






## Designing a Digital Leadership Model for Managers in Educational Organizations (Case Study: Islamic Azad University, Tehran Province)

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### ABSTRACT

**Objective:** The current research context pertains to digital leadership, examining the impact of digital technologies and modern technologies on the leadership process in organizations, specifically educational organizations. The aim of this research is to present a digital leadership model for managers of educational organizations.

**Method:** The research method was qualitative in terms of data type, and foundational-systemic (paradigmatic) in terms of nature and type of study. The research population includes experts in the field of human resources, possessing doctoral degrees and experience in authorship, articles, research, and practical experience in this area. Based on theoretical sampling methods, particularly snowball sampling, and theoretical data saturation, 15 experts were selected for interviews. The research tool was a semi-structured interview. Initially, a review of national and international models, findings, studies, and theories was conducted. Then, through open coding, indicators were enumerated, and through axial coding, categorized into dimensions, components, and indicators.

**Results:** This was sent to 15 experts and identified through selective coding via interviews and brainstorming. The findings culminated in 5 dimensions, 17 components, and 121 indicators for the digital leadership model for managers of educational organizations (case study of Islamic Azad University, Tehran Province). Following final validation and prioritization by experts, the constituting dimensions, components, and indicators of the model were delineated, and the model was re-validated by the experts.

**Conclusion:** The research results are presented in 5 dimensions: causal conditions, contextual conditions, intervening conditions, strategies, outcomes, and 17 components including digital culture, digital security, digital infrastructure, digital communications, digital structure, digital economy, digital intelligence, digital literacy, upper-level documents, leadership competencies, cognitive abilities, professional skills, human skills, realization of digital university, economic effects, social effects, and environmental impacts.

**Keywords:** Digital Leadership, Causal Factors, Intervening Factors, Contextual Conditions, Strategies, Outcomes, Outputs

## 1 Introduction

The world we live in is experiencing significant and rapid changes. Technological advancements in fields such as education, communications, basic sciences, engineering, medicine, and other industries are occurring at a rate beyond imagination. Societies around much of the world, as well as organizations and institutions, are becoming increasingly diverse, and there is a noticeable movement towards globalization in social, cultural, ideological, economic, commercial, and other areas (Asemannasab & ghadami, 2021).

In this environment, educational organizations at all levels are grappling with new and ongoing challenges, as well as complexities, which require leaders to have exceptional abilities to create and solve contemporary societal issues. Additionally, many management experts believe that long-term organizational success ultimately comes through leadership that is value-based, credible, and often team-based (Bormann & Rowold, 2018).

The challenges and opportunities facing leaders in educational organizations are in many ways similar to those in organizations in other industries. However, depending on their type and level, there are many aspects of educational organizations that present unique and different challenges. Like organizations in other industries, all educational organizations involve leadership and communication with people, and all operate within legal, economic, socio-cultural, and political environments. Many of them are also engaged globally, directly or indirectly (Rosa, 2022).

Meanwhile, universities have had special missions and responsibilities since their inception. According to the philosophy of higher education, education, research, and community service are three key and indisputable missions of contemporary universities. In the third millennium, with the rapid environmental changes, some of the strategic missions and responsibilities of universities have undergone changes. One of the new missions universities have in the modern age is to respond appropriately to the economic, social, and cultural needs of the communities in which they operate (Jameson et al., 2022).

One of the factors that plays an unparalleled role in a university's achievement of its missions is university leadership. In this regard, it is recommended that university leaders and managers possess insights such as legal insight, skill insight, research insight, technology insight, quality insight, interdisciplinary insight, etc. In this age, university leadership can no longer be seen merely as administration

and execution; rather, today, leadership is a way to think about oneself, the fine art of mastery, lofty educational goals, learners, the learning process, the learning environment, the local community, the country, and the changing modern world. Therefore, based on the previous statements, the researcher seeks to answer the following questions:

- What is the paradigmatic model of digital leadership for managers of educational organizations?
- Identification of causes, consequences, contexts, intervening factors, strategies, and outputs of the aforementioned model (from the experts' perspective).
- Identification of components and indicators constituting each of the components of the aforementioned model (from the experts' perspective).
- In the field of digital leadership, national and global studies have been conducted, some of which are mentioned below.

## 2 Methods and Materials

### 2.1 Study design and Participant

The present research is applied in terms of its purpose, qualitative in terms of data, and foundational-systemic (paradigmatic) in nature and type of study. The research population includes human resources experts with specialized doctoral degrees who are authors, researchers, and have practical experience in this field. Fifteen experts were selected through purposeful theoretical sampling and theoretical saturation.

### 2.2 Measures

#### 2.2.1 Semi-structured Interview

The research measurement tool was a semi-structured interview, which was developed through open and axial coding. Then, selective coding was implemented through interviews, the Delphi technique, and brainstorming, during which the dimensions, components, and indicators were finalized and prioritized by experts. The model was again drawn up based on dimensions, components, and indicators, and was validated and confirmed by experts. The credibility and validity of the measurement tool were achieved through a three-way consensus method.

### 2.3 Data Analysis

Data collection methods involved an in-depth study of theories, models, findings, patterns, and researches, both

national and global, in the field of digital leadership models. This was followed by open coding of the findings from the first stage, then axial coding for categorizing indicators in terms of dimensions and components, and subsequently, organizing this into a semi-structured interview form, which was refined through deep interviews, the Delphi technique, and brainstorming with the help of experts, continuing until theoretical saturation. In the end, the experts validated and prioritized the model, dimensions, components, and indicators. Data analysis was conducted in three stages: open, axial, and selective coding:

A) Open Coding: In this phase, 88 indicators were identified through national and global studies, and interviews with experts.

B) Axial Coding: In this stage, 5 dimensions, 13 components, and 88 indicators were identified through interviews with experts. It is worth mentioning that to avoid

lengthening the text of the article, the open and axial coding tables are not included.

C) Selective Coding: This stage, conducted by experts, prioritized the arrangement of 5 dimensions, 17 components, and 121 indicators, as stated in [Table 1](#).

### 3 Findings and Results

The model consists of 5 dimensions, 17 components, and 121 indicators. Furthermore, 1) Causal Factors: Digital Culture, Digital Security, and Digital Infrastructure; 2) Contextual Conditions: Digital Communications, Digital Structure, and Digital Economy; 3) Intervening Factors: Digital Intelligence, Digital Literacy, and Upper-Level Documents; 4) Strategies: Leadership Competencies, Cognitive Abilities, Professional Skills, and Human Skills; 5) Outcomes: Realization of Digital University, Economic Effects, Social Effects, and Environmental Impacts.

**Table 1**

*Dimensions, Components, and Number of Indices Constructing the Digital Leadership Model for Managers of Educational Organizations (Case Study: Islamic Azad University, Tehran Province)*

Indicators	Components	Dimensions
Predominance of risk-supportive behaviors in the university	Digital Culture	Causal Conditions
Predominance of transformational thinking-supportive behaviors in the university		
Predominance of structure-breaking behaviors and pursuit of new ideas (innovation) in the university		
Utilization of data and its analysis for making better business decisions		
Creation of cross-functional teams for optimizing organizational employees' skills (collaboration)		
Level of partnership with external networks such as third-party suppliers, startup companies, or customers (open culture)		
Culture in which digital solutions are considered as default strategies for solving organizational issues		
Adaptation to new technologies and changing demands of students and society		
Expansion of customer-oriented culture		
Confidentiality of student and employee information	Digital Security	
Authentication (clear identity of sender and receiver of information)		
Ensuring correct acceptance of information by students and the university		
Quick accessibility of students to services		
Ensuring user authentication during information changes		
Clarity of service risk for students		
Educating students and employees about not storing information (username and password, etc.)		
Self-regulated information exchange process	Digital Infrastructure	
Presence of a fully connected infrastructure		
Horizontal and vertical integration		
Appropriate bandwidth		
Receiving online information from students about their needs	Digital Communications	Contextual Conditions
Providing services based on students' expected value		
Offering facilities based on students' expected value		
Creating an appropriate platform for effective and timely communication between university employees and students		

Creating a platform for virtual networks and exchanging up-to-date and quick news and information		
Creating a quick and easy platform for solving students' problems and recording their opinions and suggestions		
Facilitating access to the network for all individuals	Digital Structure	
Providing a quick technology structure suitable for education		
Presence of an electronic system for problem-solving		
Presence of software support used by IT		
Presence of various models of suitable e-learning		
Providing affordable internet to learners		
Ability to monitor user interaction style in the digital space		
Elimination of geographical boundaries (globalization)	Digital Economy	
Low stability and high speed		
Turning competitors into collaborators in the digital space (ecosystem thinking)		
Distribution of power and wealth in society (decentralization)		
Creating interaction between producers and consumers (platform approach)		
The value of many products and services depends on the number of their users (network effects)		
Emphasis on intellectual and intangible capital		
Ability to maintain digital identity	Digital Intelligence	Intervening Conditions
Preserving digital privacy		
Managing digital consumption		
Managing digital safety		
Ability to establish effective and constructive communication in the digital space		
Recognizing information needs	Digital Literacy	
Identifying methods to access information		
Developing information search strategies		
Ability to search and access information		
Ability to compare and evaluate information obtained from various sources		
Ability to organize and apply information and relate it to prior knowledge		
Information arrangement (combination, construction, and positioning) and participation in creation		
Prioritizing education and research based on advantages, capacities, and needs of the country and the requirements to achieve the first scientific and technological position in the region	Upper-Level Documents	
Strengthening and deepening the bond between religious seminaries and universities and enhancing continuous strategic cooperation		
Strengthening and expanding the discourse of science production and software movement in the country		
Developing industries and services based on new sciences and technologies and supporting the production and export of knowledge-based products		
Turning the country into a center for registering scientific articles and attracting research outcomes of researchers, scientific elites, and innovators from other countries, especially the Islamic world		
Having a digital perspective to create the highest value through transformative technologies for the organization	Leadership Competencies	Strategies
Turning vision into reality		
Inspiring other members of the organization		
Communicating with other members based on discourse		
Being a model of responsibility in the organization		
Ability to adapt to environmental changes affecting university leadership		
Having a risk-taking spirit in response to environmental and societal changes		
Ability to make correct decisions when necessary		
Evaluating the environmental trend of virtual education and analyzing its impact on the university's future performance	Cognitive Abilities	
Coordinating intra-departmental goals with overall goals		
Developing plans to identify strengths, weaknesses, threats, and opportunities of virtual education		
Strategic virtual education		
Identifying stakeholder groups and their expectations		
Identifying key elements influencing learning performance enhancement		

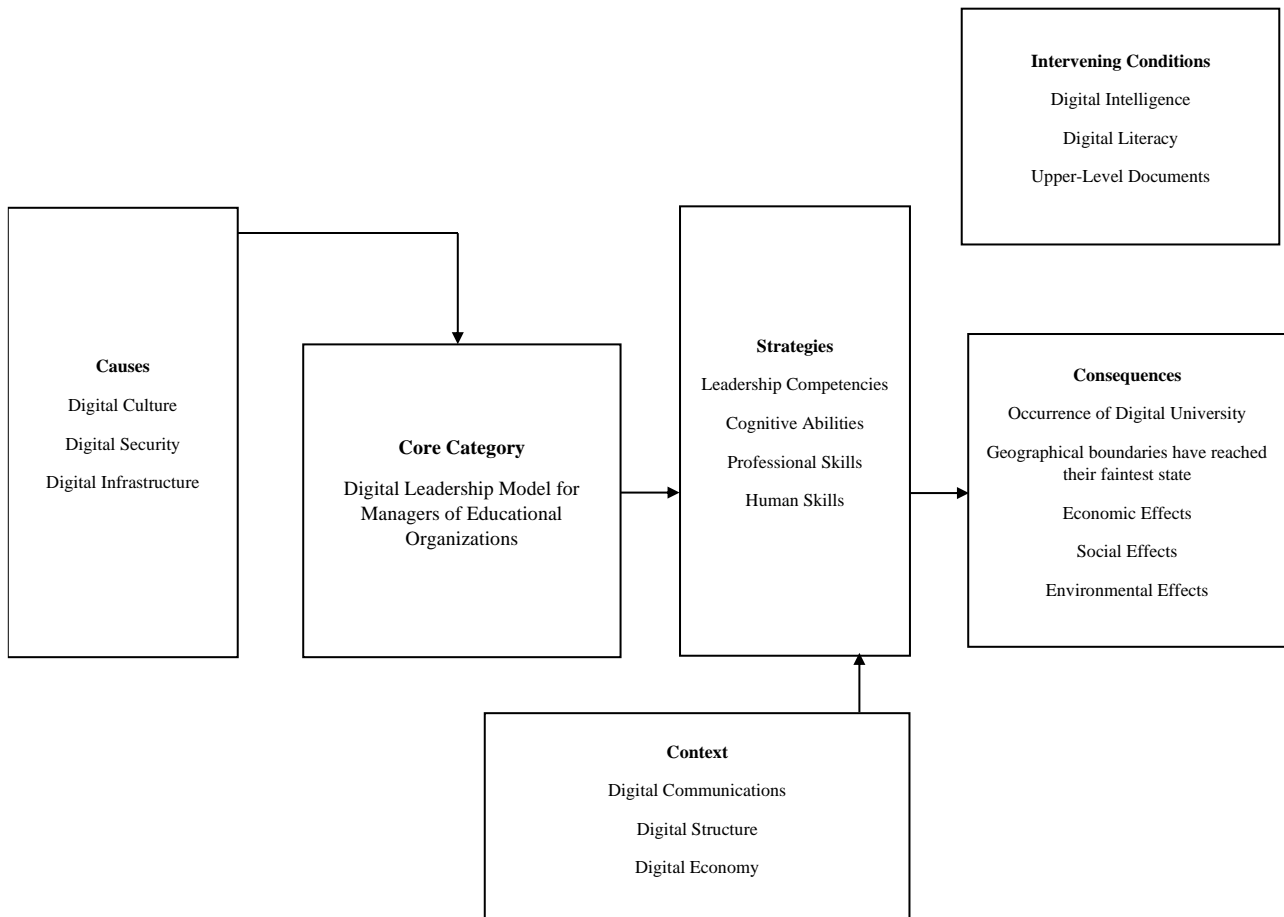
Consolidating different ideas and methods to achieve university goals		
Step-by-step examination of problems at a given time		
Positive response to new changes		
Challenging one's own and others' assumptions		
Having sufficient and up-to-date knowledge of the status of universities in the country	Professional Skills	
Striving for continuous improvement of educational and research processes of the university		
Having a proper understanding of the university's digital policy		
Having a proper understanding of the country's higher education laws and regulations		
Having a proper understanding of the country's digital accreditation regulations		
Benefiting from information literacy		
Benefiting from media literacy		
Benefiting from cross-cultural literacy		
Benefiting from environmental literacy		
Familiarity with analyzing environmental trends, market, and stakeholder interests	Human Skills	
Continuous communication with stakeholders		
Gaining the trust of stakeholders		
Respecting stakeholders		
Continuously assessing stakeholder satisfaction with the quality of services provided		
Professional conscience		
Persistence and indefatigability		
Establishing justice in the university		
Overlooking (forgiving) others' mistakes		
Being a custodian of the people and employees		
Having insight and imparting insight		
Having affection and good manners towards employees and stakeholders		
Being decisive in carrying out work duties		
Considering experience creation for stakeholders as the primary approach to revenue generation	Occurrence of Digital University	Outcomes
Innovation is the only way to succeed among competitors		
The most important asset of the university is data		
Flexibility in response to changes, stakeholders, etc.		
Providing high-quality educational services to a large number of students at one time		
Accessibility regardless of time and place		
Personalized learning		
Human and its social characteristics are the main focus of the digital university		
All individuals are effectively connected to create value		
The possibility of exchanging information, values, data, etc., among all individuals	Geographical boundaries have reached their faintest state	
Making decisions based on facts and according to circumstances		
Enhancing managers' empowerment in accelerating urban services	Economic Effects	
Reducing administrative corruption through transparency of processes		
Creating new employment in various sectors of society		
Saving in space, area, and human resources		
Online access to cultural, educational, etc., centers		
Raising the cultural level of society and educating digital citizens	Social Effects	
Improving citizens' access to urban services		
Increasing citizen participation in urban affairs		
Enhancing social order in society		
Gender equality in the digital society		
Reducing traffic by decreasing inner-city travels	Environmental Effects	
Reducing air pollution by reducing traffic		
Enhancing environmental health and preserving the environment		

The research findings present a paradigmatic model of digital leadership for managers of educational organizations

at Islamic Azad University, Tehran Province, as follows (Figure 1):

Figure 1

## Paradigm Model



#### 4 Discussion and Conclusion

This study aims to design a digital leadership model for managers of educational organizations amid the digital revolution, which is shaping the future of the world through a fundamental transformation. In this context, it is expected that each organizational sector will play its role in the success of this transformation. A key area in this realm is human resource leadership, as the survival of any organization requires serious actions and a shift from traditional processes alongside changing leadership paradigms in the digital realm. Therefore, organizations are obliged to nurture and develop leaders who can best align human resources with this trend.

In summary, digital leadership in educational organizations has positive and appealing effects. This type of leadership not only helps improve the teaching and

learning process and enhance digital skills but also provides innovative educational opportunities and improves the educational experience for individuals.

The findings of this study align with the results of other studies. Molazehi and colleagues (2021) showed that digital governance structure and digital technological infrastructure are the underlying variables of the digital leadership model. These variables are the most influential in the model, directly affecting the formulation of digital strategy. Similarly, the formulation of digital strategy impacts human resource management and digital policy-making. Through digital policy and human resource management, digital culture can be institutionalized in the organization, ultimately achieving digital leadership (Molazahi et al., 2021).

Some examined the competencies of digital leaders. The identified dimensions include emotional intelligence, social intelligence, digital intelligence, technical-social resource alignment, competitive insight, leadership, organizational

learning and innovation, technological intelligence, user-centeredness, cultural and economic insight into the digital economy. The findings of this research can assist organizational stakeholders and researchers in this field to understand the various aspects of digital leaders' competencies and create a foundation for their development and equipping them with new competencies (Petrucci & Rivera, 2018; Porffrio et al., 2021).

Shin and colleagues (2023) demonstrated that digital leadership has a direct and indirect positive impact on organizational performance. In addition, the digital culture and digital capabilities of employees somewhat mediate the relationship between digital leadership and sustainable organizational performance in South Korea (Shin, Mollah, & Choi, 2023). Others showed that digital leadership of school managers predicts teachers' job satisfaction. When leaders are competent for leadership and modeling in the digital age, their subordinates find greater satisfaction in their work. Therefore, educational programs to improve the digital leadership of school managers are necessary to increase teachers' job satisfaction, especially as technology plays a significant role in diverse educational activities. The most important characteristics include digital literacy, digital intelligence, human and professional skills (Tanucan, Negrado, & Malaga, 2022; Tulungen, Tewal, & Pandowo, 2022).

Digital technologies are changing and advancing at an unprecedented rate. Digital leaders, with mastery over these changes and flexibility, can guide organizations towards change and adaptation to the digital world. Digital leadership leads to improved productivity and efficiency of organizations. By leveraging technologies, digital leaders can enhance organizational processes, facilitate communications between units, and pursue organizational performance optimization (HosseiniNasab, ShamiZanjani, & Gholipor, 2021). Digital leaders aid in the advancement of innovation processes in organizations. By creating a space for encouraging new ideas and the ability to analyze data, they can promote innovation in organizations and strengthen their competitive abilities. Digital leaders improve internal and inter-organizational communications. Using virtual communication and collaboration tools, they can transmit information quickly and accurately, facilitate collaboration and interaction, and connect teams. Digital leadership facilitates better and wiser decision-making by utilizing accurate and timely data and information (Asemannasab & ghadami, 2021; Porffrio et al., 2021). Digital leaders, using data analysis and information-based decision-making tools,

can make decisions based on the best evidence and statistics. In the digital world, the speed of action and response to changes is very important. Digital leaders, with the power of quick decision-making and responsiveness to immediate changes, can keep the organization on the path of growth and progress (Tulungen, Tewal, & Pandowo, 2022).

Therefore, digital leadership not only aids in interacting with digital technologies but also enhances leaders' abilities in improving organizational performance, promoting innovation, increasing productivity, and improving communications. This type of leadership in organizations can be considered a key factor for growth and advancement in the modern digital world. Digital leadership has significant impacts on educational organizations. Below, some of the important impacts are mentioned: Changing approaches and methods of education: Digital leadership can cause changes in traditional educational approaches and methods. The use of digital technologies and education tools based on these technologies improves the process of teaching and learning. Examples of these changes include the use of online learning platforms, digital educational resources, webinars, and virtual classes. With digital leadership, educational organizations can make education accessible online at any time and place. This can lead to greater access to educational opportunities, especially in situations where there are location and time constraints. Digital leadership can strengthen collaboration and interaction among members of educational organizations. Using virtual tools and platforms, individuals can easily share information and content, collaborate in groups and teams, and share their experiences with each other. These interactions can lead to improved and expanded knowledge in individuals.

## 5 Limitations and Suggestions

This study aims to design a digital leadership model for managers of educational organizations amid the digital revolution, which is shaping the future of the world through a fundamental transformation. In this context, it is expected that each organizational sector will play its role in the success of this transformation. A key area in this realm is human resource leadership, as the survival of any organization requires serious actions and a shift from traditional processes alongside changing leadership paradigms in the digital realm. Therefore, organizations are obliged to nurture and develop leaders who can best align human resources with this trend.

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## Declaration of Interest

The authors of this article declared no conflict of interest.

## Ethics principles

In this research, ethical standards including obtaining informed consent, ensuring privacy and confidentiality were observed.

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