Requirements for Developing the Performance of Academic Leadership in Saudi Universities Using Artificial Intelligence

By

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***Abstract*:** The study aimed to identify the requirements for developing the performance of academic leaders in Saudi universities. This was achieved by identifying the level of performance of academic leaders in Saudi universities and the requirements for developing their performance from the perspective of faculty members. To achieve the research objectives, the researcher used a descriptive survey approach. The study population consisted of faculty members in Saudi universities. A questionnaire was administered to a stratified random sample of 376 participants. The study concluded that, from the perspective of faculty members, the level of performance of academic leaders in Saudi universities was poor, with an arithmetic mean of 1.87. The results also revealed that the requirements for developing the performance of Saudi universities using artificial intelligence were very high, with an arithmetic mean of 4.44.

Keywords: Academic Leadership, Artificial Intelligence, Performance Development .

Introduction:

The world today is witnessing rapid challenges and changes in all social, economic, and technological fields, including education. These changes impose new requirements on the educational system, necessitating a rethinking of teaching methods and management. Universities are one of the entities responsible for the progress and advancement of nations. They are an indispensable tributary for bringing about scientific development in societies.

They must be able to fulfill their obligations to society, both in terms of preparing cadres capable of keeping pace with the ever-changing and evolving demands of the labor market, and also in terms of graduating generations capable of leading nations to higher levels (Badrakhan et al., 2020). Universities must develop their policies and administrative and educational methods using technology.

Badran (2019) noted that higher education institutions serve as incubators for science and technology, and that universities must implement comprehensive educational and strategic transformations across all their policies, developing their objectives and management, modifying their curricula and programs, and employing new teaching methods and approaches, as well as assessment and examination systems. Given that the fundamental characteristic of a knowledge society is the extensive use of information and communications technology, artificial intelligence is the most important feature and most prominent trend of the Fourth Industrial Revolution. Given the amazing advantages offered by artificial intelligence, Saudi Arabia is seeking faster, smarter, more effective, and more accurate ways to integrate AI into its products and services (Al-Hujaili and Al-Farani, 2020).

The Kingdom of Saudi Arabia has recently turned to investing in Fourth Industrial Revolution technologies, particularly AI, which has become a goal within the Kingdom's Vision 2030 for digital transformation in all fields. It established the National Center for Artificial Intelligence and Data Management and the Saudi Data and Artificial Intelligence Authority, seeking to increase innovation at the international level and empower the Kingdom's data-driven economy (Al-Bashar, 2020).

Through the above, the urgent need to develop the performance of academic leaders in Saudi universities to keep pace with the changing times and requirements of sustainable development is emphasized, especially through the Fourth Industrial Revolution and the developments it has brought about in AI technologies.

Research Problem :Saudi universities face challenges in some departments and colleges, which still adhere to traditional methods based on the difficulty of sequencing administrative procedures, the hierarchy of administrative and central levels, and the lack of delegation of authority (Al-Naghmish, 2022).

For universities to be able to confront these challenges and pressures, Al-Judaibi (2020) believed it had become necessary to adopt leadership methods that could effectively achieve the desired results.

The reality of academic work has imposed numerous pressures that have necessitated the selection of the most effective and efficient leadership methods. Saudi universities that have relied on pre-established traditional methods for conducting work face weak academic leadership performance.

Al-Naghmish's study (2022) indicated that university administrations in Saudi Arabia rely on pre-established work methods in their work, which has reduced their incentive to adopt innovative ideas that serve their development, leading to weak academic leadership performance.

Al-Marikhi's study (2021) indicated that the role of academic leaders in digital transformation in Saudi universities in the Kingdom of Saudi Arabia, from the perspective of faculty members, remains below expectations, rated as moderate.

He emphasized the importance of developing their performance. Hazem's study (1431) also indicated that developing the administrative performance of academic leaders in universities, through modern administrative trends, is of paramount importance in achieving goals and keeping pace with rapid developments and changes. He also indicated that they must be trained in digital transformation and the use of artificial intelligence.

Al-Muqaiti and Abu Al-Ala's study (2021) indicated that the degree of use of artificial intelligence in Jordanian universities, from the perspective of faculty members, was moderate. Al-Sadhan's study (2023) also indicated that the use of artificial intelligence applications at Princess Nourah bint Abdulrahman University to develop the university's organizational performance was moderate.

Al-Tuwaijri and Al-Shahrani's study (2023) indicated the need for the Ministry of Education to support and prepare the ministry's environment to accommodate artificial intelligence applications. Given the novelty of the topic and its importance in raising the level of Saudi universities, this study sheds light on the requirements for developing the performance of academic leaders in Saudi universities using artificial intelligence applications.

Study Questions:

The problem of the current study is defined by the need to develop the performance of academic leaders in Saudi universities by identifying the necessary requirements for this. The study questions are as follows:

1. What is the level of performance of academic leaders in Saudi universities from the perspective of faculty members?
2. What are the requirements for developing the performance of Saudi universities using artificial intelligence applications from the perspective of faculty members?

Study Objectives:

The study aims to:

1. Identify the level of performance of academic leaders in Saudi universities from the perspective of faculty members.
2. Identify the requirements for developing the performance of Saudi universities using artificial intelligence applications from the perspective of faculty members.

Study Importance: The study's importance can be highlighted through two main aspects: theoretical importance and applied importance, as explained below:

A. Theoretical Importance:

The theoretical importance of the study stems from several considerations, namely:

1. The study derives its importance from the novelty and importance of the topic, as artificial intelligence is one of the modern trends for improving administrative and educational practices.
2. It addresses a vital and important topic for the success of universities: the development of academic leadership, and the importance of its role in achieving goals and performing work efficiently and effectively.'

B- Applied Significance:

The applied significance of the study stems from several premises, namely:

1- The importance of the study stems from the possibility of improving the performance of academic leadership in Saudi universities.

2- It is hoped that the results of this study will contribute to identifying the problems and challenges facing academic leadership, and working to solve and overcome them using artificial intelligence.

Study Limits:

The current study was conducted within the following limits:

• Objective Limit: The study focuses on identifying the level of performance of academic leadership in Saudi universities through the following dimensions (strategic leadership, academic management, resource management, transformational leadership, communication and relationships, quality management and accreditation, technological leadership), and the requirements for developing their performance.

• Human Limit: The current study was limited to faculty members. • Spatial Limit: The study was conducted at (6) Saudi universities (Umm Al-Qura University, King Faisal University, Qassim University, Imam Muhammad ibn Saud Islamic University, Al-Jouf University, and Jazan University).

• Time Limit: The field study was conducted during the second semester of the academic year 1446 AH. Study Terminology:

1- Performance Development: Performance development is defined as the process of providing administrators with the skills and information that help them improve their work performance and raise their level of competence in confronting administrative problems (Abu Naseeb, 2017). Eid (2020, p. 350) defined it as "empowering university leaders to carry out the tasks and responsibilities assigned to them through the challenges of the twenty-first century with efficiency and effectiveness, by equipping them with the knowledge, skills, and attitudes that enable them to carry out these tasks and responsibilities in a manner that rises to a competitive level of performance at the global level." Performance development is defined procedurally as: An ongoing process aimed at improving the skills and capabilities of academic leaders at universities to enhance their performance and address the changes and challenges facing the university.

2- Academic Leadership:

Salahuddin (2015) defined academic leadership as the mutual influence between university leaders and faculty members, leading to increased knowledge production and cognitive and social sharing.

Al-Shahrani's (2018) study defined academic leaders as those entrusted with administrative tasks at the university, including university presidents, vice presidents, deans of colleges affiliated with the university, and department heads. Academic leaders are procedurally defined as faculty members entrusted with the management and organization of the university, whether at the senior leadership level or at the level of colleges, deanships, and academic departments. 3- Artificial Intelligence: Muhammad's (2018) study defined artificial intelligence as the ability to represent computer models of a domain of life, identify the basic relationships between its elements, and then generate responses and attitudes in that domain.

Al-Anzi's study (2022, p. 6) defined it as "a branch of computer science. It is the behavior and characteristics upon which various computer programs in modern organizations are based, and it is compatible with human mental abilities in many of their tasks. Among the most prominent of these abilities is the computer's ability to learn and make sound decisions, which achieves a good level of performance."

Procedurally, it is defined as digital applications with capabilities and capacities that mimic the human mind, used by university academic leaders in various administrative activities with the aim of improving administrative efficiency and effectiveness.

Theoretical Framework and Previous Studies First Axis: Performance Development: First, the Concept of Performance: Performance refers to the verbal or skillful behavior of an individual, based on a specific cognitive and emotional background. This performance is usually at a certain level, demonstrating their ability or inability to perform a given task (Ahmed, 2012).

It is defined as "accomplishing tasks as they should be accomplished. It is a comprehensive and important concept for all organizations, regardless of their type and activity. It is almost a comprehensive phenomenon encompassing all branches and fields of administrative knowledge" (Ammari, 2018, p. 101).

It can be defined as practical behavior exhibited by individuals within organizations, through verbal and skillful actions and practices, toward achieving goals. It is based on a cognitive and emotional background, and reflects the level of task completion and meeting the requirements of the job or work in terms of quantity and quality. Second, the concept of performance development:

Ramadan (2009) defined performance development as an organized process for addressing problems and identifying the gap between current and desired performance.

. This is where the causes of this gap come in, and the necessary measures are taken to improve performance. This can include a review of the system and the introduction of new methods and approaches. Administrative performance development is also defined as a comprehensive, planned effort aimed at changing and developing the performance of leaders within an organization by influencing their values, skills, and behavioral patterns, to introduce the desired change within the organization and achieve its overall effectiveness (Abdul Sattar and Amin, 2019).

Based on the above, performance development can be defined as an organized and ongoing process aimed at improving the capabilities of individuals, groups, and institutions by identifying the gap between actual and desired performance and addressing obstacles using modern scientific methods.

This process includes equipping employees with the necessary skills and knowledge, and changing current values and behaviors, in order to increase efficiency and effectively achieve organizational goals throughrapid changes.

Third: Objectives of Administrative Performance Development .

Al-Sabai (2016) and Rasmi et al. (2018) indicated that the objectives of administrative performance development are shaped according to the strategic needs of the organization.

These objectives revolve around an integrated system that begins with raising the professional and administrative levels of human resources, formulating future development plans, strengthening positive organizational relationships, and effectively supervising administrative projects. It also aims to improve the quality of administrative processes by developing leadership capabilities and enhancing institutional competencies, while developing the administrative operations system, including planning, organizing, and coordination, and maximizing the use of available human and material resources.

These objectives extend to developing functional skills and capabilities, leading to establishing measurable and applicable professional performance standards, which contribute to achieving the desired institutional excellence. From the above, it can be said that the performance development process aims for comprehensive and integrated improvement of the organization at various levels. It includes enhancing the efficiency of administrative processes and improving organizational structures and internal relationships, with a focus on developing employee capabilities and skills. It also seeks to develop future growth plans and improve the quality of educational institutions. Furthermore, it aims to maximize the use of available human and material resources and establish measurable performance standards, which contribute to achieving institutional goals with greater efficiency and effectiveness.

The second axis: Artificial Intelligence: First: The Concept of Artificial Intelligence Siminto (2023) presented a comprehensive concept of artificial intelligence. He defined it as a specialized field in computer science that focuses on developing and innovating advanced technological systems that simulate human cognitive abilities. This simulation is manifested in the ability of these systems to continuously learn, think systematically, and make informed decisions.

This field essentially aims to enable technological systems to handle complex tasks with high efficiency, reflecting an advanced level of artificial intelligence.

Al-Awfi (2024) indicated that it is a branch of computer science that aims to improve the performance of automated systems and enhance their ability to simulate the characteristics of human intelligence.

This is achieved by studying and analyzing the distinctive characteristics of human intelligence with the aim of achieving optimal integration between human capabilities and the unique advantages of machines, with the goal of improving the quality of human life and promoting societal well-being. It can be defined as computer programs with advanced capabilities that mimic human mental abilities and operating mechanisms, through their ability to think, learn, infer, analyze, and make rational decisions based on algorithms and big data.

Second: The Importance of Artificial Intelligence :

The studies by Abdul Latif (2020) and Al-Jahni (2020) pointed to the importance of artificial intelligence, including:

• Its prominent role in improving logical and analytical thinking skills, which positively impacts the development of problem-solving skills at the academic and personal levels.

This leads to the development of necessary computer skills and the availability of new specializations that did not previously exist.

• It leads to the invention of innovative applications that facilitate all educational and professional activities, and the effective use of technology that benefits those most in need of such applications.
• It discovers innovative methods and approaches for storing data and information, and supports the human element in performing dangerous tasks.
• It enables the preservation of accumulated human expertise by transferring it to smart devices and using human language with machines instead of programming languages, making these machines accessible to all members of society.
• It plays a role in activating interactive learning processes and quickly understanding and analyzing data and information.

Third: Artificial Intelligence: Technologies and Methods Artificial intelligence relies on an integrated system of advanced technologies and methods that form the technical basis for its work and various applications.

A study by Othmaniya (2019) indicated that artificial intelligence systems are based on a set of basic technologies that are considered the most common and effective in the field of artificial intelligence.

These technologies fall into four main categories: expert systems, neural networks, genetic algorithms, and fuzzy logic systems. Each of these technologies has unique characteristics and applications that contribute to developing and enhancing artificial intelligence capabilities in various fields.

Fourth: Uses of Artificial Intelligence in Universities :Mahran (2019) indicated that artificial intelligence applications in academic institutions revolve around four main, integrated, and interconnected areas:

The first area is embodied in providing distinguished educational services based on modern technologies, self-learning, and smart educational programs that take individual differences into account, treating each student as a unique case, with the ability to create and develop educational programs based on artificial intelligence applications.

The second area focuses on marketing university services and enhancing graduate employment opportunities through a careful analysis of labor market requirements and linking them to educational programs.

The third area is represented in generating alternatives and making decisions related to the production and funding of university research through market analysis and identifying potential beneficiaries and funders through the university's research map.

The fourth area is embodied in supporting decision-making, developing future strategies, and providing professional development for administrative and academic cadres based on statistical analyses that reveal areas of inflation and gaps in organizational structures.

Fifth: Requirements for Applying Artificial Intelligence Technologies to Develop Administrative Performance in Universities Al-Dhabyani (2022) indicated that institutions' success in applying artificial intelligence technologies is linked to an integrated set of basic requirements for technological transformation.

These requirements include providing an advanced and reliable technological infrastructure for information and communications, which forms the essential foundation for adopting modern technologies.

The successful implementation of artificial intelligence also requires the development of innovative policies that effectively support digital transformation processes, with a focus on enhancing education, training, and the professional development of human resources.

This has become increasingly important due to the need to develop integrated strategies that provide appropriate guidelines for the requirements of the digital environment and smart communications, ensuring sustainable and effective corporate digital transformation.

The study by Al-Bashar (2022) highlighted the requirements for applying artificial intelligence (AI) to academic leaders through an integrated system that includes providing an appropriate technical environment and preparing highly qualified and efficient academic cadres capable of handling modern technologies.

This system relies on securing the necessary financial support to purchase advanced equipment and strong internet networks, with a focus on providing specialized training programs for faculty members and academic leaders to enhance their skills in the field of AI.

The study also emphasized the importance of regular maintenance of equipment and continuous monitoring of computer software development to ensure they keep pace with future challenges and enhance the technical capabilities of academic institutions.

Second: Previous Studies: The study by Al-Sadhan (2023) aimed to uncover the role of AI technologies in developing organizational performance at Princess Nourah bint Abdulrahman University and develop proposed scenarios for this purpose.

The researcher relied on a descriptive survey approach, in addition to using a scenario approach. The study sample consisted of (346) administrators working at the university. The questionnaire was used as a tool for collecting data.

The study concluded that artificial intelligence applications were employed at Princess Nourah bint Abdulrahman University to develop the university's organizational performance to a moderate degree. Three scenarios were proposed to develop the university's organizational performance using artificial intelligence techniques, namely (the reference scenario, the reform scenario, and the creative scenario).

Kamel and Dahi's study (2023) aimed to develop a proposed vision for improving Aswan University's competitiveness using artificial intelligence applications.

The researchers relied on a descriptive approach and a questionnaire as a study tool, which was applied to the study population: academic leaders and faculty members at Aswan University.

The study concluded that it is important to train the university's academic leaders on the latest artificial intelligence technologies, which contributes to enhancing the university's competitiveness. It also concluded that there was a noticeable decrease in most of the relative weights of the study sample's responses on the practice level dimension.

This indicates that the study sample affirmed the weak capabilities provided by the university to enhance the competencies of faculty members and administrators at the university, and enable them to deal effectively with artificial intelligence applications and expert systems in developing the university's performance as an institution.

All relative weights of the study sample's responses on the degree of importance of artificial intelligence applications in the field of resource management in enhancing the university's competitiveness increased, which means that the study sample affirmed the importance of these smart applications.

The study by Al-Muqaiti and Abu Al-Ala (2021) aimed to investigate the relationship between the use of artificial intelligence and the quality of performance in Jordanian universities from the perspective of faculty members. The study used a descriptive correlational approach and a questionnaire as a tool applied to a random sample of three public and three private universities. The results of the study concluded that the higher the degree of AI use, the higher the quality of performance in Jordanian universities, and vice versa.

The degree of AI use in Jordanian universities was moderate, possibly due to the fact that the concept of AI is still in its infancy in terms of its use in Jordanian universities.

The use of AI in the administrative field ranked first with a moderate degree, while the academic field followed, also ranking second with a moderate degree.

This may be due to the fact that the administrative field contributes to improving the level of service performance within the university, in terms of saving time and effort and reducing administrative complications.

There is also a correlation between the degree of AI use and its two domains: the administrative field and the academic field, and the quality of performance in Jordanian universities.

Commentary on Previous Studies:

• The results of previous studies have indicated the importance of developing the performance of academic leaders in universities and across all institutions.

• All previous studies have indicated the importance of artificial intelligence in developing performance and raising the level of efficiency and productivity in all institutions in general, and in university education in particular.

• Some studies have indicated that global challenges and rapid technological changes require the adoption of artificial intelligence, and that it is a necessity for improving performance.

Field Aspect of the Study:

1. ***Study Methodology:*** The study adopted the descriptive survey method, which is appropriate to the nature and objectives of the study.

This method involves collecting data and information related to the phenomenon under study for the purpose of describing, analyzing, and interpreting it.

The descriptive method is distinguished by its ability to describe the phenomenon as it exists in reality, in terms of its nature and degree of existence, through the responses of a sample from the research community or the entire community (Al-Assaf, 1991).

2. Study Population: The study population consisted of faculty members at (6) Saudi universities (Qassim University, Jazan University, Al-Jouf University, Umm Al-Qura University, King Faisal University, Imam Muhammad ibn Saud Islamic University), totaling (17,581) members.

3. Study Sample:

A- The exploratory sample: The exploratory sample, to which the questionnaire was administered to ensure its validity and reliability, consisted of (117) faculty members from several Saudi universities. The exploratory sample members were randomly selected (stratified), and the questionnaire was administered to them during the first semester of the academic year 1446 AH.

B- The primary study sample: The study surveyed the opinions of a stratified sample of members of the study community consisting of (371) faculty members from (6) Saudi universities (Umm Al-Qura University, Qassim University, Imam Muhammad ibn Saud Islamic University, King Faisal University, Al-Jouf University, and Jazan University). The questionnaire was administered to them during the second semester of the academic year 1446 AH.

The following describes the study sample according to the various variables:

A- Distribution of the questionnaire sample members by university:

The following table shows the number of sample members derived from each of the six (6) universities of interest to the researcher.

Table (1) Distribution of the questionnaire sample members by university

M	University Name	Number	Percentage
1	Umm Al-Qura University	101	%27,2
2	Imam Muhammad ibn Saud Islamic University	83	%22,4
3	Qassim University	70	%18,9
4	King Faisal University	40	%10,8
5	Al-Jouf University	37	%9,97
6	Jazan University	40	%10,8
Total number of sample members at the mentioned universities		371	%100

The previous table shows that the largest proportion of the current study sample was from Umm Al-Qura University (27%), followed by Imam Muhammad ibn Saud Islamic University, then Qassim University, then Jazan University, King Faisal University, and finally Al-Jouf University.

This is due to the stratified sample, which is based on the population size. B- Distribution of the questionnaire sample by gender: The following describes the sample size according to the type or gender of the respondent.

Table (2) Distribution of the questionnaire sample by gender

M	Gender	Number	Percentage
1	Faculty members (male)	155	%41,8
2	Faculty members (female)	216	%58,2
Total number of sample members		371	%100

The previous table shows that the largest proportion of the current study sample was female faculty members, amounting to (58.2%), while the male faculty members represented a smaller proportion (41.8%). C- Distribution of the questionnaire sample members according to academic rank:

Table (3) Distribution of the questionnaire sample members according to academic rank

M	Academic Rank	Number	Percentage
1	Umm Al-Qura University	68	18.3%
2	Imam Muhammad ibn Saud Islamic University	127	34,2%
3	Qassim University	176	47,4%
Total number of sample members at the mentioned universities		371	%100

The previous table shows that the largest percentage of the current study sample were faculty members with the rank of Assistant Professor, followed by faculty members with the rank of Associate Professor, while the lowest percentage, 18.3%, was for faculty members with the rank of Professor.

D- Distribution of the survey sample members according to the number of years of experience:

Table (4) Distribution of the survey sample members according to the number of years of experience

M	Number of years of experience	Number	Percentage
1	Less than 5 years	127	34,2%
2	5 to 10 years	179	48,2%
3	More than 10 years	65	17,5%
Total number of sample members at the mentioned universities		371	100%

The previous table shows that the largest proportion of the current study sample were faculty members with 5 to 10 years of experience, followed by faculty members with less than 5 years of experience.

The lowest proportion, 17.5%, was faculty members with more than 10 years of experience.

Study Tool: The questionnaire was designed through the theoretical framework of the study and previous studies. It was directed at the study population, a sample of faculty members at Saudi universities.

The questionnaire was developed to achieve the study objectives: to reveal the level of performance of academic leaders in Saudi universities and to identify the requirements for developing the performance of academic leaders in Saudi universities using artificial intelligence, based on demographic variables such as university, gender, years of experience, and academic rank.

The questionnaire included two main sections:

The first section: The level of performance of academic leaders in Saudi universities.

It aims to measure the level of performance of academic leaders in Saudi universities from the perspective of faculty members at Saudi universities.

Axis Two: Requirements for Developing Saudi Universities Using Artificial Intelligence Applications Aims to identify the requirements for developing Saudi universities using artificial intelligence applications.

Psychometric Properties of the Questionnaire:

A- Questionnaire Validity: The researcher verified the validity of the questionnaire in the current study using two methods:

1. The validity of the questionnaire was verified by reviewers, by presenting it to a group of specialists and experts in the field, and 2. Internal consistency validity was verified by calculating the Pearson correlation coefficient between the questionnaire items and the dimension to which they belong, or the axis as a whole.

• ***Reviewer Validity:*** The initial version of the questionnaire, with its two axes, the first of which consisted of (49) items, and the second of which consisted of (25) items, was presented to a group of (10) reviewers, specialists in the fields of educational administration, computer science, and artificial intelligence.

The aim was to verify the appropriateness of the items for the concept to be measured, and to express their opinions on the extent to which the items fit the sub-dimensions of the scale, as well as the soundness and clarity of the linguistic formulation, and its suitability for the purpose for which they were developed.

The researcher also proposed ways to improve the questionnaire by deleting, adding, or modifying the wording.

The proposed amendments were made to the vocabulary items that achieved the consensus of the arbitrators, with an agreement rate of 80%.

These amendments included modifying the wording of some items, abbreviating others, and deleting phrases that did not belong to the dimension or axis.

The following is the internal consistency of the questionnaire in its final form after the arbitrators' amendments.

• Internal consistency of the questionnaire: The researcher calculated the internal consistency of the questionnaire items on a survey sample of (117) faculty members from several Saudi universities.

This was done by calculating the correlation coefficients between each item in the test and the total score for the dimension to which it belongs using Pearson's correlation coefficients, to ensure the homogeneity and coherence of the questionnaire's internal structure.

The results are shown in the following table:

Table (5) Pearson's correlation coefficients between the score of each item and the total score for the dimension to which it belongs

The first axis of the questionnaire

Dimension 1 Strategic Leadership		Dimension 2 Academic Management		Dimension 3 Resource Management		Dimension 4 Transformational Leadership	
Item number	Correlation coefficient	Item number	Correlation coefficient	Item number	Correlation coefficient	Item number	Correlation coefficient
1	0,624**	8	0,372**	15	0,494**	21	0,399**
2	0,440**	9	0,450**	16	0,448**	22	0,422**
3	**0,470	10	0,287**	17	0,417**	23	0,625**
4	0,263**	11	0,445**	18	0,444**	24	0,452**
5	0,352**	12	0,559**	19	0,474**	25	0,526**
6	0,398**	13	0,366**	20	0,445**	26	0,506**
7	0,455**	14	0,449**				0,399**

Dimension 5 Communication and Relationships		Dimension 6 Quality Management		Dimension 7 Technological Leadership	
Item number	Correlation coefficient	Item number	Correlation coefficient	Item number	Correlation coefficient
27	0,456**	33	0,531**	40	0,472**
28	0,414**	34	0,415**	41	0,513**
29	0,595**	35	0,414**	42	0,527**
30	0,512**	36	0,385**	43	0,435**
31	0,455**	37	0,474**	44	0,345**
32	0,436**	38	0,587**	45	0,405**
		39	0,610**	46	0,336**

The second axis of the questionnaire

Dimension 1 Technical Requirements		Dimension 2 Human Requirements		Dimension 3 Organizational Requirements		Dimension 4 Financial Requirements		The Fifth Dimension Legal and Ethical Requirements	
Item number	Correlation coefficient	Item number	Correlation coefficient	Item number	Correlation coefficient	Item number	Correlation coefficient	Item number	Correlation coefficient
1	0,457**	6	0,249**	11	0,252**	17	0,487**	22	0,419**
2	0,557**	7	0,539**	12	0,565**	18	0,533**	23	0,431**
3	0,384**	8	0,448**	13	0,535**	19	0,347**	24	0,528**
4	0,440**	9	0,480**	14	0,533**	20	0,358**	25	0,489**
5	0,428**	10	0,539**	15	0,404**	21	0,533**	26	0,544**
				16	0,438**				

** Significant at 0.01

It is clear from Table (6) that all items in each dimension of the questionnaire, in its first and second axes, were significant at the 0.01 level, confirming the internal consistency of the questionnaire and its high degree of coherence and consistency, justifying its scientific use in the current study. The correlation coefficient was also calculated between the dimensions of the first axis of the questionnaire, pertaining to the level of academic leadership in Saudi universities, and the total score for the axis, to ensure the homogeneity and coherence of the dimensions among themselves and the axis as a whole. The results were as shown in the following table:

Table (6) Correlation coefficients between the scores of the dimensions of the first axis and the total score for the axis

Dimension number	Dimension name Pearson	correlation coefficients
First	Strategic Leadership for Academic Leaders	0,68**
Second	Academic Management for Academic Leaders	0,67**
Third	Resource Management for Academic Leaders	0,60**
Fourth	Transformational Leadership for Academic Leaders	0,66**
Fifth	Communication and Relationships for Academic Leaders	0,69**
Sixth	Quality Management and Accreditation for Academic Leaders	0,74**
Seventh	Technological Leadership for Academic Leaders	0,56**

** Significant at the 0.01 level

It is noted from the previous table that all correlation coefficients between the scores of each dimension and the total score of the first axis were positive and significant at the 0.01 level, ranging between (0.56, 0.74), confirming the consistency and homogeneity of the dimensions within the axis as a whole. The correlation coefficient was also calculated between the dimensions of the second axis of the questionnaire on the requirements for developing Saudi universities using artificial intelligence and the total score of the axis to ensure the homogeneity and coherence of the dimensions within each axis and within the axis as a whole. The results were as shown in the following table:

Table (7) Correlation coefficients between the scores of the dimensions of the second axis

Dimension Number	Dimension Title	Pearson correlation coefficients
First	Technical Requirements	0,77**
Second	Human Requirements	0,70**
Third	Financial Requirements	0,77**
Fourth	Organizational and Administrative Requirements	0,74**
Fifth	Legal and Ethical Requirements	0,57**

** Significant at the 0.01 level

It is noted from the previous table that all correlation coefficients between the scores of each dimension and the total score of the second axis were positive and significant at the 0.01 level, ranging between (0.57: 0.77), which confirms the consistency and homogeneity of the dimensions within and within the axis as a whole. B- Questionnaire Reliability: The reliability of the questionnaire's first and second axes and its sub-dimensions was calculated using Cronbach's Alpha and McDonald's Omega. The reliability coefficients were as shown in the following table:

Table (8) Alpha and Omega Reliability Coefficients for the Questionnaire's Two Axes and Their Sub-Dimensions.

Axes	Dimensions Alpha	Coefficient Omega	Coefficient
First axis: The level of academic leadership in Saudi universities	Strategic Leadership	0,813	0,809
	Academic Management	0,804	0,803
	Resource Management	0,718	0,717
	Transformational Leadership	0,757	0,756
	Communication and Relationships	0,753	0,753
	Quality Management and Accreditation	0,794	0,793
	Technological Leadership	0,714	0,713
Stability of the first axis as a whole		0,781	0,780
Axes	**Dimensions Alpha**	**Coefficient Omega**	**Coefficient**
Axis Two: Requirements for Developing Saudi Universities Using Artificial Intelligence	Technical Requirements	0,714	0,713
	Human Requirements	0,672	0,669
	Financial Requirements	0,704	0,703
	Organizational and Administrative Requirements	0,682	0,679
	Legal and Ethical Requirements	0,654	0,654
Stability of the first axis as a whole		0,664	0,662

The previous table shows that the reliability coefficients of the questionnaire's two axes and subdimensions were high and statistically acceptable. The reliability coefficients for the first axis and its subdimensions ranged between 0.71 and 0.81, which are high and statistically acceptable reliability coefficients. The reliability coefficients for the first axis and its subdimensions also ranged between 0.65 and 0.71, which are high and statistically acceptable reliability coefficients.

The above demonstrates that the questionnaire has good statistical indicators (validity, reliability), confirming its validity for use in the current study. Study Results and Interpretations Results and Discussion of the First Question: The first question states, "What is the level of performance of academic leaders in Saudi universities from the perspective of faculty members?" This question was answered using the descriptive approach. The questionnaire (the level of performance of academic leaders in Saudi universities) was administered, and the quantitative data derived from the sample members' responses to this axis was analyzed using descriptive statistics, calculating the mean and standard deviation of the sample members' responses to each item within each dimension, as well as the overall score for the dimension. Frequencies and percentages of responses on the five-point Likert scale were calculated for each item in the questionnaire by the sample members. The results were as follows:

First Dimension:

Strategic Leadership :

Table (9) Arithmetic means and standard deviations of the sample members' responses to the statements of the first dimension (strategic leadership) from the axis "level of performance of academic leaders in Saudi universities."

M	vocabulary	arithmetic mean	standard deviation	verification score	Ranking
1	The leader has a clear, forward-looking vision.	0,790	1,76	Very weak	6
2	They define strategic objectives that align with the university's vision and mission.	0,792	2,02	Weak	1
3	They conduct periodic analyses of the internal and external environment.	0,762	1,74	Very weak	7
4	They develop alternative action plans to address future changes and challenges.	0,752	1,77	Very weak	5
5	They efficiently monitor the implementation of strategic plans and evaluate the extent to which objectives are achieved.	0,760	1,78	Very weak	4
6	They motivate employees to commit to achieving strategic objectives.	0,788	1,78	Very weak	3
7	They rely on accurate information and data when making decisions.	0,741	1,84	Weak	2
Overall arithmetic mean of the dimension		0,769	1.814		

The overall arithmetic mean for the dimension is 1.814 0.769. The previous table shows that: The level of academic leadership in Saudi universities from the perspective of faculty members regarding the strategic leadership dimension, which includes (7) items, most of which were met with a (weak) response score, while some were very weak. The arithmetic means for the axis's statements ranged between 1.71 and 2.02 out of (5) points. The overall arithmetic mean for the strategic leadership dimension was 1.814, with a standard deviation of 0.769.

The second dimension: Academic Management :

Table (10) Arithmetic means and standard deviations of sample members' responses to the statements in the second dimension (academic management) from the axis of the level of performance of academic leadership in Saudi universities.

M	vocabulary	arithmetic mean	standard deviation	verification score	Ranking
1	The leader develops academic programs in line with labor market needs.	2,11	0,786	Weak	1
2	He encourages the publication of scientific research in prestigious scientific journals.	1,74	0,705	Very Weak	6
3	He promotes academic collaboration with local and international institutions.	1,71	0,746	Very Weak	7
4	He provides the necessary resources to support academic and research activities.	1,84	0,697	Weak	3
5	He actively encourages the application of modern teaching methods and technology in the educational process.	1,87	0,801	Weak	2
6	He monitors faculty performance and provides constructive feedback to improve their performance.	1,81	0,739	Weak	5
7	He implements professional development programs for faculty members.	1,82	0,750	Weak	4
Overall arithmetic mean of the dimension		1.84	0.746	**Weak**	

The previous table shows that: The level of academic leadership in Saudi universities, from the perspective of faculty members, with regard to the academic management dimension, which includes (7) items, most of which met the response score of (weak), with the exception of two items that express a very weak leadership level.

The arithmetic means for the axis's statements ranged between 1.71 and 2.11 out of (5) points, and the overall arithmetic mean for the dimension was 1.84 with a standard deviation of 0.746.

The third dimension: Resource management :

Table (11) Arithmetic means and standard deviations of sample members' responses to the statements of the third dimension (resource management) from the axis of the level of academic leadership performance in Saudi universities

M	vocabulary	arithmetic mean	standard deviation	verification score	Ranking
1	Determines the human and material resource needs of the college and departments.	2,02	0,788	Weak	1
2	Distributes available resources fairly among departments and colleges.	1,79	0,748	Weak	5
3	Motivates employees and encourages them to perform well.	1,84	0,765	Weak	4
4	Manages budgets efficiently and rationalizes expenditures.	1,86	0,779	Weak	3
5	Develops available material resources to serve the educational and research process.	1,78	0,747	Weak	6
6	Implements effective human resource development and training programs.	1,92	0,743	Weak	2
7	Determines the human and material resource needs of the college and departments.	1.87	0.761	Weak	1
Overall arithmetic mean of the dimension		1.87	0.761	**Weak**	

The previous table shows that: The level of academic leadership in Saudi universities, from the perspective of faculty members, regarding the resource management dimension, which includes (6) items, all met a "weak" response score. The arithmetic means for the dimension's statements ranged between 1.78 and 2.02 out of a possible 5. The overall arithmetic mean for the axis's statements was 1.87, with a standard deviation of 0.761.

The fourth dimension: Transformational leadership :

Table (12) Arithmetic means and standard deviations of sample members' responses to the statements in the fourth dimension (transformational leadership) from the axis "Level of Academic Leadership Performance in Saudi Universities"

M	vocabulary	arithmetic mean	standard deviation	verification score	Ranking
1	The leader inspires and motivates employees effectively to achieve the university's vision.	2,14	0,829	Weak	1
2	Encourages all employees to be creative and innovative in academic and administrative work.	1,80	0,779	Weak	6
3	Empowers employees and delegates appropriate and effective authority.	1,81	0,745	Weak	5
4	Sets a role model for ethical and professional behavior.	1,87	0,753	Weak	2
5	Effectively addresses resistance to change and overcomes obstacles to development.	1,85	0,751	Weak	3
6	Effectively promotes team spirit and teamwork across various departments and administrations.	1,81	0,732	Weak	4
Overall arithmetic mean of the dimension		1.88	0.765	Weak	

The previous table shows that: The level of academic leadership in Saudi universities, from the perspective of faculty members, regarding the transformational leadership dimension, which includes (6) items, all achieved a (weak) response rate. The arithmetic means for the axis's statements ranged between 1.80 and 2.14 out of (5) points, and the overall arithmetic mean for the dimension's statements was 1.88, with a standard deviation of 0.765.

The fifth dimension: Communication and Relationships :

Table (13) Arithmetic means and standard deviations of the sample members' responses to the statements of the fifth dimension (Communication and Relationships) from the axis "Level of Academic Leadership Performance in Saudi Universities"

M	vocabulary	arithmetic mean	standard deviation	verification score	Ranking
1	Communicates effectively with all administrative and academic levels at the university.	2,19	0,811	Weak	1
2	Listens attentively and understandingly to faculty and student opinions and suggestions.	1,78	0,740	Weak	6
3	Builds positive relationships with external stakeholders within the university.	1,82	0,770	Weak	5
4	Deals with conflicts and disagreements among staff in a constructive and positive manner.	1,83	0,743	Weak	4
5	Establishes effective communication channels between administration, students, and the community.	1,88	0,758	Weak	3
6	Communicates regularly and effectively with alumni and employers to strengthen relationships and improve outcomes.	1,92	0,764	Weak	2
Overall arithmetic mean of the dimension		1.90	0.764	Weak	

The previous table shows that: The level of academic leadership in Saudi universities, from the perspective of faculty members, regarding the dimension of communication and relationships, which includes (6) items, all achieved a (weak) response score. The arithmetic means for the axis's statements ranged between 1.78 and 2.19 out of (5) points, and the overall arithmetic mean for the dimension's statements was 1.90, with a standard deviation of 0.764.

The Sixth Dimension: Quality Management :

Table (14) Arithmetic means and standard deviations of sample members' responses to the statements of the sixth dimension (quality management) from the axis of the level of performance of academic leadership in Saudi universities.

M	vocabulary	arithmetic mean	standard deviation	verification score	Ranking
1	Implements quality and academic accreditation standards.	2,16	0,794	Weak	1
2	Promotes a culture of quality among all employees.	1,82	0,770	Weak	6
3	Effectively monitors the implementation of continuous improvement plans.	1,83	0,773	Weak	5
4	Conducts self-evaluation and periodic reviews of academic programs.	1,83	0,757	Weak	4
5	Provides the necessary resources to meet quality and accreditation requirements.	1,84	0,755	Weak	3
6	Motivates all employees to participate in training courses and programs related to quality and accreditation.	1,98	0,790	Weak	2
7	Implements the recommendations of the review and accreditation committees.	1,77	0,733	Very Weak	7
Overall arithmetic mean of the dimension		0.767		Weak	

The previous table shows that: The level of academic leadership in Saudi universities, from the perspective of faculty members, regarding the quality management dimension, which includes (7) items, all achieved a "weak" response rate. The arithmetic means for the axis's statements ranged between 1.77 and 2.16 out of a possible 5 points, with the overall arithmetic mean for the dimension reaching 1.89, with a standard deviation of 0.767.

The seventh and final dimension: Technological leadership:

Table (15) Arithmetic means and standard deviations of sample members' responses to the statements of the seventh dimension (technological leadership) from the axis "Level of Academic Leadership Performance in Saudi Universities"

M	vocabulary	arithmetic mean	standard deviation	verification score	Ranking
1	It has a clear and effective strategy for employing technology in academic and administrative operations.	2,07	0,787	Weak	2
2	It implements technological infrastructure.	1,71	0,735	Very Weak	7
3	It actively encourages the use of modern technologies in teaching and scientific research.	1,84	0,723	Weak	5
4	It promotes e-learning and distance education.	1,75	0,746	Very Weak	6
5	It supports technological innovation and artificial intelligence initiatives.	1,95	0,764	Weak	4
6	It applies cybersecurity and data protection standards in the workplace.	1,96	0,754	Weak	3
7	It promotes collaboration and partnerships with technology sectors to develop innovative solutions in the workplace.	2,24	0,764	Weak	1
Overall arithmetic mean of the dimension		0.753	0.753	Weak	

The previous table shows that:

The level of academic leadership in Saudi universities, from the perspective of faculty members, with regard to the technological leadership dimension, which includes (7) items, most of which were met with a (weak) response score, with the exception of items (2) and (4), which were met with a very weak score. The arithmetic means for the axis statements ranged between 1.71 and 2.24 out of (5) points, and the overall arithmetic mean for the dimension was 1.93 with a standard deviation of 0.753.

Results and Discussion of the Third Question:

The third question of the current study states, "What are the requirements for developing the performance of Saudi universities using artificial intelligence applications, from the perspective of faculty members?"

The means and standard deviations of the study sample's responses to each statement in the second axis of the questionnaire related to the requirements for developing the performance of Saudi universities using artificial intelligence applications were calculated.

The means and standard deviations of these responses were also calculated to determine the degree of fulfillment of each of these statements.

First: Quantitative results related to the first dimension (technical requirements) By calculating the arithmetic means and standard deviations of the study sample members' responses to each statement in this dimension, the results are as shown in the following table:

Table (16) Arithmetic means and standard deviations of the sample members' responses to the statements in the first dimension (technical requirements) from the university development requirements axis

M	vocabulary	arithmetic mean	standard deviation	verification score	Ranking
1	Developing the digital infrastructure for applying artificial intelligence.	4,53	0,541	Very large	1
2	Building an accurate database and continuously updating local information.	4,41	0,567	Very large	4
3	Developing an emergency plan in the event of data loss, disruption, or hacking.	4,47	0,516	Very large	2
4	Using artificial intelligence technologies to analyze big data.	4,43	0,553	Very large	3
5	Implementing advanced information security systems to protect academic information and data.	4,39	0,522	Very large	5
Overall arithmetic mean of the dimension		0.539	0.539	Very large	

The previous table shows that: The requirements for developing Saudi universities using artificial intelligence, from the perspective of faculty members in the fields of educational leadership, computer science, and artificial intelligence, with regard to the technical requirements dimension, which includes (5) items, were all met to a very high degree. The arithmetic means for the axis statements ranged between 4.39 and 4.53 out of (5) points, and the overall arithmetic mean for the dimension was 4.45 with a standard deviation of 0.539. The results also indicate that the most urgent development requirement, which ranked first in this dimension, is the development of the level of digital infrastructure. The least urgent technical requirement for development is the implementation of advanced information security systems to protect academic information and data, which ranked last among the dimension statements.

Second: Quantitative results related to the second dimension (human requirements) By calculating the arithmetic means and standard deviations of the study sample members' responses to each statement in this dimension, the results are as shown in the following table:

Table (17) Arithmetic means and standard deviations of the sample members' responses to the statements in the second dimension (human requirements) from the university development requirements axis

M	vocabulary	arithmetic mean	standard deviation	verification score	Ranking
1	Identify the training needs of academic leaders necessary to effectively implement artificial intelligence.	4,73	0,479	Very large	1
2	Train administrative staff to provide support and assistance to academic leaders in using artificial intelligence.	4,42	0,542	Very large	4
3	Prepare academic leaders to effectively handle artificial intelligence applications.	4,36	0,497	Very large	5
4	Provide feedback to academic leaders on their performance in using artificial intelligence applications.	4,52	0,557	Very large	2
5	Raise awareness among academic leaders and staff of the importance of artificial intelligence applications in increasing productivity and improving performance.	4,43	0,538	Very large	3
Overall arithmetic mean of the dimension		4.49	0.522	Very large	

The previous table shows that: The requirements for developing Saudi universities using artificial intelligence, from the perspective of faculty members, regarding the human requirements dimension, which includes (5) items, were all met to a very high degree. The arithmetic means for the axis statements ranged between 4.36 and 4.73 out of (5) points, and the overall arithmetic mean for the dimension was 4.49 with a standard deviation of 0.522. The results also indicate that the most pressing development requirement in this dimension, which ranked first among the dimension statements, is identifying the training needs of academic leaders necessary to effectively implement artificial intelligence. The least pressing human requirements for development are qualifying academic leaders to effectively handle artificial intelligence applications, which ranked last.

Third: Quantitative results related to the third dimension (organizational and administrative requirements) By calculating the arithmetic means and standard deviations of the study sample members' responses to each statement in this dimension, the results are as shown in the following table:

Table (18) Arithmetic means and standard deviations of the sample members' responses to the statements in the third dimension (organizational and administrative requirements) from the university development requirements axis

M	vocabulary	arithmetic mean	standard deviation	verification score	Ranking
1	Building an organizational culture that supports change and the transition to the use of artificial intelligence applications.	4,68	0,496	Very large	1
2	Establishing a technology incubator specialized in artificial intelligence to support and assist the implementation of artificial intelligence applications.	4,31	0,514	Very large	6
3	Encouraging creativity and innovation among academic leaders in the use of artificial intelligence.	4,36	0,519	Very large	5
4	Restructuring administrative processes to accommodate artificial intelligence applications.	4,41	0,509	Very large	2
5	Activating channels for effective communication between academic leaders and directing work to raise performance.	4,39	0,511	Very large	3
6	Strengthening community partnerships with relevant entities in artificial intelligence.	4,38	0,523		4
Overall arithmetic mean of the dimension		4.42	0.512	Very large	

The previous table shows that: The requirements for developing Saudi universities using artificial intelligence, from the perspective of faculty members, regarding the organizational and administrative requirements dimension, which includes (6) items, were all met to a very high degree. The arithmetic means for the axis's statements ranged between 4.31 and 4.68 out of a possible 5 points, and the overall arithmetic mean for the dimension was 4.42, with a standard deviation of 0.512. The results also indicate that the most urgent development requirement in this dimension, which ranked first, is building an organizational culture that supports the processes of change and transition towards the use of artificial intelligence applications. The least urgent requirement as an organizational and administrative requirement for development is establishing a technical incubator specialized in artificial intelligence, which ranked sixth and last.

Fourth: Quantitative results related to the fourth dimension (financial requirements) By calculating the arithmetic means and standard deviations of the study sample members' responses to each statement in this dimension, the results are as shown in the following table:

Table (19) Arithmetic means and standard deviations of the sample members' responses to the statements of the fourth dimension (financial requirements) from the university development requirements axis

M	vocabulary	arithmetic mean	standard deviation	verification score	Ranking
1	Allocate a budget to develop AI infrastructure.	4,63	0,526	Very large	1
2	Invest in purchasing and developing AI applications to enhance the performance of academic leaders.	4,50	0,537	Very large	2
3	Fund training and development projects for academic leaders in the field of AI.	4,30	0,487	Very large	5
4	Allocate financial resources to maintain and continuously update AI systems.	4,35	0,498	Very large	4
5	Provide financial incentives for academic leaders who utilize AI in administrative work.	4,39	0,525	Very large	3
Overall arithmetic mean of the dimension		4.43		Very large	

The previous table shows that: The requirements for developing Saudi universities using artificial intelligence, from the perspective of faculty members, regarding the financial requirements dimension, which includes (5) items, were all met to a very high degree. The arithmetic means for the axis's statements ranged between 4.30 and 4.63 out of (5) points, and the overall arithmetic mean for the dimension was 4.43 with a standard deviation of 0.515. The results also indicate that the most urgent development requirement in this dimension, which ranked first, is allocating a budget for developing the artificial intelligence infrastructure. The least urgent financial requirement for development is funding training and development projects for academic leaders in the field of artificial intelligence, which ranked sixth and last.

Fifth: Quantitative results related to the fifth dimension (legal and ethical requirements) By calculating the arithmetic means and standard deviations of the study sample members' responses to each statement in this dimension, the results are as shown in the following table:

Table (20) Arithmetic means and standard deviations of the sample members' responses to the statements of the fifth dimension (legal and ethical requirements) from the university development requirements axis

M	vocabulary	arithmetic mean	standard deviation	verification score	Ranking
1	Activating governance and establishing a legal framework for the use of AI technologies in university administration.	4,62	0,508	Very large	1
2	Developing policies to ensure privacy and protect personal data in AI.	4,42	0,535	Very large	3
3	Establishing an ethics committee to monitor the use of AI in university administration.	4,33	0,516	Very large	5
4	Developing a code of conduct for the use of AI applications in university administration.	4,37	0,505	Very large	4
5	Emphasizing academic leaders' adherence to international standards regarding the use of AI in education.	4,51	0,547	Very large	2
Overall arithmetic mean of the dimension		0.522	4.45	Very large	

The previous table shows that: The requirements for developing Saudi universities using artificial intelligence, from the perspective of faculty members, regarding the legal and ethical requirements dimension, which includes (5) items, were all met to a very high degree. The arithmetic means for the axis's statements ranged between 4.33 and 4.62 out of (5) points, and the overall arithmetic mean for the dimension's statements was 4.45, with a standard deviation of 0.522. The results also indicate that the most urgent development requirements in this dimension, which ranked first, are activating governance and establishing a legal framework for the use of artificial intelligence technologies in university administration. The least urgent legal and ethical development requirement is establishing an ethics committee to monitor the use of artificial intelligence in university administration, which ranked sixth and last.

Summary of Research:

Results and Recommendations :

First: Research Results :

1- The study results revealed that the level of academic leadership performance in Saudi universities, from the perspective of faculty members, includes (7) dimensions, with arithmetic means ranging between (1.81 and 1.93).

-This result indicates that the study individuals' responses to the axis dimensions were weak. The overall arithmetic mean for the dimension's statements was (1.87) with a standard deviation of (0.760). This indicates that the level of performance of academic leaders in Saudi universities, from the perspective of faculty members, was (weak).

- The technological leadership dimension ranked first with the highest arithmetic mean (1.93) and a weak rating, followed by the communication and relationships dimension in second place with an average of (1.90) and a weak rating, then the quality management dimension in third place with an average of (1.89) and a weak rating, then the transformational leadership dimension in fourth place with an average of (1.88) and a weak rating, then the resource management dimension in fifth place with an average of (1.87) and a weak rating, then the academic management dimension in sixth place with an average of (1.84) and a weak rating, and finally, the strategic leadership dimension in seventh and last place with the lowest average of (1.814) and a weak rating, indicating a general weakness in the level of performance of academic leaders across all dimensions studied.

2. The study results revealed that the requirements for developing the performance of academic leaders using artificial intelligence applications from the perspective of faculty members, the arithmetic means ranged between (4.42 and 4.49); this result indicates that the responses of the study members to the dimensions of the requirements axis were very high, and the overall average of the dimension's statements reached (4.44) with a standard deviation of (0.522), which indicates the importance of providing the necessary requirements and their significance for developing the performance of academic leaders in Saudi universities.

Second: Research Recommendations :

1. Universities should adopt the necessary requirements to develop the performance of academic leaders in Saudi universities using artificial intelligence applications.
2. Activate partnerships between universities, bodies, and companies with expertise in artificial intelligence and its applications, and benefit from their experiences in the Saudi university environment.
3. Develop an integrated governance system that combines building an organizational culture that supports digital transformation and establishing a legislative and ethical framework for the use of artificial intelligence in universities.
4. Provide ongoing support and provide financial, material, and human resources to ensure the sustainability of artificial intelligence projects.

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