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Digital Leadership: Challenges and Opportunities in the Era of Technology

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Abstract

This study aims to highlight the concept of digital leadership by analyzing the opportunities and challenges leaders face in the digital age. The researcher utilized a descriptive-analytical method and employed a questionnaire to collect data distributed among public and private sector participants. The findings revealed that resistance to change and lack of digital skills are primary challenges. Conversely, leveraging data analytics tools, digital collaboration platforms, and enhancing infrastructure through training were identified as key opportunities to improve operational efficiency and enable informed decision-making that fosters transparency and innovation.

Keywords:

- *Digital Leadership: The organization's ability to manage and direct resources using digital technologies in ways that foster innovation and achieve strategic objectives.*
- *Digital Transformation: The process of leveraging digital technology to fundamentally change how institutions operate and deliver services, aiming to improve efficiency, customer experience, and innovation capacity.*
- *Technological Challenges: The obstacles or difficulties organizations encounter when adopting or implementing modern technologies.*
- *Institutional Innovation: The organization's ability to develop ideas, products, and services in novel ways that enhance competitiveness and create added value.*

Introduction

Technology in today's era is essential for individuals' lives and the continuity of organizations. Technological advancements have driven comprehensive transformations across various sectors, such as education, health, economy, and communications. This rapid evolution has placed managers and leaders under significant pressure to develop administrative mechanisms that transcend traditional roles, innovating and adopting modern management approaches suited to the digital age.

Given the increasing importance of adapting to these transformations, the demand for exceptional leaders equipped with advanced technological competencies has become a critical factor enabling organizations to achieve success, attain their goals, and enhance competitiveness. Digital leadership stands out for its ability to integrate traditional knowledge and skills with technological competencies, fostering innovative solutions that enhance efficiency and organizational performance.

Amid these changes and rising competition among organizations, the need for visionary leaders with high digital competencies to capitalize on promising technological opportunities has become evident. This study aims to explore the concept of digital leadership as a comprehensive phenomenon that merges digital transformation with leadership skills, emphasizing the challenges and opportunities in this field.

The study also sheds light on key themes such as change management, data protection, developing employees' digital skills, and utilizing advanced technological tools to support strategic decision-making. By providing in-depth insights and practical tools, the study aims to help leaders balance technical and human aspects of leadership effectively.

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Previous Studies

Study by Smith (2021):

This study examined the relationship between digital leadership and organizational transformation. It employed a quantitative research method, using a questionnaire as a tool to collect data from leaders of major technology sector companies. The study revealed that 75% of leaders believe that digital transformation contributes to improved organizational performance. It highlighted challenges such as a lack of digital skills among leaders, employee resistance to change, and difficulties in coordinating across multiple teams.

Study by Linda (2020)

This study explored the challenges and opportunities faced by digital leaders in the 21st century, emphasizing the need to develop appropriate digital tools. A case study and qualitative approach were used to collect data. The study found that 70% of participants indicated that cloud technologies were essential for improving team collaboration. Key challenges included managing cultural change within organizations and developing flexible technology strategies.

Study by Roberts (2019)

This research focused on the role of digital leadership in achieving sustainable innovation in organizations. It utilized a mixed-methods approach combining quantitative and qualitative methodologies. The findings showed that 89% of participants emphasized that sustainable innovation requires the use of new technologies such as artificial intelligence and big data analytics. Challenges included the inability to accurately measure innovation outcomes.

Study by Brown (2022)

This study highlighted the impact of digital leadership on organizational resilience in dynamic work environments. It adopted a quantitative research method with advanced statistical analysis techniques. The results indicated that digital leadership enhances organizational resilience, particularly in sectors requiring rapid adaptation to technological changes. Challenges included internal resistance to change and the absence of a clear digital transformation plan.

Study by Anderson (2021)

This study addressed the competencies necessary for digital leadership to foster innovation. It used a mixed-methods approach, incorporating surveys and field visits. The results showed that leaders with advanced digital competencies were better equipped to drive innovation within their companies. Challenges included difficulties in measuring the impact of digital innovation and the lack of tools to analyze big data.( )

Study by Lee (2020)

This research examined the challenges faced by digital leadership in an era of rapid digital transformation and how to leverage technological opportunities to improve organizational performance. It employed an exploratory research methodology. The identified opportunities included enhancing communication effectiveness within teams and improving decision-making through digital tools. Challenges involved adapting to new technologies and effectively allocating digital tasks and resources.

Study by Carter (2019)

This study investigated the role of digital leadership in enhancing organizational performance, focusing on the application of modern technologies to increase efficiency and effectiveness. It utilized qualitative data analysis with semi-structured questionnaires sent to 120 leaders from various industries. Results revealed

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that leaders integrating technologies such as artificial intelligence and data analytics into their strategies were better at improving organizational performance. Challenges included insufficient digital infrastructure and employee resistance to new technologies.

Commentary on Previous Studies

The previous studies provide a comprehensive understanding of the relationship between digital technology, leadership, and organizational transformation, highlighting the challenges and opportunities digital leaders face. These studies emphasize the importance of cloud technologies in enhancing collaboration, communication, and decision-making processes. Common challenges include employee resistance to change and difficulties in measuring the impact of digital innovation.

The studies employed both quantitative and qualitative methods to analyze the interplay between digital technology, leadership, and organizational transformation, enabling an in-depth exploration of digital strategies and their role in leadership.

Regarding areas of convergence and divergence, some studies focused on improving organizational performance through data analytics, while others emphasized the digital competencies required to drive innovation.

The current paper aims to address research gaps insufficiently covered in previous studies by integrating these insights and exploring the relationship between digital competencies, innovation, and technological challenges. To achieve this, the paper focuses on the following key areas:

Analyzing the Dynamic Relationship Between Challenges and Opportunities:

The paper seeks to understand how technical and cultural challenges interact with digital opportunities to support organizational resilience and adaptability.

Developing a Practical and Strategic Model

The paper proposes a framework that integrates digital transformation with leadership practices to overcome challenges and sustainably leverage opportunities.

Expanding the Scope of Analysis

The analysis focuses on the impact of digital technology on leadership across multiple sectors rather than a single industry, enhancing the comprehensiveness of the vision and contributing to a holistic understanding of the role of digital technology in improving leadership and overcoming challenges for sustainable organizational transformation.

Through these key areas, the paper aims to provide a significant contribution to the field of academic research by developing a deeper understanding of the role of digital technology in shaping leadership practices and achieving organizational transformation in line with the demands of the digital age.

Digital Leadership: A Modern Concept

Digital leadership is a modern concept that refers to the ability to lead individuals and organizations in an environment heavily reliant on digital technology. It requires skills in innovation, change management, and leveraging digital tools to achieve strategic objectives and enhance performance. Digital leadership encompasses adopting digital solutions, interacting effectively with modern technologies, and fostering a digital culture within organizations

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Definition of Digital Leadership

Digital leadership is defined as the ability to interact with rapid changes in the digital environment and utilize data and smart technologies to enable teams to achieve innovative and efficient outcomes. It demands a comprehensive understanding of technology, including cloud computing, artificial intelligence, and big data analytics, alongside excellence in making data-driven strategic decisions.

Elements of Digital Leadership

Digital Agility

The ability to adapt to fast-paced technological advancements. This includes preparing for continuous digital challenges, efficiently managing change, and guiding teams to respond swiftly to technological innovations. Digital agility also involves updating business strategies to align with modern tools and providing necessary training for employees.

Technological Empowerment

Harnessing digital tools such as artificial intelligence, data analytics, and cloud technologies to improve performance and make accurate, data-driven decisions.

Continuous Innovation

Encouraging creativity and adopting modern digital solutions to enhance competitiveness. This includes applying technologies like AI in various business areas and fostering a culture of innovation within teams.

Transparency

Utilizing technological tools like digital collaboration platforms to enhance open communication channels. Transparency ensures effective information sharing by providing live performance reports through digital systems.

Continuous Learning

Digital leaders must be committed to continually learning new technological skills. This involves creating a flexible learning environment for employees to acquire knowledge through innovative methods.

Data-Driven Decision Making

Leaders are expected to use data analytics tools to make precise decisions based on accurate, fact-supported information.

Challenges in Digital Leadership

Digital Skills Gap

Many leaders face a lack of essential digital skills such as programming, data analysis, and understanding complex systems. This deficiency affects their ability to make strategic, data-driven decisions and fully exploit technology to enhance organizational performance.

Resistance to Change

Rapid digital transformation often encounters resistance from teams or individuals unwilling to adopt new technologies. Common fears include job loss, difficulty adapting to modern systems, or concerns about failing to manage changes effectively.

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Cybersecurity Threats

Increased reliance on digital systems exposes organizations to risks like cyberattacks, data breaches, and targeted threats. Leaders must adopt comprehensive strategies to protect sensitive information, including advanced security measures and continuous employee training.

Managing Big Data

While big data offers vast opportunities for enhancing operations and making informed decisions, it requires advanced tools and techniques for effective management. Leaders need to guide their teams in leveraging the hidden value of big data to gain a competitive edge and achieve sustainable growth.

Opportunities in Digital Leadership

Effective Communication

Digital communication tools enhance collaboration and boost productivity, especially in distributed work environments.

Promoting Transparency

Digital platforms make information accessible, fostering transparency within organizations and providing clear insights into financial performance, leadership decisions, and strategic developments.

Data-Driven Decision Making

Advanced analytical tools enable leaders to gather and analyze accurate data on performance, market trends, customer behavior, and internal processes, leading to more informed decision-making.

Driving Digital Transformation

Digital leadership is central to implementing digital transformation within organizations, guiding teams to adopt technologies like AI and cloud systems to improve operations and boost efficiency.

Importance of Digital Leadership Theory

Enhanced Decision-Making Speed and Quality

The theory helps leaders leverage big data and intelligent analytics to make quick and accurate decisions. Technologies like AI and machine learning provide reliable information swiftly, improving decision quality and effectiveness.

Increased Productivity through Automation and Simplified Processes

Digital tools automate administrative and operational processes, reducing human errors, accelerating task completion, and cutting costs. This agility allows organizations to adapt to market and business environment changes more rapidly.

Improved Employee and Customer Experiences

Smart technologies such as AI enable sentiment analysis and provide leaders with insights to refine communication strategies and strengthen relationships. They also enhance employee experiences by offering innovative tools that boost efficiency and satisfaction.

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Translation: Presentation and Analysis of Survey Results

The researcher aimed to present and analyze the results of the field study conducted, using descriptive statistical tools such as standard deviation and mean to determine the absolute dispersion of the responses of the sampled individuals from the hypothetical mean. This was done to provide a detailed general framework of the respondents' opinions and orientations. In addition, inferential tests such as correlation and regression were employed to examine the relationship between the role of digital leadership in addressing the challenges of the technological era and leveraging its opportunities.

To achieve this objective, a questionnaire consisting of 12 questions was designed and divided into three axes: the first axis addressed personal data, the second focused on the challenges facing digital leadership, and the third explored the opportunities available for digital leadership.

Study Methodology

The researcher followed the descriptive-analytical method, which is suitable for the nature and objectives of this study. This method helps build a knowledge framework by utilizing literature and various sources, whether secondary or primary. The study relied on the questionnaire to collect primary data to assess the role of digital leadership in addressing challenges and exploiting opportunities in the technological era.

Study Population and Sample

The study population included organizations that heavily rely on digital technology in both the public and private sectors. The researcher selected a sample using a random sampling technique, distributing 55 questionnaires to the study population, of which 47 were returned and deemed valid for analysis.

Table (2). Description of Personal Data of the Respondents

Gender Frequency Percentage %	Male	43	91.5
	Female	4	8.5
	Total	47	100
Age Frequency Percentage %	**Less than 30 years**	8	17.0
	30 to less than 40 years	16	34.0
	40 to less than 50 years	14	29.8
	50 years and above	9	19>2
	Total	47	100
Job Level Frequency Percentage	**Manager**	17	36.2
	Technical Employer	20	42.6
	Consultant/ Expert	10	21.2
	Total	47	100
Years of Experience in Digital Leadership Frequency Percentage	**Less than 5 Years**	10	21.3
	5 to Less than 10 Years	11	23.4
	More than 10 Years	26	55.3
	Total	47	100

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Sector Frequency Percentage	Government	14	29.8
	Private	33	70.2
	Total	47	100

Key Observations

- Age Distribution: 63% of the sample falls within the 40–50-year age group, while only 17% are younger than 30 years, and 19.2% are aged over 50.
- Gender: The majority of respondents are male, accounting for 91.5%, compared to 8.5% females.
- Job Level: The largest group consists of technical employees (42.6%), followed by managers (36.2%) and consultants/experts (21.2%).
- Sector: The private sector represents the majority (70.2%), while the public sector accounts for 29.8%.
- Years of Experience in Digital Leadership: 55.3% of the respondents have more than 10 years of experience, 23.4% have 5 to 10 years of experience, and 21.3% have less than 5 years of experience.

Study Tool

The data collection tool was a questionnaire developed by the researcher after reviewing relevant literature and prior studies on digital leadership: challenges and opportunities in the technological era. The questionnaire covered all aspects of the study and aimed to address the research questions, problem, and hypotheses. It consisted of two sections:

- Personal Data Section: Addressing demographic information.
- Core Data Section: Addressing key aspects of the study.

Instrument Validity

To ensure the validity and clarity of the questionnaire, it was reviewed by judges and specialists in management and applied statistics (e.g., Dr. Abu Al-Qasim Abdullah Sharaf Al-Din). Based on their feedback, the final version of the questionnaire was refined and distributed to respondents.

Instrument Reliability

To determine the reliability of the tool, Cronbach's Alpha coefficient was used. Some questions were removed due to low reliability values until the final coefficient reached 68%, which is considered acceptable as the minimum acceptable threshold is 60%.

Descriptive Statistics

Question	**N**	**Mean**	**Std. Deviation**
What is the biggest challenge you face in implementing digital leadership?	47	3.04	1.23284
To what extent does the lack of training in digital competencies impact your organization?	47	3.4681	0.92903
Do you notice resistance from the team to adopt digital technologies?	47	1.3617	0.48569

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What are the most effective digital tools in your organization to achieve digital leadership goals?	47	3.2128	0.95408
What skills do you think are essential for digital leaders?	47	3.2553	1.03142
How do you assess the importance of continuous training for digital leadership?	47	3.8085	0.39773
What strategies can be adopted to overcome the challenges of digital leadership?	47	3.1702	1.25662

Valid N (listwise): 47

Second Dimension: Challenges in Digital Leadership

Response	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
Lack of digital skills	23	48.9%	48.9%	48.9%
Resistance to change	10	21.3%	21.3%	70.2%
Cybersecurity	3	6.4%	6.4%	76.6%
Big data management	11	23.4%	23.4%	100.0%
Total	47	100.0%	100.0%	100.0%

Figure (2) illustrates the challenges facing the implementation of digital leadership.

It is evident from the table and Figure (2) the extent of challenges in applying digital leadership. The responses from the sample indicate that 48.9% of the participants identified a lack of digital skills as a challenge, with a mean score of 3.46 and a standard deviation of 1.23. Meanwhile, 23.4% pointed to the management of big data, and 21.3% identified resistance to change as a challenge, with a mean score of 1.36 and a standard deviation of 0.485. The lowest percentage, 6.4%, was attributed to cybersecurity issues.

Table 3. Illustrates The Skills That Are Perceived as Essential for Digital Leaders

Skill	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
Data-Driven	11	23.4	23.4	23.4
Decision Making	22	46.8%	46.8%	70.2%
Adaptability to Change	5	10.6%	10.6%	80.9%
Fostering Innovation	9	19.1%	19.1%	100.0%
Total	**100.0%**	**%100**		

Figure (5). Illustrates the Resistance of the Team to Implement Digital Technologies

It is evident from the table and Figure (5) that the extent of resistance from the team to implement digital technologies was assessed. The sample responses indicate that 63.8% of participants answered "Yes," while 36.2% answered "No," with a mean score of 1.36 and a standard deviation of 0.485. This reflects a significant variation in responses and indicates a clear consensus that resistance is minimal.

Table (6). Strategies to Overcome the Challenges of Digital Leadership

Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**	**Strategies**
19	40.4%	40.4%	40.4%	Continuous training for teams and creating an appropriate environment through

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				organizing courses on the latest technologies.
13	27.7	27.7	27.7	Setting precise goals.
5	10.6	10.6	10.6	Strengthening knowledge and digital skills, and promoting self-learning.
8	17.0%	17.0%	17.0%	Clarifying the importance of data analysis for decision-makers to achieve efficiency.
47	100%	100%	100%	Total

Figure (6) illustrates the strategies that can be adopted to overcome the challenges of digital leadership.

According to the data presented in the table and figure, 40.4% of the respondents indicated that continuous training for work teams and providing an appropriate environment through organizing courses on the latest technologies are essential strategies. Meanwhile, 27.7% emphasized the importance of accurately setting objectives, and 17% highlighted enhancing digital knowledge and skills, as well as self-learning. The lowest percentage, 4.3%, pointed to the significance of explaining the importance of data analysis to decision-makers to achieve efficiency. The results showed a mean of 3.17 and a standard deviation of 1.25, reflecting a relative consensus on the presence of clear and significant strategies to overcome these challenges.

Table (7). Opportunities Enabled by Digital Leadership in Your Organization

Statements	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
Enabling remote work	5	10.6	10.6	10.6
Enhancing operational efficiency, fostering innovation, and enabling remote work	6	12.8	12.8	12.8
Improving operational efficiency and enabling remote work	3	6.4	6.4	6.4
Improving operational efficiency and making data-driven decisions	10	21.3	21.3	21.3
Enhancing operational efficiency, fostering innovation, and making data-driven decisions	5	10.6	10.6	10.6
Enhancing operational efficiency, enabling remote work, and making data-driven decisions	8	17.0	17.0	17.0
Improving operational efficiency	10	21.3	21.3	21.3
Total	47	100	100	

Figure (7) illustrates the opportunities offered by digital leadership

It is observed from the table and Figure (7) above, which highlights the opportunities provided by digital leadership in your organization, that the responses of the sample participants were as follows:

- 21.3%: Better decisions based on data and improved operational efficiency.
- 17%: Improved operational efficiency, enabling work, and making better decisions based on data.
- 12.8%: Improved operational efficiency, fostering innovation, and enabling remote work.
- 10.6%: Improved operational efficiency, fostering innovation, making better decisions, and enabling remote work.

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- The lowest percentage was 6.4%, reflecting improved operational efficiency and enabling remote work.

With a mean score of 4.44 and a standard deviation of 2.03, this indicates a high consensus on the existence of significant opportunities.

Table (8). Illustrates The Most Effective Digital Tools in Your Organization to Achieve Digital Leadership Objectives

Statement	Frequency	Percent	Valid Percent	Cumulative Percent
Digital collaboration platforms	17	36.2	36.2	36.2
Artificial intelligence	3	6.4	6.4	6.4
Data analytics	27	57.4	57.4	57.4
Total	47	100	100	

Figure (8) illustrates the most effective digital tools for achieving objectives.

It is observed from the table and Figure (8) above, which show the most effective digital tools in your organization for achieving digital leadership goals, that the responses of the sample participants were as follows:

- 57.5% of the sample participants indicated data analysis as the most effective tool.
- 36.2% of the sample participants identified digital collaboration platforms as effective.
- The smallest group, 6.4%, chose artificial intelligence.

Table (9). Do You Think the Use of Digital Tools Has Contributed to Improving Institutional Transparency?

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	38	80.9	80.9	80.9
No	1	2.1	2.1	2.1
Not sure	8	17.0	17.0	17.0
Total	47	100	100	

Figure (9) illustrates the extent to which the use of digital tools contributes to improving institutional transparency.

From the table and figure (9) above, it is evident that the responses of the sample participants regarding whether the use of digital tools has contributed to improving institutional transparency are as follows:

- 80.9% of the sample answered "Yes."
- 17.1% of the sample answered "No."
- The mean score was 1.36, indicating a general consensus that digital tools have not significantly contributed to achieving the desired goals.

Table (10). How Do You Evaluate the Importance of Continuous Training for Digital Leadership?

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Response	Frequency	Percent	Valid Percent	Cumulative Percent
Moderately Important	9	19.1	19.1	19.1
Very Important	38	80.9	80.9	80.9
Total	47	100	100	100

Figure (10): The Importance of Continuous Training for Digital Leaders

Figure (10) above illustrates the significance of continuous training for digital leadership. The survey results indicate that 80.9% of the respondents acknowledged the importance of continuous training for digital leaders, while 19.1% believed it to be moderately important for maintaining training continuity. The calculated mean was 3.80, with a standard deviation of 0.0397. These findings highlight the critical role of continuous training in enhancing employees' skills and capabilities.

Hypothesis Testing

Hypothesis 1:

"There is a statistically significant relationship between years of experience and the utilization of job opportunities in digital leadership."

We used the Chi-Square test to examine whether years of experience play a role in leveraging job opportunities in digital leadership. The results were as follows:

Years of Experience in Digital Leadership	Digital Collaboration Platforms	Artificial Intelligence	Data Analytics	Total
Less than 5 years	3	1	6	10
5 to less than 10 years	7	0	4	11
More than 10 years	7	2	17	26
Total	17	3	27	47

Chi-Square Test Results

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.139[a]	4	.273
Likelihood Ratio	5.562	4	.234
Linear-by-Linear Association	.465	1	.495
N of Valid Cases	47		
a. 5 cells (55.6%) have expected count less than 5. The minimum expected count is .64.			

Analysis

Since the significance value (Sig = 0.273) is greater than 0.05, the result is not statistically significant. This indicates that there is no significant relationship between years of experience and the utilization of job opportunities in digital leadership. This outcome is expected, given the lack of sufficient training among administrative leaders.

Hypothesis 2

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"There is a statistically significant relationship between developing digital leadership and overcoming challenges in digital management."

The Chi-Square test was also employed to analyze the relationship between digital leadership development and addressing challenges in digital management. The analysis focused on the comparison of the two questions:

- "To what extent does the lack of training in digital skills impact your organization?"
- "What strategies can be adopted to overcome digital leadership challenges?"

Item	Scale Mean	Scale Variance	Corrected Item	Cronbach's Alpha
What is the biggest challenge you face in applying digital leadership?	8.2979	3.344	-305	-211a
What strategies can be adopted to overcome the challenges of digital leadership?	8.1702	3.014	-253	-354a
What skills do you think are essential for digital leaders?	8.0851	3.080	-180	-541a
Do you notice resistance from the team in applying digital technologies?	8.9787	3.369	-064	-708a
Age	7.8298	3.057	-161	-585a

Impact of Lack of Training on Digital Competencies in Your Organization

Impact Level	Continuous Training	Precise Goal Setting (1	Precise Goal Setting (2)	Enhancing Knowledge & Skills	Clarifying Importance of Data Analysis	Total
Very Weak	0	1	0	0	1	2
Weak	0	1	2	0	0	3
Medium	9	5	1	2	1	18
Strong	9	3	1	6	0	19
Very Strong	1	3	1	0	0	5
Total	19	13	5	8	2	**47**

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	32.349[a]	16	.009
Likelihood Ratio	25.222	16	.066
Linear-by-Linear Association	.957	1	.328
N of Valid Cases	47		
a. 22 cells (88.0%) have expected count less than 5. The minimum expected count is .09.			

The Chi-Square value was 32.34, which is statistically significant since the significance value (sig) = 0.009, which is less than 0.05. Therefore, there is a statistically significant relationship between the development of digital leadership and overcoming the challenges faced by digital management.

Results: Based on the analysis, interpretation, and discussion of the study data, the researcher reached the following conclusions:

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- The gap in digital skills: Most of the respondents highlighted that the lack of digital skills is the biggest challenge and an obstacle to implementing digital leadership, with 48.9% emphasizing this, while 40.4% focused on the lack of training, as shown in Table (2).

- Employee resistance to change: About 63.8% of participants observed resistance from work teams to adopting digital technologies (Table 5).

- The need to focus on digital tools: Participants indicated that data analysis and digital collaboration platforms are effective in achieving the goals of digital leadership, with 57.4% and 36.2% affirming this, respectively, as shown in Table (8).

- The importance of continuous training: The sample emphasized the importance of continuous training to enhance and improve the skills and capabilities of digital leaders, with 80.9%, as noted in Table (9).

- Opportunities offered by digital leadership: The main opportunities highlighted include improving operational efficiency and data-driven decision-making, with a percentage of 21.3%, as shown in Table (7).

- No statistically significant relationship exists between years of experience and utilizing job opportunities.

- There is a statistically significant relationship between the development of digital leadership and overcoming challenges.

Recommendations: In light of the study findings, the researcher recommends the following:

- Focus on digital competency training: Establish a continuous training program targeting employees at all administrative levels, emphasizing mastering the use of digital tools for data collection and analysis.

- Address resistance to change: Implement appropriate guidance and awareness strategies and effective communication channels to showcase the benefits of digital transformation on leadership performance, fostering a supportive and innovative work environment.

- Develop digital infrastructure: Invest in modern technologies to facilitate the adoption and integration of digital tools, such as cloud computing and digital collaboration platforms.

- Encourage innovation: Make informed decisions to create specialized teams in digital technologies that support and enhance innovation.

- Enhance institutional transparency: Rely on clear digital tools that enable access to information and foster trust within administrative levels.

- Future recommendation: Leaders should focus on integrating and adopting digital leadership within their strategic plans while also monitoring performance through clear metrics to understand the impact of digital transformations on institutional performance.

Conclusion

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This study aimed to highlight the role of digital leadership in supporting digital transformation within organizations by identifying effective methods to address challenges such as the lack of digital skills and resistance to change, while accelerating the utilization of opportunities provided by the technological era. The study results emphasized the importance of digital leadership in improving operational efficiency and making sound, data-driven decisions that promote transparency. This underscores the need for continuous investment in training and the development of digital infrastructure. The study advises decision-makers in digital leadership to adopt comprehensive and balanced strategies that integrate digital transformation with effective human resource management, ensuring success amidst contemporary challenges and sustainability in a dynamic work environment.

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Applied College - Huraymila Branch

Survey on Digital Leadership: Challenges and Opportunities in the Era of Technology

Dear Participant,

Peace, mercy, and blessings of Allah be upon you.

First, we thank you for your interest and contribution in answering the survey questions on "Digital Leadership: Challenges and Opportunities in the Era of Technology." This survey aims to study how digital leadership impacts organizational performance. All responses will be used solely for scientific research purposes.

Section 1: Personal Information

1. Age:

Less than 30 years

30 – 40 years

40 – 50 years

More than 50 years

2. Gender:

Male

Female

3. Job Level:

Leader/Manager

Technical Employee

Consultant/Expert

4. Sector:

Government

Private

5. Years of experience in digital leadership:

Less than 5 years

5–10 years

More than 10 years

Section 2: Challenges in Digital Leadership

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1. What is the biggest challenge you face in implementing digital leadership?

Lack of digital skills

Resistance to change

Cybersecurity

Big data management

2. What strategies can be adopted to overcome digital leadership challenges?

Continuous training for teams and providing a conducive environment through courses on the latest technologies

Defining goals precisely

Enhancing digital knowledge, skills, and self-learning

Highlighting the importance of data analysis for decision-makers to improve efficiency

3. Do you observe resistance from your team in adopting digital technologies?

Yes

No

4. What skills do you believe are essential for digital leaders?

Data management

Data-driven decision-making

Adaptability to change

Promoting innovation

Section 3: Opportunities in Digital Leadership

1. What opportunities does digital leadership provide in your organization? (You may select more than one option)

Improving operational efficiency

Promoting innovation

Enabling remote work

Making better data-driven decisions

2. Do you think the use of digital tools has contributed to improving institutional transparency?

Yes

No

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Not sure

3. What are the most effective digital tools in your organization for achieving digital leadership objectives?

Digital collaboration platforms

Artificial intelligence

Data analytics

4. How do you assess the importance of continuous training in digital leadership?

Very important

Somewhat important