

Abstract:

The research examined the implementation of digital leadership and its impact on the quality of professional performance among faculty members in Saudi universities.

The Reality of Digital Leadership Practice and its Relationship to The Professional Performance Quality Among Faculty Members at Saudi Universities

أ.م.د. فاطمة طريقي العتيبي

كلية التربية، جامعة أم القرى

ftotaibi@uqu.edu.sa

Using a descriptive correlational approach, the study involved a sample of 300 faculty members from various Saudi universities. The results revealed that digital leadership plays a pivotal role in enhancing professional performance by modernizing educational practices and optimizing both administrative and teaching functions. It promotes a culture of innovation and active participation through the integration of advanced digital tools, fostering collaborative environments, and supporting ongoing professional development. The study highlights the critical role of digital leadership in closing gaps in educational quality and keeping pace with global advancements. It recommends that universities should focus on developing digital leadership skills to achieve higher levels of academic excellence and competitiveness. Furthermore, the research advocates for additional studies to investigate the broader effects of digital leadership and to devise specific strategies to address the unique challenges faced by Saudi higher education institutions.

Keyword: (Digital Leadership, Professional Performance quality, Faculty members, Saudi Universities, Saudi Arabia)

المخلص:

يهدف هذا البحث إلى التعرف على مدى ممارسة القيادة الرقمية وعلاقتها بجودة الأداء المهني لأعضاء هيئة التدريس في الجامعات السعودية. باستخدام المنهج الوصفي الارتباطي، تم إجراء الدراسة على عينة مكونة من ٣٠٠ عضو هيئة تدريس من مختلف الجامعات السعودية باستخدام استبانة معدة

خصيصاً لهذا الغرض. أظهرت النتائج أن القيادة الرقمية تسهم بشكل كبير في تحسين الأداء المهني، مما يؤكد دورها في تحديث الممارسات التعليمية وتعزيز الوظائف الإدارية والتدريسية. كما تبين أن القيادة الرقمية تعزز من ثقافة الابتكار والمشاركة من خلال دمج الأدوات الرقمية المتقدمة، وتحفيز البيئات التعاونية، ودعم التطوير المهني المستمر. تشدد الدراسة على أهمية القيادة الرقمية في سد الفجوات المتعلقة بجودة التعليم، وتساعد الجامعات على مواكبة التطورات العالمية، مشيرةً إلى أن تطوير مهارات القيادة الرقمية يجب أن يكون من أولويات الجامعات لتحقيق معايير أعلى من التميز الأكاديمي والتنافسية. بناءً على النتائج، يوصي الباحث بإجراء المزيد من الدراسات التي تستكشف تأثيرات القيادة الرقمية بشكل أوسع، وتطوير استراتيجيات مخصصة للتغلب على التحديات التي تواجه التعليم العالي في السعودية.

الكلمات المفتاحية: القيادة الرقمية، جودة الأداء المهني، أعضاء هيئة التدريس، الجامعات السعودية، المملكة العربية السعودية.

Introduction:

The 21st century witnesses rapid and successive developments in information and communication technology, impacting various aspects of life. To effectively confront these challenges, educational leadership that relies on modern digital technology is necessary. Individuals now live in a digital life, managing their personal and professional aspects through digital technology. In response to the accelerated changes in the digital world, digital leadership has emerged.

Digital leadership is an important type of leadership for institutions to thrive in the digital age by adapting business strategies and transforming them into digital forms that achieve organizational goals. Digital leaders utilize and enhance the digital assets of the institution, possessing different abilities and perspectives compared to traditional leaders (Hapha and Somprach, 2019). However, many organizations fail to recognize the value of digital leaders, resulting in poor performance and failures within the institution.

Al-Ahmari (2022) emphasizes that digital leadership relies on modern technology in planning, execution, guidance, supervision, and control through various technological means such as mobile devices, artificial intelligence applications, or digital platforms. This contributes to providing high-quality digital services in all institutions, including educational institutions in schools and universities. Digital leadership is crucial as it harnesses technology to streamline decision-making, improve efficiency, and enhance communication within institutions. In education, it enables personalized learning and operational excellence, ensuring

institutions stay adaptive and competitive. Ultimately, it fosters innovation and drives sustainable growth in a digital era.

Salem (2023) emphasizes the role of digital leadership in cultivating a positive environment that promotes continuous interaction among stakeholders in both administrative and educational settings, facilitating their integration and supporting decision-making processes that improve overall administrative and educational performance. Salem (2023) and others (Al-Ahmari, 2022; Hapha and Somprach, 2019 and Ehlers, 2020) provides a valuable insight into the role of digital leadership in fostering a collaborative and integrated environment. By highlighting continuous interaction among stakeholders in both administrative and educational settings, the statement underscores how digital leadership facilitates effective decision-making processes. This not only enhances overall performance but also encourages a more cohesive and dynamic organizational culture, particularly in education. However, further exploration of specific technological tools or strategies could provide a more comprehensive understanding of how these interactions are practically achieved.

Digital leadership has transformed traditional administration and leadership functions into digital ones that rely on information systems in planning, organizing, guiding, supervising, managing teamwork, coordinating decision-making, administrative communication, and other digital processes (Al-Harathi et al., 2023). These processes have become essential for the requirements of developing effective educational management as a fundamental means of enhancing educational administration's effectiveness. Digital leadership is demonstrated by individuals who have a strong understanding of digital tools and practices, enabling them to use digital knowledge to bridge organizational gaps and drive the organization toward its objectives. Additionally, digital leaders influence others to implement sustainable change by leveraging information and relationships, combining mentality, skills, and behaviors to transform the culture within educational institutions. Digital leadership focuses on enhancing and promoting digital teaching and learning by ensuring that teachers and faculty members effectively apply information and communication technology (ICT) standards. This leadership

empowers educators to become role models in technology use, demonstrated through their design, implementation, and evaluation of learning experiences (Quddus et al., 2020). Such practices boost student motivation, refine the educational process, and enrich professional development. Furthermore, the attitudes of managers towards technology significantly influence teaching effectiveness and the ability of educators to integrate technology into their instructional practices. Ultimately, educators' technological skills and knowledge play a crucial role in the successful incorporation of technology into teaching.

Abdel-Lah (2023) outlines the goals of digital leadership in universities, focusing on reducing administrative costs, improving efficiency, enhancing communication, and motivating employees through digital resource utilization. This aligns with the view that digital leadership eliminates randomness in university practices, enabling digital transformation to support educational goals and technological advancements. Similarly, El-Saharawi and Saadoun (2022) stress the importance of developing digital leadership dimensions, like visionary leadership and technology-based professional development, to improve faculty performance in research and teaching. Quddus et al. (2021) highlight the significant impact of digital leadership on university performance, while Ehlers (2020) emphasizes the need for structured digital leadership strategies to keep pace with rapid technological changes. Misra (2020) and Hapha & Somprach (2019) also discuss the role of digital competence and visionary leadership in higher education innovation. Overall, digital leadership, as described by multiple studies, is key to enhancing education quality and maintaining competitiveness, especially in the fast-evolving digital age. This transformation is essential for ensuring that faculty members not only meet administrative and teaching goals but also maintain high educational standards in an increasingly competitive academic environment. Based on this, the researcher concludes that digital leadership is a transformative approach, central to maintaining performance quality and supporting digital skills for sustainability in higher education.

Research Problem:

As universities globally face challenges brought about by the ICT revolution and the shift from traditional to digital societies, there is a pressing need to adapt leadership approaches, including digital leadership in education and administration. Digital leadership is essential for fostering digital learning, making data-driven decisions, and excelling in professional practice. Several studies underline the importance of studying digital leadership in universities. For instance, Al-Harithi and Al-Obairi (2023) found that digital leadership practices at Tabuk University are moderate and that enhancing these practices improves cognitive collaboration. Similarly, Al-Balawi and Al-Balawi (2023) emphasized the need for university management to prioritize digital leadership, addressing barriers and creating suitable conditions for its implementation. Al-Qarni (2022) also highlighted its potential to improve administrative work, while Al-Alyani (2022) established standards for achieving quality in digital leadership in Saudi universities. Al-Yousef (2021) identified mechanisms for advancing digital leadership within the framework of Vision 2030, stressing the need for faculty members to acquire digital competencies. In contrast, Al-Ouda's (2018) study pointed out that some academic leaders still rely on traditional management methods, which hampers their ability to adapt to modern leadership trends. Given this, the current research explores the reality of digital leadership and its relationship to the professional performance of faculty members, aiming to address how digital leadership can enhance quality in Saudi universities.

The main question is followed by the following sub-questions:

1. What is the degree of practicing digital leadership among faculty members at Saudi universities?
2. What is the level of professional performance quality among faculty members at Saudi universities?
3. Is there a correlational relationship between the degree of practicing digital leadership and the quality of professional performance among faculty members at Saudi universities?
4. Are there statistically important differences at a significance level of ($\alpha=0.05$) in the mean responses of the sample of research regarding the practice of digital leadership among faculty members at Saudi

universities, attributed to the research variables (gender, academic rank)?

5. Are there statistically significant differences at a significance level of ($\alpha=0.05$) in the mean responses of the research sample regarding the level of professional performance quality among faculty members in Saudi universities, attributed to the research variables (gender, academic rank)?

Research Objectives:

1. The present research aimed to attain the following objectives:
2. To identify the degree of practicing digital leadership among faculty members in Saudi universities.
3. To determine the level of professional performance quality among faculty members at Saudi universities.
4. To investigate the correlational relationship between the degree of practicing digital leadership and the quality of professional performance among faculty members at Saudi universities.
5. To examine statistically significant differences, at a significance level of ($\alpha=0.05$), in the mean responses of the research sample regarding the practice of digital leadership among faculty members in Saudi universities, attributed to the research variables (gender, academic rank).
6. To explore statistically significant differences, at a significance level of ($\alpha=0.05$), in the mean responses of the research sample regarding the level of professional performance quality among faculty members in Saudi universities, attributed to the research variables (gender, academic rank).

The Importance of the research:

The Importance of the research can be divided into the following categories:

Firstly, Significance of Theoretical:

1. The current research aligns with contemporary management thinking and the technological advancements of the digital era, which emphasize digital leadership in universities.

2. The research aligns with the Vision 2030 of the Kingdom of Saudi Arabia, which aims to transition regarding a digital society in all sectors, including education, through the use of digital leadership.
3. The research contributes to bridging the gap in Saudi studies related to digital leadership in universities, as there is a scarcity of research that addresses these variables.
4. The research provides insights into the reality of digital leadership in Saudi universities and the actual practice of university leaders in this area, which is a new research topic in the field of management (leadership).
5. It clarifies the positive role of digital leadership in developing the performance of Saudi universities and its positive effect on all elements of the educational process.

Secondly, Practical Significance:

1. The study results may assist policymakers in Saudi universities in preparing and developing faculty members to adopt digital leadership.
2. Saudi universities are expected to benefit from the research results by organizing workshops and training courses on digital leadership and the quality of professional performance for faculty members.
3. The research may open the door for further studies and research related to digital leadership in universities and other educational institutions.
4. The research is expected to provide recommendations and proposals that support administrative work in the educational field from a modern leadership perspective - digital leadership - benefiting those involved in the administrative, educational, and academic processes in Saudi universities.

Research Limitations:

The study's limitations are as follows:

1. Objective limit: The research focuses on the relationship among digital leadership and the quality of professional performance among faculty members in Saudi universities.
2. Geographical limit: The research is limited to universities in the Kingdom of Saudi Arabia.

3. Human limit: The research is conducted on faculty members controlling the ranks of professor, assistant professor and associate professor, in Saudi universities.
4. Time limit: The research was conducted in the second semester of 1444 AH.

Research Terminology:

1. Digital Leadership: It refers to "influencing the practices and behaviors of faculty members in Saudi universities through the use of digital tools, such as communication tools, online open educational resources, video conferencing applications, and other digital tools that contribute to achieving educational, academic, and administrative goals pursued by universities. It is measured by the degree of respondents' achievement on the tool prepared by the researcher for this purpose."
2. Quality of Professional Performance for Faculty Member: The researcher defines the quality of professional performance for a faculty member as "achieving the standards, indicators, and practices of quality related to the tasks and responsibilities entrusted to the faculty member's position."

Theoretical Framework:

Digital Leadership: The Fourth Industrial Revolution (the Second Digital Revolution) has had a profound impact on human societies in the 21st century, relying on the utilize of technology and artificial intelligence applications in various aspects of life, including the educational field. This has required educational professionals and teachers in pre-university and university education to possess digital leadership skills to effectively lead their institutions and keep up with local, regional, and international developments. Digital leadership is an integrated electronic system aimed at transforming traditional administrative work into digital management using computers and the Internet.

The Concept of Digital Leadership:

Digital leadership encompasses various concepts, as follows:

~~Yücebalkan (2018, p.5) defined digital leadership as "the positive activity undertaken by a specific individual (a manager) in the field of administrative supervision over others to achieve predetermined goals using digital technologies and enhance optimal technology utilization, enabling them to keep up with technological advancements and assume responsibility for change."~~ Zeike et al. (2019, p.8) defined digital leadership as "the ability of leaders to establish a clear vision with a clear message for the digitalization process and the ability to implement strategies to achieve it."

Mawardi (2019, p.3) identified digital leadership as "the ability to persuade members of the organizational community through the use of a set of information and communication technology systems and mechanisms to perform work in an organized and precise manner." Al-Rajhi (2021, p. 99) defined digital leadership as "the adept leadership in utilizing technology and relying on networked data, and the ability to lead work teams in participating in electronic work that achieves university goals."

Al-Otaibi (2023, p. 9) defined digital leadership as "the digital transformation of leaders from a leadership style based on traditional systems to a leadership style based on digital tools and programs such as computers, technological systems, and the Internet, with the aim of accomplishing administrative tasks quickly, with minimal effort, and at appropriate cost."

Digital leadership works to accomplish leadership tasks using digital technology and enables the creation of a shared vision for digital transformation in the university and the pursuit of its achievement. It aims, according to (Zeike et al. ,2019) to achieve organizational goals and elevate them to the highest levels of excellence in the digital age.

The researcher states digital leadership as "influencing the practices and behaviors of faculty members in Saudi universities through the effective use of digital tools such as communication platforms, online open educational resources, video conferencing applications, and other digital tools that contribute to achieving educational, academic, and administrative goals pursued by universities. It is measured by the degree

of responsiveness of participants to the tool prepared by the researcher for this purpose."

The Difference between Digital Leadership and E-management:

Digital leadership is the ability of a leader to influence and persuade others to successfully use digital technology. Leadership in the digital age of an institution or organization is an integral part of rapid transformations toward a more knowledgeable and advanced society. Leaders in various fields work towards providing chances linked to information and communication technology and effectively using them. On the other hand, e-management refers to others performing administrative functions electronically to achieve goals (Collin et al., 2015).

The Difference between Digital Leadership and Traditional Leadership:

According to Zhong (2017), the difference between digital leadership and traditional leadership lies in the fact that digital leadership does not center the characteristics and actions of leaders themselves, but rather emphasizes that leaders should develop, manage, guide, and apply technology to numerous organizational processes to improve performance. Digital leadership helps leaders effectively utilize technology and prepares them to deal with the developments of the 21st century.

The Importance of Digital Leadership:

Al-Alyani (2022, p. 418) identifies the importance of digital leadership in meeting the scientific and knowledge needs and desires of students, improving the information retrieval process, continuously updating information, enhancing performance, reducing errors, improving material and human outcomes, enhancing interaction in the educational process, developing communication skills, ensuring accuracy and objectivity in procedures, reducing paper usage, increasing transparency, promoting integrity, and supporting human relationships and interactions.

Al-Qarni (2022) considers that the importance of digital leadership lies in increasing the effectiveness of faculty members, achieving added value for educational institutions, managing various information more

easily and transferring it to higher administrative levels, promoting and disseminating digital teaching and learning practices, and students' experiences on websites, developing a cooperative culture of technology use and digital tools.

The researcher also believes that the significance of digital citizenship lies in its capability to bring about radical changes in the concepts and characteristics of administrative leadership, improving performance quality, making efficient decisions, seizing and improving the quality of opportunities, building and managing digital work teams, mastering communication skills, persuading students and faculty members of the need for change, renewal, innovation, and increased productivity. It also enables achieving the competitive advantage of the educational institution, embracing digital change and practicing it in administrative activities, building a strategic plan based on digital transformation in universities, and enhancing educational performance.

Digital Leadership Objectives:

According to Abdel-Lah (2023, 540), the goals of digital leadership include reducing the costs of digital processes, establishing communication channels between the organization and its beneficiaries, strengthening the links between employees and senior management, shaping a positive organizational culture among employees, accomplishing administrative transactions promptly, transitioning from manual work to technical work, utilizing digital resources in the workplace, digitally handling data in terms of collection, organization, storage, and retrieval, diversifying work relationships, improving the physical work environment, and increasing the influence and impact between leaders and employees.

The researcher also believes that the goals of digital leadership in universities include promoting a digital learning culture, reducing costly administrative procedures, improving the efficiency of the university with students, increasing trust and transparency in work, ensuring accuracy in administrative work, and reducing error rates, motivating students and faculty members to achieve work quality, developing digital skills for students and faculty members, and improving the physical work environment.

Characteristics, Advantages, and Features of Digital Leadership:

~~There are multiple characteristics, advantages, and features of~~ digital leadership. According to Al-Yousef (2021, 40), the most important characteristics of digital leadership include the ability to change thinking by adopting ideas from different environments worldwide, benefiting from the experiences of others in introducing the digital world into their institutions, providing the leader with a future vision and long-term planning perspective, including employees in decision-making and effective communication with them, and leveraging the opportunities presented. These characteristics are needed by university leaders to keep up with the rapid developments in the 21st century.

Al-Sharawi and Saadoon (2022, 275) identified the characteristics of digital leadership as having a future-oriented vision for work, correcting misconceptions about technology among students and faculty members, assisting students and faculty members in solving educational and administrative problems, awareness of digital technology tools and software, using social media to achieve social benefits for the university, and having an agile mindset that considers different scenarios for the university's success.

The researcher also believes that digital leadership is characterized by its flexibility and adaptability to changes through a focus on digital governance and the adoption of technological leadership. It enables leaders to possess a diverse range of knowledge, skills, personal and professional experiences, flexibility, adaptability, and a curiosity to acquire new knowledge among digital leaders. It helps leaders identify and discover new skills and knowledge and apply transformative leadership. It brings about qualitative changes in educational services, keeps up with educational issues at the local, regional, and international levels, reduces administrative complexities and procedures, encourages innovative and creative initiatives, improves monitoring processes, reduces the need for a large number of employees, reduces reliance on paper-based work, enhances institutional efficiency by providing high-quality digital services through cost reduction, achieving maximum satisfaction for beneficiaries, facilitating the management and monitoring of different departments, and providing up-to-date information and data for decision-makers.

Foundations and Pillars of Digital Leadership

There are several foundations for digital leadership, including (Al-Sharawi & Saadoun, 2022, pp. 278-279):

1. Digital communication and interaction among faculty members, students, and university administrators.
2. Student engagement, learning, and outcomes through the provision of opportunities to use digital learning tools.
3. Creating innovative educational spaces and environments by establishing learning classrooms and buildings that empower students to use technology effectively.
4. Building leaders for personalized learning through a professional learning network to meet varied student needs and provide access to knowledge resources.
5. Public relations demonstrated through the use of social media tools to create a positive image of the educational institution Opportunity: Working on increasing opportunities to make various improvements within the educational institution.

The researcher believes that the foundations and pillars of digital leadership include digital communication and interaction among members of the university institution, public relations for the university by formulating the university's vision in various forms to classify the strengths of the university, the university's brand, and student engagement in applying what they have learned at the university. It also involves rethinking learning environments and spaces to transform them into digital learning environments, searching for opportunities to improve university programs and resources, and achieving professional self-growth for faculty members at the university.

Functions of Digital Leadership:

The functions of digital leadership can be identified as follows (Al-Ahmari, 2022, pp. 335-337):

1. Digital planning: Setting flexible long-term and short-term goals and determining the means to achieve them. Digital planning relies on strategic planning and aims to achieve strategic goals. It utilizes digital technology such as expert systems and artificial neural networks to simplify information systems and processes.

2. Digital organization: Ensuring that each person is in the right position to form an integrated unit to achieve the institution's goals.
Digital organization requires making modifications in the organizational structure to overcome the obstacles faced by traditional organizations. It relies on matrix organization, team-based organization, self-managed units, flexible regulations and policies, and multiple centers of authority.
3. Digital execution: Achieving what has been planned based on precise scientific foundations. It is characterized by accuracy and clarity in implementation, contributing directly and immediately to execution.
4. Digital guidance: Contemporary institutions rely on leaders who can digitally interact with others and have the ability to motivate and collaborate with them to accomplish required tasks. Efficient implementation of digital guidance relies on the use of digital communication networks to accomplish and execute all guidance operations.
5. Digital control: It involves comparing planning with execution, identifying deviations and their causes, making decisions, and taking corrective actions. Digital control can know the variables related to execution. The information recorded immediately upon execution is available to the leader. Digital control requires fostering trust-based relationships, reducing the administrative effort required for control.

Digital Leadership Skills:

The researcher believes that there is a set of skills that digital leaders must possess, including technological skills that rely on employing digital tools and software in administrative work, mental skills that involve participating in the engineering of the educational institution and its culture, the skill of transforming the institution as the operational structure changes, the skill of sharing information with teams within the organization, skills in designing new digital experiences, critical thinking skills, creative and innovative skills. Digital leadership skills depend on digital leaders possessing both traditional and digital skills, such as digital communication, possessing a future vision, knowledge management, collaboration with the team, innovation, and creativity, and possessing critical thinking skills.

Stages of Digital Leadership

~~Digital leadership goes through the following stages (Sulaiman, Mahmoud, 2022, p.170):~~

1. Administrative Documentation Stage: This stage involves documenting the organizational structure, administrative procedures, functional tasks, authorities, and services provided by the institution. It contributes to the processes of development and continuous improvement.
2. Administrative Development Stage: This stage involves reengineering the processes and operations within the institution, and administrative development is carried out with a technical perspective that considers the requirements of digital leadership.
3. Technical Development Stage: In this stage, all aspects of technology are improved (software, infrastructure, and training of technology users). The development process includes analyzing all developed administrative processes and converting them into computer programs and applications, as well as training the human element to efficiently perform digital tasks.

Dimensions of Digital Leadership:

The dimensions of digital leadership are diverse. Some see the dimensions of digital leadership as wise or prudent leadership, digital learning culture, superiority in professional practice, systematic development, and digital citizenship. Others see the dimensions of digital leadership as visionary leadership, digital learning culture, digital citizenship and professional development (social, legal, and ethical issues of technology). Some view the dimensions of digital leadership as administrative innovation and creativity, persuasion, and knowledge. Some see the dimensions of digital citizenship as teamwork, professional growth in administrative leadership practice, productivity, professional practice, digital leadership efficiency, and the ability to digitally plan, organize, direct, and control (Al-Bulaiwi & Al-Bulaiwi, 2023).

The researcher believes that the dimensions of digital leadership are as follows:

1. Visionary Leadership: This involves enabling university leaders to influence and motivate individuals within the institution to creatively and realistically express future visions that can improve the current situation of the institution through the development of a digital vision that aims to harness technology in the educational process. It includes defining the university's vision, goals, and opportunities in enhancing digital technologies.
2. Digital Learning Culture: This dimension focuses on promoting digital tools and programs in the educational process by modeling them in leadership practices within the university. It aims to foster a culture of learning in the digital age and build a digital literacy mindset among all stakeholders.
3. Technology-Based Professional Development or Digital Leadership Competency: Professional development contributes to investing in the capabilities of individuals and educational institutions to achieve higher performance rates, in terms of skills and experiences that enhance the quality and effectiveness of work. It is a significant means to confirm the success of educational institution leaders in achieving the university's goals. Professional development relies on training, self-professional development, professional learning communities, and more.
4. Systematic Improvement and Development: This involves sustaining success and excellence for the university by utilizing digital data collected to improve decision-making processes and enhance the performance of all employees within the institution, making it more agile and adaptable.
5. Digital Citizenship: This dimension focuses on promoting learning, respect, and security by establishing policies for the safe, legal, and ethical use of knowledge, information, and digital resources. It aims to ensure equitable access to digital resources to meet the needs of all students.

Requirements of Digital Leadership:

The request of digital leadership in educational institutions requires a set of requirements, the most important of which are: (Al-Jadua, 2023, 118)

1. Legislative requirements: include the issuance of administrative legislation necessary for its application.
2. Human requirements: Training in the human elements necessary for their application.
3. Material requirements: Establishment of the necessary information and communication technology infrastructure.
4. According to Al-Shahri (2018), implementing digital leadership requires understanding the dimensions of digital leadership in terms of concept, importance, and requirements. It also involves assessing the readiness of the institution and its employees to implement digital leadership, building technical capabilities, training faculty members, students, and leaders on technology, familiarizing leaders with the features and benefits of digital leadership, installing appropriate software and databases, working in teams, and selecting leaders based on their ability to deal with digital technology.
5. The researcher believes that the implementation of digital leadership requires:
6. Selection of leaders who believe in digital leadership.
7. Providing the necessary financial support to meet the technological and infrastructure requirements, and training faculty members and students in the use of technology.
8. Developing the necessary digital content for digital learning, including its objectives, content, activities, tools, and assessment methods.
9. Providing technical support by experts in higher education and technology.
10. Barriers to Digital Leadership

There are a number of obstacles that cause the non-application of digital leadership in organizations, including: (Al-Jadua, 2023, 120)

1. Administrative obstacles: Most institutions adopt traditional administrative methods that do not align with the requirements of digital leadership. Additionally, limited incentives are associated with digital leadership.
2. Human obstacles: These are related to individuals within the institution or beneficiaries of it. They include a lack of cultural awareness of digital technology, limited training programs in digital

technology, and a lack of trust in information security and confidentiality.

3. Material obstacles: These include limited financial resources for the necessary infrastructure for digital leadership, insufficient financial allocations for training individuals to implement digital leadership, and the high cost of internet usage.
4. Technical obstacles: These include the weakness of communication network infrastructure, a shortage of specialized technicians and experts in technology, and difficulties in operating computers in educational institutions.
5. The researcher considers the most important obstacles of digital leadership to be:
6. The weak emotional aspect of digital leadership when conveying feelings, non-verbal expressions, and body language compared to traditional leadership.
7. The difficulty of building trust between leaders and followers through technological means.
8. Digital leadership faces technical issues such as interference, overlap, and occasional chaos between digital leaders and subordinates.
9. The difficulty of coordination among team members through modern communication channels due to problems related to misunderstandings, information dissemination, and knowledge management.
10. The difficulty of inspiring and motivating team members for mutual communication, enhancing trust, and achieving success
11. Time and distance can create difficulties in achieving digital leadership due to cultural diversity, geographical dispersion, or behavioral differences.
12. Lack of available training for faculty members and students related to the use of technology in universities and a scarcity of digital devices and tools.
13. Difficulty in providing equal opportunities for faculty members and students in the field of digital technology.

Justification for the Employment of Digital Leadership in Universities

The researcher believes that the adoption of digital leadership in universities is attributed to the increase in student engagement,

improvement of students' economic viability, bridging the digital divide, coping with rapid and successive developments in information and communication technology, eliminating students' technological illiteracy, equipping students and faculty members with 21st-century skills, investing in the intellectual capital of educational institutions, reducing bureaucracy and facilitating administrative procedures, streamlining the time required for administrative transactions, providing decision-makers with the necessary information for decision-making, unifying data of educational institutions in a central database, and providing a competitive advantage for educational institutions.

Professional Performance Quality of Faculty Members at the University:

The role of universities in various countries around the world and their international standing is linked to the status of their professors at various academic levels and their ability to perform their academic, professional, and administrative roles with high quality that aligns with international standards, indicators, and practices in the field of education. The university stage is tasked with preparing and training students for the job market and coexisting with the technological society. It also plays a role in conducting scientific research solving problems faced by local and global communities and working towards their service. (Abdulwahab, 2021).

Therefore, there has been a focus on preparing and developing faculty members in various international and local Saudi universities through planning programs that elevate their performance and efficiency and provide them with a suitable environment to achieve those roles with effectiveness and efficiency. Saudi universities have shown interest in the professional development of faculty members, and this interest is linked to connecting faculty members' performance with digital leadership to enable the university to remain pace with technological advancements in the field of information and communication, learning and teaching technologies, and utilize all of that in the educational process. (Al-Mujil, 2018).

The development of communication technologies and the diversification of learning sources have led to essential changes in the

requirements of the educational situation in terms of knowledge transfer methods and the role of faculty members, which has transformed from a traditional role of merely transmitting knowledge to being a facilitator and guide for students. To achieve qualitative quality in the university as an integrated and comprehensive process, it is necessary to continue focusing on all levels, from top leadership positions to assistant professors.

Concept of Professional Performance Quality:

The quality of professional performance for faculty members is one of the most widespread concepts regarding work methods in various fields, and quality has become a primary requirement in all administrative and academic practices and work.

Al-Mujil (2018, 295) defined the professional performance of faculty members as "the skills of planning, implementing, and teaching lectures in terms of communication, classroom interaction, and the use of teaching techniques and evaluation methods."

Aissoui (2019, 81) defined the professional performance of faculty members as the sum of tasks performed by faculty members within their official roles within the university. These tasks are defined in dimensions such as professional behavior, self-development within the university, community activities, scientific research, and the utilize of information technology in the educational process.

The researcher defines the quality of professional performance for faculty members in Saudi universities as "achieving quality standards, indicators, and practices associated with the tasks and responsibilities entrusted to the role of faculty members."

Standards and Indicators of Quality in Faculty Members' Professional Performance:

The quality of professional performance in university faculty members encompasses:

1. Teaching performance standards:

- Teaching Planning: Adequate lecture preparation, effective planning of resources, activities, and assessment.
- Teaching Implementation: Communicating learning objectives, utilizing technology-enhanced teaching methods, digital classroom management, facilitating knowledge transfer, and adhering to ethical values in education and learning.
- Teaching Evaluation: Self-evaluation, accurate and transparent student performance assessment, providing feedback.

2. Research performance standards:

- Scientific production: Including indicators such as the number of research publications in local and international journals, the quality of published scientific research, and effective supervision of master's and doctoral theses.
- Professional Development of Faculty Members: Staying updated in their field of expertise, attending professional development courses, and employing technology in their specialization.

3. Quality Standards for Leadership Positions:

- Occupying Administrative Positions: Utilizing technology in administrative tasks, effective communication with students and administrative staff, and employing artificial intelligence applications in university leadership.

4. Performance related to community service:

- Supporting university services to the community by actively contributing to services and consultations provided to the community.
- Supporting community services provided by the university.

Field Study and its Procedures and Results:

Objectives of the field study:

The field study objectives to monitor the reality of digital leadership practices among Saudi university leaders and their relationship with the quality of professional performance of faculty members at Saudi universities.

Study Methodology:

The current research adopts a descriptive methodology (correlational approach) suitable for the nature of the topic. This methodology goes beyond describing the phenomenon and the influencing factors to interpreting, analyzing, and developing it.

Study Population:

Based on the core objective of the field study, which is to identify the reality of digital leadership practices and their relationship with the quality of professional performance in faculty members at Saudi universities, the study population consists of 300 faculty members across various Saudi universities.

Study Sample:

The researcher selected a sample from the study population consisting of university leaders. The study was conducted on a sample of 309 faculty members holding leadership positions ranging from deans to vice-deans in Saudi universities. The researcher obtained 300 complete responses, indicating a response rate of 96% from the targeted study sample. The study sample can be described according to general data (gender, academic degree) as shown in Table 1.

Description of the Study Sample Founded on General Data

Vari able	Cate gories	Nu mber	Perce ntage
Gen der	Male	200	66.67 %
	Fema le	100	33.33 %
Academic Rank	Profe ssor	100	33.33 %

	Associate Professor	140	46.67 %
	Assistant Professor	60	20%
Total Research Sample		300	100%

Table 1 appears the following:

1. The study sample, according to the gender variable, includes (200) males, accounting for (66.67%), and (100) females, accounting for (33.33%). This aligns with the nature of the university where the number of males exceeds the number of females in Saudi universities.
2. The study sample, according to the academic degree variable, includes (100) professors, accounting for (33.33%), (140) associate professors, accounting for (46.67%), and (60) assistant professors, accounting for (20%), as shown in the following figure:

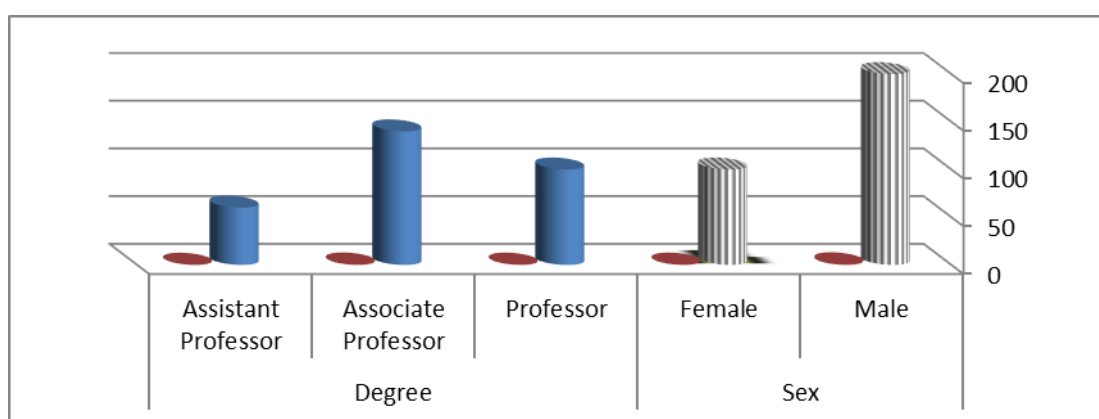


Figure (1) Description of the study sample based on general data.

Fourth: Study Tool

The questionnaire was utilized as a tool to collect the necessary information for this research as it is considered the most suitable tool for scientific research that achieves the research objectives. The researcher designed a preliminary version of the questionnaire, benefiting from the

theoretical framework and previous studies connected to the current research topic. **The questionnaire's validity is as follows:**

- Virtual honesty "honesty of arbitrators": The preliminary version of the questionnaire was presented to a group of referees consisting of 10 specialists in educational administration and instructional technologies. The referees' opinions were considered considering the proposed suggestions, and the questionnaire was finalized accordingly. No deletions were made to the questionnaire items after the review, but most of the requested modifications were related to sentence formulation.
- Internal Validity: The internal consistency of the questionnaire items was measured by calculating the correlation coefficients between each item and the total score of the questionnaire. The correlation between each item (45 items in total) and the overall score of the questionnaire as a whole was calculated. Furthermore, the correlation between each item within each axis of the questionnaire and the total score of that axis was calculated. The mutual correlations between the questionnaire axes and between the axes and the overall score of the questionnaire were also calculated. Pearson's correlation coefficient, which measures the relation between two quantitative variables (the total scores with the questionnaire components and the overall score of the questionnaire), was used. The following steps and tables illustrate the results of these procedures.

A- Calculation of the correlation between each item (45 items in total) and the overall score of the questionnaire.

Table (2) Correlation coefficients between each item of the questionnaire and the total score.

Fer ry nu mb er	Correl ation coeffic ient	Signifi cance level	Fer ry nu mb er	Correl ation coeffic ient	Signifi cance level	Ferry numb er	Correla tion coeffici ent	Signific ance level
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Ferry number	Correlation coefficient	Significance level	Ferry number	Correlation coefficient	Significance level	Ferry number	Correlation coefficient	Significance level
1	0.80	0.01	21	77.	0.01	41	0.63	0.01
2	0.58	0.01	22	0.80	0.01	42	0.77	0.01
3	58.	0.01	23	0.48	0.05	43	0.79	0.01
4	0.62	0.01	24	0.68	0.01	44	0.66	0.01
5	0.73	0.01	25	0.64	0.01	45	0.74	0.01
6	0.76	0.01	26	0.73	0.01			
7	0.80	0.66	27	0.58	0.05			
8	0.60	0.01	28	0.76	0.01			
9	58.	0.05	29	0.60	0.01			
10	0.60	0.01	30	0.76	0.01			
11	0.80	0.01	31	0.58	0.01			
12	0.79	0.01	32	0.61	0.01			
13	0.69	0.01	33	0.58	0.05			
14	0.70	0.01	34	0.79	0.01			
15	0.59	0.01	35	0.54	0.01			
16	0.78	0.01	36	0.62	0.01			
17	0.70	0.01	37	0.80	0.01			
18	0.77	0.01	38	0.75	0.01			

Ferry number	Correlation coefficient	Significance level	Ferry number	Correlation coefficient	Significance level	Ferry number	Correlation coefficient	Significance level
19	0.68	0.01	39	0.47	0.01			
20	0.62	0.01	40	0.47	0.05			

Note that the correlation coefficient: at the level of (0.05) = (0.39)

Table (3-2) showed that all items of the questionnaire correlate positively and statistically significantly with the total score of the axis. This means that all items of the axis demonstrate a high degree of truthfulness.

- Calculation of the correlation between each item of each axis of the questionnaire and the total score of that axis separately.

Table (3) Pearson correlation coefficients for items of the first axis with the total score

Ferry number	Correlation coefficient	Significance at (0.01)	Ferry number	Correlation coefficient	Significance at (0.01)
1	0.82	Function	21	0.72	function
2	0.80	Function	22	0.84	function
3	0.77	Function	23	0.80	function
4	0.70	Function	24	0.79	function
5	0.75	Function	25	0.82	function

6	0.83	on	Function
7	0.80	on	Function
8	0.78	on	Function
9	0.76	on	Function
10	0.81	on	Function
11	0.79	on	Function
12	0.78	on	Function
13	0.70	on	Function
14	0.82	on	Function
15	0.62	on	Function
16	0.76	on	Function
17	0.78	on	Function
18	0.87	on	Function
19	0.70	on	Function
20	0.81	on	Function

0		on	
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Correlation coefficient: at (0.05) = (0.39)

Table (3) shows that all items of the first axis of the questionnaire correlate positively and statistically significantly with the total score of the axis. This indicates that all items of the axis possess a high degree of truthfulness.

Pearson correlation coefficients for items of the second axis with the total score are illustrated in the following table.

Ferry number	Correlation coefficient	Significance at (0.01)	Ferry	Correlation coefficient	Significance at (0.01)
1	0.76	Function	1	0.75	function
2	0.80	Function	2	0.66	function
3	0.68	Function	3	0.70	function
4	0.77	Function	4	0.77	function
5	0.84	Function	5	0.68	function
6	0.80	Function	6	0.84	function
7	0.78	Function	7	0.80	function
8	0.70	Function	8	0.70	function
9	0.8	Function	9	0.6	function

	3	on	9	8	n
1	0.7	Function	2	0.8	function
0	5	on	0	4	n

The correlation coefficient: at a level of (0.05) = (0.39)

From Table number (4), it is evident that there was a positive and statistically significant correlation between all items of the first axis of the questionnaire and the total score of the axis. This means that all items on the axis have a high degree of truthfulness.

D- Calculating the mutual correlations between each axis of the questionnaire and the total score of the questionnaire, the researcher calculated the internal consistency between the total score of the questionnaire and the score of each axis of the questionnaire, as shown in the following table:

Table number (5): Pearson correlation coefficients for the questionnaire axes with the total score of the questionnaire.

M	Axles	Correlati on coefficien t	Significanc e at Level (0.01)
1	The reality of digital leadership practice among university faculty members.	0.90	function
2	The quality of professional performance among faculty members	0.92	function
Total		0.93	function

The previous table number (5) shows a positive and statistically significant correlation between the axes (2,1) and the total score of the questionnaire at a significance level of (0.05). The questionnaire demonstrates a high degree of truthfulness.

Stability of the study tool:

To ensure the reliability of the study tool, the test-retest method was employed. Initially, the questionnaire was administered to a sample of 50 faculty members from Saudi universities. After a month, it was re-administered to the same group. The final version of the questionnaire was then analyzed, and the researcher determined the stability coefficient by calculating the correlation coefficient (r) between the scores from both administrations, utilizing Spearman's correlation equation.

Field Study Tool Application:

Considering the total number of the study sample (300) faculty members in Saudi universities, the researcher made sure to collect the questionnaires from the participants immediately after they completed

them. This reduced the non-response rate, and the researcher corrected and statistically processed 300 questionnaires.

Statistical processing:

Simple Pearson correlation coefficient and Cronbach's alpha equation were utilized to calculate stability. To achieve the study objectives and analyze the collected data, appropriate statistical methods were used.

1. Relative frequencies and confidence intervals were calculated for each statement in the questionnaire to determine the level of agreement. This was done by calculating the response frequencies for each statement among the sample participants under each response alternative (strongly agree, agree, somewhat agree, disagree, strongly disagree).

2. Rank scales were assigned to each response alternative as follows: (1.00-1.80) strongly disagree, (1.81-2.60) disagree, (2.61-3.40) somewhat agree, (3.41-4.20) agree, (4.21-5.00) strongly agree. The frequency of each statement was multiplied by the numerical value of the corresponding response alternative, and the sum of these products was calculated to obtain the total response score for each statement.

Presentation, Analysis, and Interpretation of Study Results:

The respondents' responses were collected and organized into tables for statistical analysis. The results were presented, analyzed, and interpreted as follows:

Question 1: What is the reality of digital leadership practice among faculty members in Saudi universities?

The arithmetic means standard deviations and total score were extracted, and the results were as follows:

The first dimension: Practices related to visionary university leadership.

Table (6) shows the practices related to visionary university leadership.

Ferry number	Phrases	Freque nci es and per cen tag es	Degree of approval					A r i t h m e t i c m e a n	S t a n d a r d d e v i a t i o n	Phra se order
			Disagr ee at all	Dis agr ee	Som ewh at OK	I a gr e e	Stro ngly agr ee			
1	University leadership has a clear vision for university work	as	28	26	70	90	86	4	81	3
		%	9.3	8.7	3.32	30	28.7	29	0	
2	University leaders engage all stakeholders in formulating a digital vision for the university.	as	16	20	82	92	90	4	0	2
		%	5.4	6.6	27.3	30.7	30	37	82	
3	They are concerned with formulating	as	36	45	65	84	70	3	1	5
		%	12	15	21.7	2	23.	5	1	

	a strategic plan that aligns with the university's vision.					8	3	5	6	
	They encourage digital investment with local and international companies and institutions.	as	17	40	84	79	80			
4		%	5.7	13.3	28	26.3	26.7	41.5	0.91	4
	They provide a positive environment for faculty members to develop their performance in line with the university's vision.	as	15	30	80	82	93			
5		%	5	10	26.7	27.3	31	41.6	1.25	1
The overall average of the axis			4.07							

The results from the table reveal a general consensus among the study sample regarding "Dimension 1: Practices related to visionary university leadership," with mean scores ranging between 3.55 and 4.29. These scores, which fall within the higher categories, indicate a strong level of agreement among the respondents on the leadership practices being evaluated.

The statement that received the highest score, "Provides a positive climate for faculty members to develop their performance according to the university's vision" (4.44), emphasizes the importance of creating an environment that supports faculty development. This is a critical aspect of visionary leadership, as effective leadership not only provides direction but also ensures that the necessary resources and climate are in place for faculty to excel. This finding aligns with contemporary leadership theories, particularly transformational leadership, which focuses on inspiring and enabling others to achieve their best in alignment with organizational goals.

The second-highest score, relating to the engagement of all relevant parties in formulating a digital vision (4.37), suggests that leadership in these universities' values inclusivity and collaboration in digital transformation efforts. This is a positive indicator, as involving stakeholders in the creation of a digital vision ensures that diverse perspectives are considered, making the vision more comprehensive and widely accepted within the institution.

The third-highest statement, focusing on the clarity of the university's leadership vision (4.29), reinforces the importance of having a well-defined and communicated leadership strategy. A clear vision is foundational for guiding the university's progress and aligning efforts across different departments. It also helps faculty members understand the broader goals and how their contributions fit into the overall strategy.

However, the statement ranked fifth, concerning the formulation of a strategic plan aligned with the university's vision (3.55), indicates room for

improvement. While respondents generally agree that the university leadership has a clear vision, the lower score for strategic planning suggests that translating this vision into actionable, concrete strategies may not be as effective. This aligns with studies by Al-Balawi and Al-Balawi (2023) and Al-Yousef (2021), which highlight the need for universities to strengthen their strategic execution to fully realize the benefits of digital transformation.

The fourth-ranked statement, about encouraging digital investment with global companies and institutions (4.15), shows that leadership is forward-thinking and recognizes the importance of external partnerships in driving digital innovation. Collaborating with global entities can provide universities with access to cutting-edge technology, funding opportunities, and expertise, which are crucial for maintaining competitiveness in a rapidly changing digital landscape.

In conclusion, while the results demonstrate strong support for visionary leadership practices in creating a positive environment and engaging stakeholders, there is a clear need to improve strategic planning and execution. Ensuring that the university's vision is effectively translated into actionable plans will be essential for maximizing the potential of digital leadership and maintaining progress in an increasingly competitive and digitalized educational environment.

The second dimension: Practices related to the culture of learning in the digital age

Table (7) showed "Practices related to the culture of learning in the digital age.

F	Phrases	Frequ	Degree of approval	A	S	Phra
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er r y n u m b e r		encies and perce ntage s						ri t h m e t r i c m e a n	t a n d s t a n d a r d d e v i a t i o n	se order
1	University leaders are committed to promoting a culture of digital learning among faculty members.	as	30	23	82	80	85	3	1	4
		%	10	7.7	27.3	26.7	28.3	93	14	
2	They employ digital tools and software in the university's administrative tasks.	as	17	30	71	89	93	4	1	1
		%	5.7	10	23.7	29.7	31	78	40	
3	They seek to provide suitable infrastructure for the educational	as	31	36	64	80	89	4	1	2
		%	10.3	12	21.3	26.7	29.7	58	25	

	process at the university.									
4	They honor distinguished faculty members in the field of digital education and learning at the university.	as	17	60	64	73	86			
		%	5.7	20	21.3	24.3	28.7	430	126	
5	They value digital communication and interaction with faculty members and students at the university.	as	29	37	70	80	84			
		%	9.7	12.3	23.3	26.7	28	349	118	
The overall average of the axis			4.27							

Table (7) showed "Practices related to the culture of learning in the digital age," where the mean score ranges between (4.78-3.49), which is high and falls within the fourth and fifth categories, starting from (3.41 to 4.20) and (4.21 to 5.00). These values indicated a strong agreement (strongly agree, agree) with the study instrument, and the results are as follows:

- Statement number (2), which states, "Employs digital tools and software in the university's administrative tasks," ranked first among the statements related to Dimension 2: Practices related to the culture of learning in the digital age, with a mean score of (4.78) and a standard deviation of (1.40).

- Statement number (2), which states, "Strives to provide suitable infrastructure for the educational process at the university," ranked second among the statements related to Dimension 2: Practices related to the culture of learning in the digital age, with a mean score of (4.58) and a standard deviation of (1.25).
- Statement number (2), which states, "Honors distinguished faculty members in the field of digital education and learning at the university," ranked third among the statements related to Dimension 2: Practices related to the culture of learning in the digital age, with a mean score of (4.30) and a standard deviation of (1.26).
- Statement number (1), which states, "University leaders are committed to promoting a culture of digital learning among faculty members," ranked fourth among the statements related to Dimension 2: Practices related to the culture of learning in the digital age, with a mean score of (3.93) and a standard deviation of (1.14).
- Statement number (5), which states, "Values digital communication and interaction with faculty members and students at the university," ranked fifth among the statements related to Dimension 2: Practices related to the culture of learning in the digital age, with a mean score of (3.49) and a standard deviation of (1.18).
- These findings align with previous research, including studies by Al-Balawi and Al-Balawi (2023) and Al-Yousef (2021), which emphasize the critical role of promoting a digital learning culture among university faculty. This consistency reinforces the notion that digital leadership and infrastructure are essential for advancing education in the digital age.

Third Dimension: Practices related to digital citizenship.

Table (8) showed the practices related to digital citizenship.

Ferry	Phrases	F	Degree of approval	Ar	St	Phras
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number		re qu e n c i e s a n d p e r c e n t a g e s	Disa gree at all	Disa gree	Som ewha t OK	I ag re e	Stro ngly agre e	ith m eti c m e a n	a n d s t a n d a r d e v i a t i o n	e order
1	University leaders use social media responsibly and consciously.	a s %	12 4	42 14	79 26.3	83 27 .7	84 28	3. 5 5	1. 2 1	3
2	University leaders are concerned	a s %	8 2.7	30 10	80 26.6	90 30	92 30.7	4. 6 6	1. 5 0	1

Ferry number	Phrases	F r e q u e n c i e s a n d p e r c e n t a g e s	Degree of approval					Ar ith m eti c m e a n	St a n d a r d e v i a t i o n	Phras e order
			Disa gree at all	Disa gree	Som ewha t OK	I ag re e	Stro ngly agre e			
	with educating faculty members about their rights and responsibil ities when using digital technologi									

Ferry number	Phrases	F r e q u e n c i e s a n d p e r c e n t a g e s	Degree of approval					Ar ith m eti c m e a n	St a n d a r d d e v i a t i o n	Phras e order
			Disa gree at all	Disa gree	Som ewha t OK	I ag re e	Stro ngly agre e			
	es.									
3	University leaders inform faculty members about the laws and penalties related to the use of	a s	16	75	52	77	80	3. 3 9	1. 3 5	5
		%	5.7	25	17.3	25 .7	26.3			

Ferry number	Phrases	F r e q u e n c i e s a n d p e r c e n t a g e s	Degree of approval					Ar ith m eti c m e a n	St a n d a r d d e v i a t i o n	Phras e order
			Disa gree at all	Disa gree	Som ewha t OK	I ag re e	Stro ngly agre e			
	digital technologi es.									
4	University leaders adhere to proper etiquette during digital conversati	a s	33	60	54	71	82	3. 5 3	1. 1 4	4
		%	11	20	18	23 .7	27.3			

Ferry number	Phrases	F r e q u e n c i e s a n d p e r c e n t a g e s	Degree of approval					Ar ith m eti c m e a n	St a n d a r d d e v i a t i o n	Phras e order
			Disa gree at all	Disa gree	Som ewha t OK	I ag re e	Stro ngly agre e			
	ons with faculty members.									
5	University leaders provide equal opportuniti es for faculty members	a s	18	25	82	87	88	4. 5 1	1. 3 9	2
		%	6	8.4	27.3	29	29.3			

Ferry number	Phrases	F r e q u e n c i e s a n d p e r c e n t a g e s	Degree of approval					Ar ith m eti c m e a n	St a n d a r d e v i a t i o n	Phras e order
			Disa gree at all	Disa gree	Som ewha t OK	I ag re e	Stro ngly agre e			
	and students to use digital technologies at the university.									
The overall average of the axis			3.93							

Table (8) showed that "Dimension 3: Leadership Practices Related to Digital Citizenship" has an average score ranging from (3.39, to 4.66), which was high and falls within the third, fourth, and fifth categories starting from (2.61 to 3.40), (3.41 to 4.20), (4.21 to 5.00). These values indicate a degree of agreement (somewhat agree, agree, strongly agree) with the study instrument, and the results are as follows:

- "University leaders are concerned with educating faculty members about their rights and responsibilities when using digital technologies," ranked first among the statements related to Dimension 3: Leadership Practices related to Digital Citizenship, with an average score of (4.51) and a standard deviation of (1.39).
- Statement number (5), which states, "University leaders provide equal opportunities for faculty members and students to use digital technologies at the university," ranked second among the statements related to Dimension 3: Leadership Practices related to Digital Citizenship, with an average score of (4.51) and a standard deviation of (1.39).
- Statement number (1), which states, "University leaders use social media responsibly and consciously," ranked third among the statements related to Dimension 3: Leadership Practices related to Digital Citizenship, with an average score of (4.4) and a standard deviation of (1.21).
- Statement number (4), which states, "University leaders adhere to proper etiquette during digital conversations with faculty members," ranked fourth among the statements related to Dimension 3: Leadership Practices related to Digital Citizenship, with an average score of (3.53) and a standard deviation of (1.14).
- Statement number (3), which states, "University leaders inform faculty members about the laws and penalties related to the use of digital technologies," ranked fifth among the statements related to Dimension 3: Leadership Practices related to Digital Citizenship, with an average score of (3.39) and a standard deviation of (1.35).

The results align closely with previous research, such as the studies by Al-Harithi and Al-Abiri (2023) and Al-Qarni (2022), both of which emphasize the crucial role of digital citizenship in higher education. These

studies argue that fostering a culture of digital citizenship among faculty members is essential for responsible and ethical use of technology within universities. This is particularly important as universities continue to integrate digital tools into their educational and administrative systems.

Promoting digital citizenship involves not just the equitable distribution of technological resources, but also educating faculty members on their digital rights and responsibilities. This enables faculty to navigate digital platforms effectively and ethically, ensuring that they serve as role models for students in their digital interactions. The responsible use of social media by university leaders, as highlighted in this study, further reinforces the idea that leadership plays a key role in modeling appropriate behavior in online spaces. This mirrors Al-Qarni's (2022) findings, which underscore the need for university leaders to be conscious of the legal and ethical implications of their online interactions.

Additionally, Al-Harithi and Al-Abiri (2023) point out that digital citizenship is not only about the responsible use of technology but also about fostering inclusivity and equal access to digital tools and platforms. The high scores for statements regarding equitable access to digital technologies for both faculty and students highlight this commitment. Universities that promote such access are better equipped to provide a more inclusive learning environment, which is essential for the digital age.

However, the lower scores related to adherence to digital etiquette and awareness of laws and penalties suggest that more effort is needed in formalizing these practices. Faculty members need to be better informed about the legal aspects of digital technology use, as well as the consequences of improper behavior. This area of improvement is vital, as Al-Qarni (2022) notes that a comprehensive understanding of digital laws is critical for maintaining professionalism and accountability in digital interactions.

In summary, while the results reflect strong leadership practices in promoting digital citizenship, there remains a need for further development in areas such as legal awareness and the formalization of digital communication etiquette. By addressing these gaps, universities can enhance their digital culture, ensuring that faculty members are not only competent in using technology but also mindful of the responsibilities that come with it.

Fourth dimension: Practices related to technology-based professional development.

Table (9) showed he practices related to technology-based professional development.

F e r r y n u m b e r	Phra ses	Fre que ncie s and per cent age s	Degree of approval					Ari th m eti c m ea n	St a n d a r d d e v i a t i o n	Phras e order
			Disagre e at all	Disagr ee	Some what OK	I ag re e	Stro ngly agre e			
1	Univ ersity leade rs imple ment techn ologi cal traini	as	14	50	70	80	86	3. 90	0. 7 9	5
		%	4.6	16.7	23.3	26 .7	28.7			

	ng for									
	facult y mem bers									
2	Univ ersity leade rs make sure to atten d scien tific confe renc es relat ed to digita l learni ng.	as	32	40	56	84	88	3. 99	0. 8 3	4
		%	10.7	13.3	18.7	28	29.3			
3	Univ ersity leade rs enco urag e facult y mem	as	8	57	57	87	91	4. 29	1. 2 9	2
		%	2.7	19	19	29	30.3			

	bers to utiliz e socia l medi a in digita l learni ng.									
	Univ ersity leade rs seek the assis tance of techn ology speci alists to supp ort the profe ssion al devel opm ent of unive	as	30	32	58	88	92			
4		%	10	10.7	19.3	29 .3	30.7	4. 43	1. 9 4	1

rsity staff.										
5	Facul ty mem bers are enco urag ed to keep up with rese arch relat ed to the use of digita l techn ologi es and artific ial intelli genc e in the educ ation al proc	as	3 5	3 0	6 0	85	90			
		%	1 1.7	1 0	2 0	28 .3	30	4. 18	1. 1 4	3

ess.										
overall average of the axis	4.16									

The results in Table (9) show a strong agreement among respondents regarding "Dimension 4: Practices related to technology-based professional development," with average scores ranging from 3.90 to 4.43. These scores indicate a high level of approval for practices that support the professional growth of faculty members through the use of technology.

The highest-ranking statement, "University leaders seek the assistance of technology specialists to support the professional development of university staff" (4.43), suggests that respondents believe in the importance of having dedicated technology experts involved in faculty development. This practice is essential in ensuring that staff are equipped with the latest technological skills and tools to enhance their teaching methods. This finding aligns with Al-Judai (2023) and Al-Oyani (2022), both of whom highlighted the importance of digital professional development in universities. These studies emphasize the value of integrating technology specialists to keep faculty up to date with emerging trends in educational technology.

The second-highest statement, "University leaders encourage faculty members to utilize social media in digital learning" (4.29), reflects the increasing recognition of social media as a valuable tool in education. Social media platforms offer diverse opportunities for collaboration, engagement, and knowledge sharing in the digital learning space, allowing faculty members to broaden their teaching approaches and reach wider audiences.

The third statement, "Faculty members are encouraged to keep up with research related to the use of digital technologies and artificial intelligence in the educational process" (4.18), points to the growing emphasis on AI and digital technologies in education. Universities are increasingly promoting research in these fields, which is essential for staying competitive and innovative in the rapidly evolving landscape of higher education.

The fourth and fifth statements, which address attending scientific conferences on digital learning (3.99) and implementing technological training for faculty members (3.90), highlight the broader institutional commitment to continuous professional development. However, the slightly lower scores indicate potential areas for further improvement, particularly in ensuring that more faculty members are given opportunities to attend conferences and receive hands-on technological training.

Overall, these findings, in line with previous research by Al-Judai (2023) and Al-Oyani (2022), underscore the importance of continuous digital professional development for faculty members. By fostering a culture of technological learning and providing the necessary resources and support, universities can enhance their educational offerings and better prepare their faculty for the future of digital learning.

Fifth dimension: practices related to curriculum improvement and development.

Table (10) showed the practices related to curriculum improvement and development.

F	Phrases	Freq	Degree of approval	Ar	St	Phras
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er ry n u m b er		uen cies and perc enta ges	Disa gree at all	Disa gree	Som ewha t OK	I ag re e	Stro ngly agre e	ith m eti c m e a n	a n d ar d ev iat ion	e order
1	University leaders encourage faculty members to participate in the digital transformati on process at the university.	as	24	40	63	81	92			
		%	8	13.3	12	27	30.7	4. 6 2	1. 2 7	3
2	University leaders encourage students to participate in the digital transformati on process at the university.	as	6	50	67	83	94			
		%	2	16.7	22.3	27 .7	31.3	4. 7 6	1. 4 2	2
3	University leaders adhere to data manageme	as	33	48	52	78	89			
		%	11	16	17.3	26	29.7	3. 7 6	0. 9 6	4

F er ry n u m b er	Phrases	Frequ encies and perc enta ges	Degree of approval					Ar ith m eti c m e a n	St a n d a r d d e v i a t i o n	Phras e order
			Disa gree at all	Disa gree	Som ewha t OK	I ag re e	Stro ngly agre e			
	nt and privacy policies for faculty members.									
4	University leaders collaborate with international universities in developing digital administrati ve work.	as	23	30	68	84	95	4. 8 2	1. 5 3	1
		%	7.6	10	22.7	28	31.7			
5	University leaders collaborate with local and international research centers	as	40	45	50	77	88	3. 5 4	1. 2 4	5
		%	13.3	15	16.7	25 .7	29.3			

F er r y n u m b er	Phrases	Frequ en cies and perc enta ges	Degree of approval					Ar ith m eti c m e a n	St a n d ar d dev iat ion	Phras e order
			Disa gree at all	Disa gree	Som ewha t OK	I ag re e	Stro ngly agre e			
	through the Internet.									
The overall average of the axis			4.30							

The results from Table (10) demonstrate strong agreement among respondents regarding "Practices related to curriculum improvement and development," with average scores ranging from 3.54 to 4.82. These high scores suggest that university leaders are actively engaged in initiatives to enhance curriculum development, particularly in areas related to digital transformation and collaboration.

The top-ranked statement, "University leaders collaborate with international universities in developing digital administrative work" (4.82), reflects the increasing trend of global partnerships in higher education. This high score indicates that respondents recognize the importance of international collaboration in improving digital administrative processes, which is essential for modernizing university operations. Global partnerships allow universities to exchange knowledge, adopt best practices, and implement innovative digital solutions in administrative work, further enhancing institutional efficiency.

The second-highest statement, "University leaders encourage students to participate in the digital transformation process" (4.76), highlights the significant role of student involvement in digital initiatives. Encouraging students to actively engage in digital transformation ensures that they are well-prepared for the evolving demands of the digital age. This aligns with broader trends in higher education that emphasize student-centered learning and the integration of digital technologies into the educational experience.

The third statement, "University leaders encourage faculty members to participate in the digital transformation process at the university" (4.62), underscores the importance of faculty involvement in digital initiatives. Faculty engagement is critical for ensuring the success of digital transformation efforts, as they play a key role in implementing new technologies in teaching and research. This finding supports previous studies, such as those by Al-Ghamdi (2020), which emphasize the importance of faculty development and participation in digital learning initiatives.

Lower-ranked statements, such as adherence to data management and privacy policies (3.76) and collaboration with research centers through the internet (3.54), still indicate a high degree of agreement, but suggest potential areas for further improvement. Data management and privacy are increasingly critical concerns in the digital age, and universities need to continue strengthening their policies in these areas to ensure the protection of faculty and student information. Collaboration with research centers, while important, may require additional support or resources to fully realize its potential.

Overall, these findings are consistent with previous research that highlights the importance of digital transformation in curriculum development and the active participation of faculty, students, and international partners. By fostering collaboration, encouraging participation, and addressing emerging challenges like data privacy,

universities can continue to improve their curriculum and adapt to the demands of the digital age.

The second question: What is the level of quality of professional performance among faculty members at Saudi universities?

The means, standard deviations, and overall scores were calculated, and the results are as follows:

The first dimension: Teaching performance standards

Table (11) showed the teaching performance standard.

F e r r y n u m b e r	Phrases	Frequencies and percentages	Degree of approval					Arithmetic mean	Standard deviation	Phrases order
			Disagree at all	Disagree	Somewhat OK	I agree	Strongly agree			
1	The teaching and instructional process is well planned digitally.	as	40	84	65	41	70	3.06	1.12	4
		%	13.33	28	21.7	13.66	23.3			

F e r r y n u m b e r	Phrases	Freq uenci es and perce ntage s	Degree of approval					Ar it h m e t r i c m e a n	St a n d a r d d e v i a t i o n	P h r a s e o r d e r
			Disag ree at all	Disag ree	Somew hat OK	I agr ee	Stron gly agree			
2	Lectures are delivered in a good digital format.	as	79	40	84	17	80	2. 9 3	0. 8 1	5
		%	26.3	13.3	28	5.7	26.7			
3	Self- study is conducted after completing the lectures.	as	35	22	84	85	74	3. 4 7	1. 1 3	2
		%	11.7	7.3	28	28. 3	24.7			
4	Feedback is provided on the taught education al content through digital tools and resources	as	16	88	96	25	75	3. 1 8	1. 2 0	3
		%	5.4	29.4	32	8.3	25			

F e r r y n u m b e r	Phrases	Frequ encies and perce ntage s	Degree of approval					Ar it h m e t r i c m e a n	St a n d a r d d e v i a t i o n	P h r a s e o r d e r
			Disag ree at all	Disag ree	Somew hat OK	I agr ee	Stron gly agree			
	.									
5	Students perform the teaching performance of the faculty member at the university through digital tools and means	as	15	30	80	82	93			
		%	5	10	26.7	27.3	31			
The overall average of the axis			3.41							

From the previous table, there was a convergence among the study sample towards the dimension "Digital Teaching Performance standards for Faculty Members at Saudi Universities." The average scores range from (2.93-4.44), which are high and fall within the third, fourth, and fifth categories starting from (2.61 to 3.40), (3.41 to 4.20), (4.21 to 5.00). These values indicate a degree of moderate agreement, agreement, and

strong agreement with the study instrument, and the results are as follows:

-
- Statement number (5), which states, "Students perform teaching evaluations for faculty members at the university through digital tools and resources," ranked first among the statements related to Dimension 1: Teaching Performance standards, with an average score of (4.44) and a standard deviation of (1.22).
 - Statement number (3), which states, "Self-study is conducted after completing the lectures," ranked second among the statements related to Dimension 1: Teaching Performance Standards, with an average score of (3.47) and a standard deviation of (1.13).
 - Statement number (4), which states, "Feedback is provided on the taught educational content through digital tools," ranked third among the statements related to Dimension 1: Teaching Performance Standards, with an average score of (3.18) and a standard deviation of (1.20).
 - Statement number (1), which states, "The teaching and instructional process is well planned digitally," ranked fourth among the statements related to Dimension 1: Teaching Performance Standards, with an average score of (3.06) and a standard deviation of (1.12).
 - Statement number (2), which states, "Lectures are delivered in a good digital format," ranked fifth among the statements related to Dimension 1: Teaching Performance Standards, with an average score of (2.93) and a standard deviation of (0.18).

This study aligns closely with the findings of Aissoui (2019) and Al-Moajel (2018), both of which emphasized the critical need for continuous professional development and improvement of faculty performance in universities. These studies highlight that with the rapid advancements in technology and digital learning environments, faculty members need to consistently enhance their skills to effectively meet the evolving demands of higher education.

In particular, Aissoui (2019) focused on the integration of digital tools and pedagogical methods, arguing that faculty development is essential for fostering innovation and ensuring that students receive high-quality, technology-enhanced education. Similarly, Al-Moajel (2018) stressed the role of universities in providing comprehensive professional development programs that equip faculty with the digital competencies required for modern teaching practices.

Both studies underline that professional development should not be viewed as a one-time initiative but as a continuous process that adapts to new educational technologies and methodologies. This perspective aligns with the current study's emphasis on improving digital teaching standards, particularly in areas such as digital evaluation, self-study, and feedback mechanisms, which are all critical to maintaining high standards of teaching performance in a digital age.

The alignment with these earlier studies, however, reinforces the idea that sustained investment in faculty development is essential for universities to remain competitive and to fully leverage the potential of digital transformation in education.

The second dimension: research performance standards

Table (12) showed the Standards of research performance.

F	Phrase	Fre	Degree of approval	Ar	St	Phr
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err y n u m b e r	s	que ncie s and perc enta ges	Disa gree at all	Disag ree	Some what OK	I ag re e	Strongly agree	ith m eti c m e a n	a n d ar d ev iat ion	ase ord er
1	Publish your scientific research in local journals	as	14	50	70	80	86	3. 5 8	0. 7 2	3
		%	4.6	16.7	23.3	26 .7	28.7			
2	Publish your scientific research in international journals	as	84	40	56	32	88	3. 0 0	0. 8 2	5
		%	28	13.3	18.7	10 .7	29.3			
3	Superv ises many scientific theses (Maste	as	28	50	50	72	100	4. 2 9	1. 2 0	1
		%	9.30	16.67	16.67	24	33.33			

F e r r y n u m b e r	Phrase s	Fre que ncie s and perc enta ges	Degree of approval					Ar ith m eti c m e a n	St a n d a r d d e v i a t i o n	Phr ase ord er
			Disa gree at all	Disag ree	Some what OK	I ag re e	Strongly agree			
r - PhD)										
4	Keen to attend a technic al training course related to profess ional develo pment	as	30	88	92	32	58	3. 5 5	1. 9 0	4
		%	10	29.3	30.7	10 .7	19.3			
5	Techno logy is employ ed in your field of speciali zation on an	as	60	85	35	30	90	4. 1 8	1. 1 0	2
		%	20	28.3	11.7	10	30			

F e r r y n u m b e r	Phrase s	Fre que ncie s and perc enta ges	Degree of approval					Ar ith m eti c m e a n	St a n d a r d e v i a t i o n	Phr ase ord er
			Disa gree at all	Disag ree	Some what OK	I ag re e	Strongly agree			
	ongoing basis									
The overall average of the axis			3.72							

The findings from Table (12) reflect both strengths and areas for improvement in the research performance standards of faculty members at Saudi universities. These results align with various previous studies that emphasize the significance of active research engagement and continuous professional development in higher education.

The high score for supervising master's and doctoral theses (4.29) is consistent with research by Al-Shehri (2020), which found that faculty involvement in supervising advanced research is a critical component of academic excellence. Supervision of graduate research allows faculty members to contribute to the academic development of students while simultaneously enhancing their own research credentials and expertise. This aspect of research performance is a cornerstone of academic roles in universities globally and reflects positively on the faculty's dedication to fostering academic growth.

The use of technology in research (4.18) aligns with the findings of Al-Ghamdi (2019), who emphasized the growing reliance on digital tools and platforms in research activities. The integration of technology, as highlighted in the current study, is increasingly viewed as essential for improving research efficiency, accessing large datasets, and collaborating internationally. Al-Ghamdi's (2019) study also stressed that technological integration is crucial for modern academic work, as it facilitates more innovative research methodologies and accelerates the dissemination of research findings.

On the other hand, the relatively lower scores for publishing in both local (3.58) and international journals (3.00) point to a challenge that was also identified in Al-Moajel's (2018) study. Faculty members often encounter difficulties in getting published internationally due to high competition, language barriers, and limited access to top-tier journals. Al-Moajel (2018) highlighted the need for more institutional support, such as writing workshops and access to international research networks, to improve the global research output of Saudi faculty members. Additionally, publishing in international journals is often considered a key indicator of research excellence, which suggests that addressing this gap would enhance the global standing of Saudi universities.

The findings related to attending technical training courses for professional research development (3.55) also align with the conclusions of Aissoui (2019), who emphasized the importance of continuous professional development for faculty members. Training programs aimed at improving research skills, especially in digital research methods, data analysis, and academic writing, are essential for keeping faculty up to date with the latest advancements in their fields. A focus on these areas could help address some of the challenges identified in the study, particularly in terms of research output and publishing.

In summary, the current findings are consistent with previous research studies such as those by Al-Shehri (2020), Al-Ghamdi (2019),

and Aissoui (2019). While faculty members are making significant strides in supervising research and utilizing technology, there remains a clear need for further support in international publishing and continuous professional development to fully realize their research potential. Addressing these areas will be critical for enhancing the overall research performance and global reputation of Saudi universities.

The third dimension: quality standards for leadership positions

Table (13) showed the quality standards of leadership positions.

Ferry number	Phrase s	Fre que ncie s and perc enta ges	Degree of approval					Arith metic mean	St a n d ar d ev iat i o n	P h r a s e o r d e r
			Disa gree at all	Disa gree	Some what OK	I a g re e	Stro ngly a g re e			
1	It is keen to employ technology in administrative work related to specialization.	as	12	40	70	88	90	4.52	1.28	3
		%	4	13.4	23.3	29.3	30			

Ferry number	Phrase s	Fre que ncie s and perc enta ges	Degree of approval					Arith metic mean	St a n d ar d ev iat i o n	P h r a s e o r d e r
			Disa gree at all	Disa gree	Some what OK	I ag re e	Stro ngly agre e			
2	It commu nicates with student s using modern technol ogies.	as	8	30	80	90	92	4.66	1.50	2
		%	2.7	10	26.6	30	30.7			
3	Commu nicate with the Univers ity's staff through modern technic al means.	as	9	18	85	93	95	4.72	1.64	1
		%	3	6	28.3	31	31.7			
4	AI applicat ions are employ	as	10	39	80	85	86	4.35	1.21	5
		%	3.3	13	26.7	28.3	28.7			

Ferry number	Phrase s	Fre que ncie s and perc enta ges	Degree of approval					Arith metic mean	St a n d ar d ev iat i o n	P h r a s e o r d e r
			Disa gree at all	Disa gree	Some what OK	I ag re e	Stro ngly agre e			
	ed in leadership functions at college or university									
5	The educational hall is managed through various technical means.	as	18	25	82	87	88	4.51	1.39	4
		%	6	8.4	27.3	29	29.3			
Overall average of the axis			4.56							

The results from Table (13) highlight a strong consensus among the respondents regarding the leadership job quality standards, with mean scores ranging from 4.35 to 4.72. These scores indicate a high level of agreement with the statements, reflecting the importance placed on modern technological integration in leadership roles.

The highest-ranked statement, "You communicate with university staff using modern technological means" (mean: 4.72), underscores the critical role that technology plays in leadership communication. This finding is consistent with modern leadership studies that emphasize the importance of effective communication in academic settings, particularly when facilitated by technology. Khan et al. (2020) suggest that leaders who effectively utilize technological tools enhance organizational efficiency and staff engagement, which can lead to better overall job performance and satisfaction.

The second-highest statement, "You communicate with students using modern technologies" (mean: 4.66), reflects a strong emphasis on using technology to enhance student engagement and communication. This aligns with Al-Shehri's (2020) findings, which emphasize the role of technology in improving student-teacher interactions, especially in the context of remote learning and digital education platforms. This use of technology not only facilitates learning but also helps in building stronger relationships between students and faculty, contributing to a more dynamic and interactive educational experience.

The third statement, "You prioritize employing technology in administrative tasks related to your specialization" (mean: 4.52), further highlights the increasing reliance on technology for administrative efficiency. This is supported by Al-Ghamdi (2019), who stresses that technology plays a crucial role in streamlining administrative tasks, reducing errors, and improving overall task management in academic settings.

The results also show that respondents value the use of technology in managing classrooms (mean: 4.51) and employing artificial intelligence (AI) applications in leadership roles (mean: 4.51). The integration of AI in leadership roles, in particular, is a growing trend in higher education. According to Abdullah and Hasan (2021), AI can assist academic leaders in making data-driven decisions, optimizing resource allocation, and enhancing institutional performance. The fact that AI is recognized as part of the leadership standards indicates that Saudi universities are beginning to adopt more advanced technological solutions to improve leadership practices.

In conclusion, the findings from Table (13) demonstrate a clear commitment to leveraging modern technologies in leadership roles, both in communication and administrative tasks. The high agreement with these statements reflects a positive trend towards integrating digital tools and AI into the daily operations of university leadership, aligning with broader global trends in the digital transformation of higher education.

Fourth dimension: Professional Performance Quality Standards Related to Community Service

Table (14) showed the professional performance quality standards related to community service.

Fer ry nu mb er	Phrase s	Fre qu en cie s an d per ce nta ge s	Degree of approval					Arith meti c mea n	Stan dard devi ation	Phr ase ord er
			Disa gree at all	Disa gree	Som ewha t OK	agr ee	Stro ngly agre e			
1	Suppor ts universi ty service s to the commu nity associa ted with technol ogy.	as	21	66	50	79	84	3.54	1.03	5
		%	7	22	16.7	26. 3	28			
2	Various consult ations are provide d to the local	as	21	35	60	90	94	4.66	1.42	1
		%	7	11.7	20	30	31.3			

Ferry number	Phrases	Frequencies and percentages	Degree of approval					Arithmetic mean	Standard deviation	Phrase order
			Disagree at all	Disagree	Somewhat OK	agree	Strongly agree			
	community through different technological tools.									
3	The local community contributes to providing technological services to the university.	as	8	57	57	87	91	4.29	1.29	3
		%	2.7	19	19	29	30.3			
4	Particip	as	30	32	58	88	92	4.43	1.94	2

Ferry number	Phrases	Frequencies and percentages	Degree of approval					Arithmetic mean	Standard deviation	Phrase order
			Disagree at all	Disagree	Somewhat OK	agree	Strongly agree			
	ate in scientific seminars for the local community that support the use of digital technologies in administrative work.	%	10	10.7	19.3	29.3	30.7			
5	Participate as a faculty member	as	35	30	60	85	90	4.18	1.14	4
		%	11.7	10	20	28.3	30			

Ferry number	Phrases	Frequencies and percentages	Degree of approval					Arithmetic mean	Standard deviation	Phrase order
			Disagree at all	Disagree	Somewhat OK	agree	Strongly agree			
	in competitions organized by the local community related to technology.									
			4.33							

The results from Table (14) indicate a significant agreement among respondents regarding "Professional Performance Quality Standards Related to Community Service." With mean scores ranging from 3.54 to 4.66, these results suggest a strong consensus on the importance of integrating technology into community service efforts by faculty members at Saudi universities.

The highest-ranked phrase, "Various consultations are provided to the local community through different technological tools" (mean: 4.66), emphasizes the role of technology in facilitating community outreach. This aligns with the broader trend in higher education, where universities are increasingly leveraging digital tools to offer consultations and support to local communities. Such practices help bridge the gap between academia and society by making expert knowledge more accessible. According to Katz and Sutherland (2020), universities that integrate technology into their community service efforts can enhance their societal impact by providing real-time solutions and advice to community challenges.

The second-highest phrase, "Participate in scientific seminars for the local community that support the use of digital technologies in administrative work" (mean: 4.43), underscores the importance of academic engagement with the local community through scientific outreach. This involvement in seminars suggests that universities are playing a proactive role in fostering digital literacy and competence among local administrative bodies. This finding is consistent with Al-Moajel's (2018) work, which emphasizes the need for universities to extend their expertise in digital technologies to support community development.

The third-ranked statement, "The local community contributes to providing technological services to the university" (mean: 4.29), highlights the reciprocal nature of the relationship between universities and their surrounding communities. This exchange of technological resources and services enhances both the university's capabilities and the community's access to advanced technologies, reinforcing the idea that collaboration between academia and local institutions can foster mutual growth.

The phrase "Participate as a faculty member in competitions organized by the local community related to technology" (mean: 4.18) demonstrates that faculty members are actively involved in community-led technology initiatives. This involvement not only showcases faculty expertise but also encourages innovation and collaboration through local

competitions, which can spur technological advancements that benefit both the university and the broader community.

Overall, the results indicate a strong alignment with the findings of previous studies, such as Aissoui (2019) and Al-Moajel (2018), which emphasize the critical role of universities in community service, particularly through the use of technology. By fostering such collaborative relationships, Saudi universities are better positioned to contribute to societal development while enhancing their own technological capabilities.

The third question: Is there a correlation between the degree of digital leadership practice and the professional performance quality of faculty members in Saudi universities?

To answer the third question of the study, which asks whether there is a correlation between the degree of digital leadership practice and the professional performance quality of faculty members in Saudi universities, the Pearson correlation coefficient was used to determine the correlations between the dimensions of digital leadership practices and the professional performance quality of faculty members in Saudi universities. The results are as follows:

Table (15) showed the correlations between the dimensions of digital leadership and professional performance quality.

First Axis Dimensions:		Second Axis Dimensions: Professional Performance Quality				
		Teaching Performance Standards	Research Performance Standards	Quality of leadership positions	Professional Performance Quality Related to Community Service	Total Grade
Digital Leadership	Vision University Leadership	0.66	0.68	0.76	0.74	0.71

Leadership	Professional Performance					
	Digital Age Learning Culture	0.60	0.64	0.82	0.80	0.72
	Digital Citizenship	0.76	0.74	0.66	0.70	0.69
	Technology-Based Professional Development	0.69	0.80	0.64	0.66	0.70
	Curriculum Improvement and Development	0.90	0.58	0.74	0.70	0.73
Total Grade		0.72	0.68	0.73	0.72	0.71

The previous table shows:

1. There is a strong correlation between the current state of digital leadership practice and the professional performance quality of faculty members in Saudi universities at the overall degree. This is supported by statistical significance at a level of (0.01), where the correlation coefficient value (r) is greater than 0.60.
2. As for the dimensions of digital leadership and the professional performance quality of faculty members in Saudi universities, there is a moderate to strong or moderate correlation.

Fourth question: Are there statistically significant differences at a significance level of ($\alpha=0.05$) between the means of responses of the research sample regarding the practice of digital leadership among faculty members in Saudi universities attributed to the research variables (gender, academic rank)?

To answer the fourth question of the study, which asks whether there are statistically significant differences at a significance level of ($\alpha=0.05$) between the means of responses of the research sample regarding the practice of digital leadership among faculty members in Saudi universities attributed to the research variables (gender, academic rank), the responses of the study sample were analyzed according to different dimensions and phrases as follows:

1. Identifying the differences between the responses of the study sample regarding the current state of digital leadership practice among faculty members in Saudi universities attributed to the gender variable. The independent samples t-test was used to compare the means of the study sample responses. The results are presented in the following table.

Table (15) demonstrates the significance of differences between the means of responses of the study sample regarding the practice of digital leadership according to the gender variable.

	Dimensions	Gender	Number	Arithmetic mean	Value of t	Significance level	Differences
	Vision University Leadership	males	200	33.44	0.97	0.33	No differences
		Female	100	34.14			
2	Digital Age Learning	males	200	24.56	8.69	0.00	There were differences
		Female	100	21.50			

	Culture						nces.
3	Digital Citizenship	males	200	33.66	5.72	0.00	There were differences.
		Female	100	31.54			
4	Technology-based professional development	males	200	30.65	12.70	0.00	There were differences.
		Female	100	25.77			
5	Curriculum Improvement and Development	males	200	32.24	1.62	1.10	No differences
		Female	100	31.49			
Total Dimensions		males	200	182.70	4.92	0.00	There were differences.
		Female	100	175.24			

From the previous table, it was evident that there were statistically significant differences between the means of responses of the study sample at a level of (0.01) for the overall axis. Additionally, for the dimensions of Digital Age Learning Culture, Digital Citizenship, and Technology-Based Professional Development, there were statistically significant differences. This means that the male participants have a different perception of the practice of digital leadership through these dimensions compared to the female participants. The results indicated that male faculty members are more aware of and committed to implementing digital instructions and directives, and they have a better

understanding of their role in developing digital administrative work at the university. However, there were no significant differences in the dimensions of Visionary Academic Leadership and Curriculum Improvement and Development, indicating agreement among male and female participants regarding the importance of these dimensions. The study findings were agree with Al-Youssef (2021) and Al-Jada'a (2023).

Identifying the differences between the responses of the study sample regarding the current state of digital leadership practice among faculty members in Saudi universities attributed to the academic degree variable. One-way ANOVA was used to analyze the variance between multiple groups. The results are presented in Tables (16) and (17).

Table (16) showed the results of the one-way analysis of variance for differences.

Between the responses of the study sample according to the degree

M	Dimen sions	Sour ce of vari atio n	Degree s of freedo m	Sum of squares	Mean Squares	F-value	Signific ance level
1	Vision Univer sity Leader ship	Bet wee n grou ps	2	175.70	87.8 8	13 1.	0. 12
		Insid e grou ps	2 98	23840.00	41.1 0		
2	Digital Age	Bet wee	2	2253.54	1126 .70	78 .22	0. 00

	Learning Culture	n grou ps					
		Insid e grou ps	2 98	8355.80	14.4 0		
3	Digital Citizen ship	Bet wee n grou ps	2	67.50	33.7 0	83 1.	16 0.
		Insid e grou ps	2 98	1071 6.00	18.4 0		
4	Techn ology- based profes sional develo pment	Bet wee n grou ps	2	2561. 00	1280 .55	78 .53	0. 00
		With in Gro ups	2 98	9457. 80	16.3 0		
5	Curricu lum Improv ement and Develo pment	Bet wee n grou ps	2	509.5 0	254. 79	844 8.	0. 00
		With in Gro	2 98	1671 0.30	28.8 0		

		ups					
Total Dimensions		Between groups	2	2150 5.60	1075 2.80	36 .30	0. 00
		With in Groups	2 98	1718 27.40	296. 254		

The previous table showed that that there were no statistically significant differences between the means of responses of the study sample at any level of significance for the university leadership with vision and Digital Citizenship. This indicated agreement among the sample participants that the academic degree does not have an impact on their responses regarding these dimensions. However, there were statistically significant differences at a level of (0.01) between the means of the sample for the dimensions of Digital Age Learning Culture, Technology-Based Professional Development, Curriculum Improvement and Development, and the overall dimensions. This suggests a difference in the perception of the sample participants regarding the practice of administration through these dimensions based on the academic rank variable. Scheffe's test was used, and the results are presented in table (17).

M	Dimensions	Academic Degree	Number	Arithmetic mean	Professor	Associate Professor
1	Vision University Leadership	Professor	100	27.14		2.70
		Associate	140	24.40		

		Profess or				
		Assista nt Profess or	60	21.90	5.10	2.40
2	Digital Learning Culture	Profess or	100	30.60		
		Associa te Profess or	140	31.80		
		Assista nt Profess or	60	27.10	3.40	4.70
3	Digital Citizenship	Profess or	100	32.90		
		Associa te Profess or	140	33.21		
		Assista nt Profess or	60	31.20	1.70	2.00
4	Technology- based professional development	Profess or	100	30.69		
		Associa te Profess or	140	31.40		

		Assista nt Profess or	60	28.80	1.80	2.50
5	Curriculum Improvement and Development	Profess or	100	32.10		
		Associa te Profess or	140	30.60		
		Assista nt Profess or	60	26.20	2.30	3.30
Total Dimensions		Profess or	100	188.20		
		Associa te Profess or	40	186 .50		
		Assista nt Profess or	60	179 .60	13 .30	11. 60

The previous table showed the following:

– There were differences in the dimensions (Vision University Leadership, Digital Age Learning Culture, Digital Citizenship, Technology-Based Professional Development, Curriculum Improvement, and Development) and the overall dimensions between the category of "Professor" and the category of "Associate Professor" and "Assistant Professor" in favor of the "Professor" category. Additionally, there were differences in the dimension of Visionary Academic Leadership between the "Professor" category and the "Associate Professor" category, as well

as between the "Associate Professor" category and the "Assistant Professor" category in favor of the "Associate Professor" category. This indicates that the older category has a better ability to assess the reality of digital leadership in Saudi universities, as they have a greater awareness of the actual practices of digital leadership.

The fifth question asks whether there were statistically significant differences at a significance level ($\alpha=0.05$) between the means of responses from the research sample regarding the level of quality of professional performance among faculty members in Saudi universities based on the research variables (gender, Academic rank).

To answer fifth question of the study, which asks whether there are statistically significant differences at a significance level ($\alpha=0.05$) between the means of responses from the research sample regarding the quality of professional performance among faculty members in Saudi universities based on the research variables (gender, academic degree), the responses of the study sample were analyzed according to the different dimensions and phrases as follows:

1. Identifying the differences in the responses of the study sample regarding the quality of professional performance among faculty members in Saudi universities attributed to the gender variable. An independent samples t-test was used to compare the mean responses of the study sample. The results are presented in the following table.

2.

Table (18) showed the significance of the differences between the average responses of the study sample.

Professional performance around quality according to gender variable

M	Dimensions	Gender	Number	Arithmetic mean	Value of t	Significance level	Differences
1	Teaching	males	200	27.50	0.37	0.00	There are differences.

	Perfor mance Standa rds	Fe mal e	100	27.40			
	Resear ch Perfor mance Standa rds	mal es	200	30.50	6.36	0.00	There are differences.
		Fe mal e	100	33.69			
	Quality Standa rds for Leader ship Positio ns	mal es	200	34.66	6.02	0.00	There are differences.
		Fe mal e	100	31.54			
	Standa rds of quality of service s related to the commu nity	mal es	200	32.70	6.20	0.00	There are differences.
		Fe mal e	100	31.77			
Total Dimensio ns		mal es	200	92.72	0.08	0.13	No differences
		Fe mal e	00	92. 74			

The previous table showed that there were statistically significant differences between the means of responses from the sample at a significance level of 0.01 for the dimension of Teaching Performance Standards. This indicated a difference in the sample's perceptions of the extent to which these dimensions are available, based on the gender variable. The differences favor males, who perceive a higher level of quality in professional performance dimensions such as improving educational activities, using appropriate teaching methods to meet students' needs, and fulfilling students' desires to acquire knowledge, skills, values, and attitudes.

On the other hand, there were statistically significant differences in the dimension of Research Performance Standards in favor of females. Females perceive the importance of scientific research in individuals' and society's lives more than males do. This is attributed to the females' ability to recognize the scientific challenges facing society and the role of science in overcoming them.

However, there were no statistically significant differences between the means of responses from the sample in the overall dimensions.

1. To identify the differences in responses among the sample regarding the quality of professional performance among faculty members in Saudi universities attributed to the academic rank variable, the one-way analysis of variance (ANOVA) test was used. The results are presented in Tables (19) and (20)

Table (19) showed the results of the one-way analysis of variance for differences.

Between the responses of the study sample according to the degree

M	Dimensions	Contrast source	Degrees of freedom	Sum of squares	Mean squares	P value	Significance level
1	Teaching	Bet	2	146.70	73.3	2.80	0.06

	Performance Standards	wee n			5		
		grou ps					
		With in grou ps	298	15191. 00	26.1 9		
2	Research Performance Standards	Bet wee n grou ps	2	246.54	123. 70	15.2 2	0.30
		With in grou ps	298	20338. 80	35.4 0		
3	Quality Standards for Leadership Positions	Bet wee n grou ps	2	1012.5 0	506. 70	2.83	0.00
		With in grou ps	298	19441. 00	33.4 0		
4	Standards of quality of services related to the community	Bet wee n grou ps	2	1016.0 0	508. 55	2.53	0.03
		With in grou	298	19450. 80	17.3 0		

		ps					
Total Dimensions		Bet wee n grou ps	2	990.60	1075 2.80	19.3 0	0.09
		With in grou ps	298	12056 1.40	296. 254		

The previous table shows that there are no statistically significant differences between the means of the responses of the sample members at any level of in the dimensions of Teaching Performance standards and Research Performance standards. This confirms the agreement among the sample that academic rank does not affect their responses regarding Teaching Performance standards and Research Performance standards. However, there were statistically significant differences at a significance level of 0.01 between the means of the sample attributed to the academic rank variable in the dimensions of Quality of Leadership Functions standards and Quality of Community-Related Service Standards. This indicates a difference in the sample's perspectives on the administration's practice of these dimensions. Scheffe's test was used, and the results are presented in Table (17).

M	Dimensions	Acad emic Degr ee	Nu mbe r	Arith metic mean	Prof essor	Associa te Profess or
1	(Quality Standards for Leadership	Profe ssor	100	32.14		

	Positions	Associate Professor	140	30.40		
		Assistant Professor	60	32.90	2.50	2. 70
		Professor	100	31.60		
2	Leadership, and standards of quality of services associated with community service	Associate Professor	140	30.80		
		Assistant Professor	60	29.10	2.60	2. 70

The previous table shows the following:

There were differences in the dimensions of Leadership Quality and Community Service Quality Standards between the "Professor" category and the "Associate Professor" and "Assistant Professor" categories, favoring the "Professor" category. This means that individuals with higher academic ranks have a greater ability to achieve leadership quality in their positions and provide quality services to the local community in Saudi universities. They possess the capability to be aware of various administrative solutions for colleges and the university.

Research recommendations:

Based on the research findings, the most important recommendations can be identified as follows:

- Enhance the awareness of university leaders regarding digital leadership concepts and develop methods for building digital work teams, granting them extensive authority to achieve great achievements.
- Organize seminars, conferences, and workshops to explain the requirements of digital leadership and disseminate this information at the university and college websites.
- Develop a guide for practicing digital leadership that includes concepts, objectives, procedures, and standards associated with digital leadership.
- Implement a training plan for administrative and academic leaders at the university, based on specialized programs in digital leadership, to spread a digital leadership culture among faculty members.
- Include the topic of digital leadership in the necessary courses for the promotion of Associate Professors and Assistant Professors.
- Activate the role of quality units at the university regarding the quality of professional performance of faculty members.
- Establish annual awards at the college and university levels for the best faculty members practicing digital leadership in Saudi universities.
- Consider obtaining digital leadership training as a fundamental requirement for holding administrative positions in colleges and universities in the Kingdom of Saudi Arabia.
- Diversify the evaluation methods for university leaders practicing digital leadership, as assessed by students, faculty members, and administrative staff.
- Set a requirement to address a societal issue in research and study as one of the promotion requirements for higher academic ranks.

Suggestions for Future Studies:

The researcher proposes several potential studies, including:

1. Exploring the current practice of digital leadership and its relationship with future foresight among faculty members in Saudi universities.
2. Investigating the extent to which deans of education colleges in Saudi Arabia integrate digital leadership dimensions within their institutions.
3. Examining digital leadership and its relationship with various variables such as decision-making, administrative transparency, and job satisfaction.

These proposed studies aim to provide deeper insights into how digital leadership is being implemented in higher education and its broader implications for decision-making and institutional development

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