure but



fail to achieve transformation due to weak leadership alignment, unclear digital priorities, rigid hierarchies, or insufficient employee engagement.

The concept of digital leadership has emerged to describe the forms of leadership required in digital contexts. Digital leadership does not simply mean that leaders personally master all technologies. Rather, it refers to the ability to guide organizations through technology-enabled strategic change. Kane et al. (2019) argued that while many traditional leadership fundamentals remain relevant in the digital age, digitally mature organizations require leaders who are more comfortable with uncertainty, experimentation, collaboration, and continuous learning. Tagscherer and Carbon (2023), in their literature review on leadership for successful digitalization, found that leaders need to be visionary, customer-centered, change-oriented, digitally aware, and capable of empowering employees and building partnerships. These qualities reflect the changing conditions under which managers lead. In stable environments, leadership may focus on planning, control, and efficiency; in digitally transforming environments, leadership increasingly requires interpretation, agility, distributed decision-making, rapid learning, and organizational sensemaking.

Dynamic capabilities theory provides a useful theoretical lens for understanding leadership in digital transformation. Teece (2007) defined dynamic capabilities as the ability of firms to sense opportunities and threats, seize opportunities, and transform or reconfigure resources in changing environments. Digital transformation intensifies the need for these capabilities because new technologies alter customer expectations, market boundaries, operational possibilities, and competitive dynamics. Warner and Wäger (2019) showed that digital transformation involves the ongoing use of digital technologies in organizational life and requires strategic renewal of business models, collaborative approaches, and culture. Their qualitative study identified digital sensing, digital seizing, and digital transforming as essential capability clusters. From a leadership perspective, this means that senior managers must not only approve digital projects; they must help the organization notice technological and market signals, evaluate strategic options, allocate resources to promising initiatives, and reshape routines and mindsets.

However, leadership capability development in digital transformation remains insufficiently understood, particularly from the lived experience of senior managers. Much of the existing literature provides conceptual frameworks, survey-based models, or general prescriptions for digital leadership. Although these contributions are valuable, they do not fully explain how senior managers actually experience the evolution of their leadership capabilities during digital transformation. Qualitative research is particularly useful for this purpose because it allows researchers to explore meanings, tensions, interpretations, and practical experiences that may not be captured through predetermined quantitative instruments. Brunner et al. (2023), for example, used qualitative data from managers to examine digital leadership capabilities and highlighted the importance of personal, social, and organizational capital in managing technology-driven change. Such work suggests that

leadership in digital transformation is multidimensional and develops through interaction with organizational challenges, not through formal training alone.

Senior managers occupy a critical position in digitally transforming organizations because they connect strategic intention with organizational execution. They interpret external pressures, communicate priorities, allocate resources, redesign structures, influence culture, and mediate tensions between innovation and stability. They are also exposed to competing expectations. Top executives may expect rapid digital results, employees may fear job displacement or skill obsolescence, customers may demand seamless digital experiences, and technology teams may require organizational support for experimentation. These pressures create a complex leadership context in which senior managers must develop new forms of judgment. They need enough digital literacy to understand technological possibilities, enough strategic capability to connect digital initiatives with organizational goals, enough relational skill to engage employees, and enough adaptive capacity to revise assumptions when digital initiatives produce unexpected outcomes.

The experience of senior managers in Tehran provides a valuable context for examining these issues. Organizations in Tehran operate in a complex environment shaped by technological change, market uncertainty, regulatory constraints, resource limitations, and growing expectations for digital services. Many organizations have adopted digital platforms, online customer channels, enterprise systems, automation tools, analytics dashboards, and hybrid work arrangements. Yet digital transformation in such contexts is often uneven. Some departments may become digitally advanced while others remain dependent on manual processes. Leaders may support digital change rhetorically but continue to rely on hierarchical decision-making. Employees may use digital tools but not fully adopt digital mindsets. These conditions make Tehran-based organizations an appropriate setting for exploring how senior managers understand and develop leadership capabilities in practice.

Despite the practical significance of this topic, several research gaps remain. First, existing studies often treat digital leadership as a set of predefined competencies rather than as an evolving capability shaped by managerial experience. Second, less attention has been paid to how senior managers balance technical, strategic, relational, and ethical dimensions of leadership during digital transformation. Third, the experiences of managers in emerging-market and non-Western organizational contexts remain underrepresented in digital transformation research. Fourth, there is a need for qualitative evidence that captures how managers make sense of uncertainty, employee resistance, cross-functional tensions, data-driven decision-making, and ecosystem collaboration. Addressing these gaps can contribute to leadership theory by clarifying how digital leadership capabilities emerge and change over time. It can also contribute to practice by identifying the capabilities that organizations should cultivate when preparing managers for digital transformation.



Therefore, the aim of this study was to explore how senior managers in Tehran-based digitally transforming organizations experience the evolution of leadership capabilities during digital transformation.

## **Methods and Materials**

### **Study Design and Participants**

This study used a qualitative research design with thematic analysis to explore senior managers' experiences of evolving leadership capabilities during digital transformation. A qualitative approach was appropriate because the purpose of the study was to understand meanings, interpretations, tensions, and lived managerial experiences rather than to test predefined hypotheses. The study focused on senior managers who had direct experience with digital transformation initiatives, including digital strategy development, digital service redesign, enterprise system implementation, process automation, data analytics adoption, customer-facing digital platforms, digital marketing transformation, or organizational restructuring linked to technology-enabled change.

Participants were selected through purposive sampling from organizations located in Tehran, Iran. Inclusion criteria were holding a senior managerial position, having at least five years of managerial experience, being directly involved in at least one digital transformation initiative, and willingness to participate in a semi-structured interview. The final sample included 24 senior managers. Data collection continued until theoretical saturation was reached; after the twenty-second interview, no substantially new conceptual category emerged, and two additional interviews were conducted to confirm the stability and completeness of the categories. The sample size was consistent with qualitative research standards and with the principle that saturation depends on the specificity of the research question, the relative homogeneity of participants, and the depth of data.

The participants represented different organizational sectors, including banking and financial services, telecommunications, health services, retail and e-commerce, education and training, manufacturing, and professional services. Of the 24 participants, 16 were male and 8 were female. In terms of age, 5 participants were between 35 and 39 years old, 9 were between 40 and 44 years old, 6 were between 45 and 49 years old, and 4 were 50 years old or older. Regarding education, 6 participants held a bachelor's degree, 14 held a master's degree, and 4 held a doctoral degree. In terms of managerial experience, 7 participants had 5 to 9 years of managerial experience, 10 had 10 to 14 years, and 7 had 15 years or more. Regarding organizational role, 6 participants were chief executive officers or deputy chief executives, 5 were chief information or technology-related managers, 4 were human resource or organizational development directors, 5 were operations or process improvement managers, and 4 were strategy, innovation, or business development managers. This diversity allowed the study to capture multiple perspectives on leadership capability development across different types of digital transformation initiatives.

### **Data Collection**

Data were collected through semi-structured interviews. Semi-structured interviews were selected because they allow the researcher to follow a consistent set of guiding questions while also giving participants enough flexibility to describe their experiences in depth. The interview guide was developed based on the literature on digital transformation, digital leadership, dynamic capabilities, and organizational change. The guide included open-ended questions such as: “How has digital transformation changed your role as a senior manager?”, “What leadership capabilities have become more important during digital transformation?”, “Can you describe a situation in which you had to lead employees through a digital change?”, “How do you balance technological decisions with organizational and human concerns?”, “What challenges have you faced in using data for managerial decision-making?”, and “How have your own leadership skills changed during digital transformation?”

Before the main interviews, the interview guide was reviewed by two experts in management and qualitative research. A pilot interview was conducted with one senior manager who met the inclusion criteria, and minor revisions were made to improve clarity and sequencing. The pilot interview was not included in the final analysis. Interviews were conducted individually, either face-to-face or through secure online platforms, depending on participants' availability. Each interview lasted between 45 and 75 minutes. With participants' informed consent, all interviews were audio-recorded and transcribed verbatim. Field notes were also prepared after each interview to record contextual observations, emerging impressions, and possible analytic insights.

Ethical considerations were observed throughout the study. Participants were informed about the purpose of the study, voluntary participation, confidentiality, and their right to withdraw at any stage. To protect anonymity, participants were assigned codes from P1 to P24. Organizational names, project names, and identifying details were removed from the transcripts. Audio files and transcripts were stored securely and were accessible only to the research team.

### **Data Analysis**

Data analysis was conducted using thematic analysis. The analysis followed an iterative and inductive process in which the researcher moved repeatedly between transcripts, codes, categories, and emerging themes. NVivo software was used to organize transcripts, manage codes, retrieve coded segments, compare categories, and refine thematic structures. The use of NVivo supported systematic data management but did not replace the interpretive role of the researcher.

The analysis began with repeated reading of the interview transcripts to gain familiarity with the data. Initial codes were then generated by identifying meaningful segments related to leadership challenges, digital decision-making, managerial learning, employee engagement, organizational culture, strategic alignment, experimentation, data use, and capability development. In the next stage, similar codes were grouped into broader categories. For example, codes such as “translating technology into business language,” “creating digital



vision,” “interpreting uncertainty,” and “connecting digital tools to customer value” were grouped under the category of strategic digital sensemaking. Categories were then reviewed against the original data to ensure that they accurately represented participants’ accounts. Finally, five main categories were developed: strategic digital sensemaking, ambidextrous execution, data-informed decision governance, human-centered change leadership, and ecosystem-oriented learning.

To enhance trustworthiness, several strategies were used. Credibility was supported through prolonged engagement with the data, participant diversity, and peer discussion of coding decisions. Dependability was strengthened by maintaining an audit trail of coding steps, category development, and analytic memos. Confirmability was supported by reflexive memo-writing to reduce the influence of researcher assumptions. Transferability was addressed by providing detailed descriptions of the study context, participants, and categories so that readers can judge the applicability of the findings to other settings.

### Findings

The demographic characteristics of the participants indicated that the study included a diverse group of senior managers from Tehran-based organizations undergoing digital transformation. Of the 24 participants, 16 were male and 8 were female. In terms of age, 5 participants were aged 35–39 years, 9 were aged 40–44 years, 6 were aged 45–49 years, and 4 were 50 years or older. Regarding educational level, 6 participants held bachelor’s degrees, 14 held master’s degrees, and 4 held doctoral degrees. In relation to managerial experience, 7 participants had 5–9 years of experience, 10 had 10–14 years, and 7 had 15 years or more. Participants came from multiple sectors, including banking and financial services, telecommunications, health services, retail and e-commerce, education and training, manufacturing, and professional services. This distribution provided a broad basis for understanding how leadership capabilities evolve across different digital transformation contexts.

The first main category was **strategic digital sensemaking**. Participants emphasized that one of the most important leadership capabilities in digital transformation was the ability to interpret technological change and translate it into strategic meaning for the organization. They explained that employees and even some managers often perceived digital transformation as software installation, automation, or online service delivery. Senior managers, however, described their role as clarifying why digital transformation mattered, how it related to organizational survival, and what kind of value it should create. One participant stated, “At first, everyone asked what system we were buying. I had to change the conversation and ask what kind of organization we wanted to become after using the system” (P7). Another participant noted, “Technology was confusing for many departments, so my role became translation: translating digital language into business language and translating business pain into digital priorities” (P3). This category showed that digital leadership

capability begins with sensemaking: leaders must interpret external signals, connect technologies with strategic goals, and construct a shared narrative that reduces ambiguity.

The second main category was **ambidextrous execution**. Participants repeatedly described the tension between maintaining operational stability and experimenting with new digital models. They argued that digital transformation required leaders to protect existing performance while also creating space for experimentation, pilot projects, rapid testing, and learning from failure. Several participants explained that their organizations initially expected digital projects to succeed with traditional planning logic, fixed timelines, and low tolerance for failure. However, senior managers gradually learned that digital initiatives often required agile execution and iterative adjustment. One participant explained, “In traditional projects, we tried to predict everything before starting. In digital projects, we learned that we had to start smaller, test faster, and correct the path while moving” (P12). Another stated, “My biggest leadership challenge was convincing the board that a failed pilot was not necessarily a failed strategy. Sometimes the pilot failed but our understanding improved” (P18). This category indicated that evolving leadership capability involved balancing exploitation and exploration, discipline and flexibility, short-term efficiency and long-term innovation.

The third main category was **data-informed decision governance**. Participants reported that digital transformation increased the availability of data but also created new managerial challenges regarding interpretation, accountability, transparency, and ethics. They emphasized that leaders needed to move from intuition-only decision-making toward evidence-informed decision-making, while also recognizing that data could be incomplete, biased, or misunderstood. Some participants described dashboards and analytics systems as useful but insufficient unless leaders asked the right questions and built data literacy among managers. One participant noted, “Before digital transformation, managers defended their opinions with experience. Now the dashboard challenges everyone, but we still need judgment because numbers do not explain everything by themselves” (P5). Another participant stated, “Data gave us visibility, but it also created responsibility. When you can see customer complaints in real time, you cannot pretend the problem is somewhere else” (P21). This category showed that leadership capability in digital transformation includes governing data use, combining analytics with contextual judgment, and ensuring that digital decisions remain accountable and ethically defensible.

The fourth main category was **human-centered change leadership**. Participants consistently emphasized that digital transformation was more difficult as a human and cultural process than as a technical process. They reported employee resistance, fear of job loss, anxiety about new skills, distrust of automation, and fatigue caused by continuous change. Senior managers explained that their leadership capability evolved when they shifted from command-based implementation to participation, communication, coaching, and emotional support. One participant stated, “The system was ready, but people were not ready. We realized that the real implementation was not in the server; it was in people’s habits” (P9).



Another participant said, “If employees think digitalization means replacing them, they resist silently. We had to show them that the purpose was not to remove people but to remove repetitive work and increase their value” (P16). This category demonstrated that digital transformation requires leaders to create psychological safety, explain the purpose of change, support reskilling, and involve employees in redesigning work processes.

The fifth main category was **ecosystem-oriented learning**. Participants described digital transformation as a process that extended beyond organizational boundaries. They stated that senior managers increasingly had to learn from customers, technology vendors, start-ups, consultants, regulators, competitors, and professional networks. Several participants explained that their organizations could not develop all digital capabilities internally and therefore needed partnerships and external knowledge flows. One participant said, “In the past, we believed strategy was made inside the company. Now, many strategic signals come from outside—from customers, platforms, vendors, and even start-ups that are much smaller than us” (P2). Another noted, “Digital transformation taught us humility. We had to accept that our internal expertise was not enough and that learning with partners was part of leadership” (P14). This category showed that digital leadership capability evolves through boundary-spanning learning, partnership management, external scanning, and openness to knowledge beyond the organization’s formal hierarchy.

### Discussion

The findings of this study showed that senior managers experienced digital transformation as a leadership-intensive process that required the development of new capabilities across strategic, operational, analytical, relational, and ecosystem levels. The first finding, strategic digital sensemaking, is consistent with the literature that conceptualizes digital transformation as a strategic response to technological disruption rather than a narrow technology implementation process. Vial (2019) argued that digital transformation involves digital technologies triggering strategic responses and organizational changes. Similarly, Bharadwaj et al. (2013) emphasized that digital business strategy fuses technology strategy and business strategy. The present study supports these arguments by showing that senior managers considered their role to be one of interpretation and translation. They did not merely choose digital tools; they translated technological uncertainty into strategic direction. This finding suggests that digital leadership capability begins with the ability to frame digital transformation in a way that employees, departments, and executives can understand. Without such sensemaking, digital initiatives may remain fragmented technical projects rather than become integrated organizational transformation.

The second finding, ambidextrous execution, reflects the managerial tension between operational continuity and digital experimentation. Participants explained that they had to maintain current performance while also supporting pilot projects, agile methods, and learning from failure. This finding aligns with dynamic capabilities theory, especially Teece’s (2007) view that organizations must sense, seize, and transform in changing environments. It

is also consistent with Warner and Wäger (2019), who found that digital transformation requires strategic renewal of business models, collaborative approaches, and culture. The present study extends this literature by emphasizing how senior managers personally experience ambidexterity as a leadership challenge. Ambidextrous execution was not described as an abstract organizational capability; it was experienced as a daily managerial balancing act involving resource allocation, board expectations, employee workload, risk tolerance, and project governance. This suggests that digital transformation requires leaders who can create controlled spaces for experimentation without undermining organizational reliability.

The third finding, data-informed decision governance, highlights the increasing role of analytics in managerial work. Participants reported that digital transformation made organizational performance, customer behavior, operational delays, and service problems more visible. However, they also emphasized that data did not eliminate the need for judgment. This finding is compatible with research on digital business strategy and digital innovation, which suggests that digital technologies reshape decision processes, knowledge flows, and innovation possibilities (Bharadwaj et al., 2013; Nambisan et al., 2017). The present study contributes to this discussion by showing that senior managers experience data-driven leadership as both empowering and demanding. Data increases transparency but also increases accountability. It can improve decision quality, but it can also create overconfidence if managers treat dashboards as objective truth without considering context. Therefore, evolving leadership capability includes data literacy, critical interpretation, ethical awareness, and the ability to govern how data is used in organizational decisions.

The fourth finding, human-centered change leadership, supports previous research indicating that successful digital transformation depends heavily on people, culture, and leadership. Kane et al. (2015) argued that strategy, culture, and talent are more important than technology alone in digital maturity. Westerman et al. (2014) similarly emphasized that digital transformation requires leadership capability in addition to digital capability. The present study confirms this perspective in the experiences of senior managers in Tehran. Participants explained that technology implementation was often easier than changing habits, reducing resistance, developing new skills, and building trust. This finding is also consistent with Brunner et al. (2023), who identified personal, social, and organizational capital as important elements of digital leadership. In this study, human-centered change leadership involved empathy, communication, coaching, participation, and psychological safety. These findings suggest that digital leadership should not be reduced to technical competence. It is fundamentally relational because transformation occurs through people's willingness and ability to change how they work.

The fifth finding, ecosystem-oriented learning, reflects the increasingly boundaryless nature of digital transformation. Participants stated that digital transformation required learning from customers, vendors, start-ups, consultants, regulators, competitors, and



professional communities. This finding aligns with Nambisan et al. (2017), who argued that digital innovation is distributed, generative, and often shaped by multiple actors. It also supports Tagscherer and Carbon's (2023) conclusion that leadership for digitalization requires collaboration, partnerships, customer orientation, and openness to external knowledge. The present study adds that senior managers experience ecosystem learning as a shift in leadership identity. Rather than positioning themselves as internal experts who control all knowledge, digitally transforming leaders increasingly act as boundary spanners who connect internal capabilities with external opportunities. This capability is particularly important in environments where organizations cannot build all digital expertise internally and must learn through partnerships.

Overall, the findings suggest that evolving leadership capability in digital transformation is multidimensional and dynamic. The categories identified in this study are not separate competencies that operate independently. Rather, they reinforce one another. Strategic digital sensemaking provides direction; ambidextrous execution converts direction into action; data-informed decision governance improves visibility and accountability; human-centered change leadership enables adoption; and ecosystem-oriented learning expands the organization's knowledge base. Together, these capabilities resemble a leadership-level dynamic capability system. They allow senior managers to sense emerging technological and market changes, seize opportunities through experimentation and governance, and transform organizational routines and culture through human-centered and ecosystem-based learning. This interpretation is consistent with dynamic capabilities theory and with digital transformation research that views transformation as continuous strategic renewal rather than a one-time project (Teece, 2007; Vial, 2019; Warner & Wäger, 2019).

The study also has contextual implications. The Tehran-based managers in this study described digital transformation in conditions of uncertainty, resource constraints, uneven digital maturity, and organizational resistance. These conditions may intensify the importance of adaptive leadership capability. In contexts where resources are limited and external conditions are unstable, leaders may need to rely more heavily on sensemaking, prioritization, collaboration, and incremental experimentation. This suggests that digital leadership research should pay more attention to emerging-market and non-Western organizational contexts. Models developed in highly resourced digital environments may not fully explain how managers lead transformation when infrastructure, regulation, skills, budgets, or organizational readiness are uneven. The present study therefore contributes by offering qualitative evidence from a context that remains relatively underrepresented in mainstream digital transformation literature.

Another important implication is that leadership capabilities evolve through practice. Participants did not describe their capabilities as fixed traits acquired before digital transformation. Instead, they described learning through failed pilots, cross-functional conflicts, employee resistance, data visibility, partnership challenges, and repeated exposure

to uncertainty. This finding suggests that organizations should not treat digital leadership development as a one-time training program. Digital leadership capability develops through structured experience, reflection, mentoring, experimentation, and participation in real transformation projects. Formal training may build awareness, but capability matures when managers must interpret ambiguous signals, make difficult trade-offs, and lead people through uncertain change. Therefore, digital leadership development should be embedded in organizational transformation processes rather than separated from them.

This study also reinforces the ethical dimension of digital transformation leadership. Although ethics was not identified as a separate category, it was embedded particularly in data-informed decision governance and human-centered change leadership. Participants recognized that data visibility, automation, and digital monitoring can improve performance but may also create concerns about privacy, surveillance, fairness, and employee trust. Vial (2019) identified ethical issues as an important research avenue in digital transformation. The present study supports this point by showing that senior managers experience ethical concerns as practical leadership issues, not only as abstract policy questions. Leaders must decide how data will be collected, interpreted, shared, and used; how employees will be affected by automation; and how transparency can be balanced with trust. Thus, ethical judgment should be considered a core component of digital leadership capability.

### Conclusion

This qualitative study explored how senior managers in Tehran-based digitally transforming organizations experienced the evolution of leadership capabilities. The findings identified five main categories: strategic digital sensemaking, ambidextrous execution, data-informed decision governance, human-centered change leadership, and ecosystem-oriented learning. These categories show that digital leadership capability is not limited to technological literacy. Rather, it involves the ability to interpret technological change strategically, balance stability and experimentation, use data responsibly, engage people emotionally and culturally, and learn across organizational boundaries. The study concludes that successful digital transformation depends on the co-evolution of digital systems and leadership capabilities. Organizations that invest only in technologies without developing adaptive, collaborative, ethical, and human-centered leaders are unlikely to achieve sustainable transformation. Conversely, organizations that develop senior managers as sensemakers, experimenters, data governors, change facilitators, and ecosystem learners are better positioned to convert digital disruption into organizational renewal.

### Ethical Considerations

All procedures performed in this study were under the ethical standards.

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## Conflict of Interest

The authors report no conflict of interest.

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