
THE POSSIBILITY OF ADOPTING ARTIFICIAL INTELLIGENCE SYSTEMS IN HUMAN RESOURCES SUSTAINABILITY-AN ANALYTICAL STUDY OF THE OPINIONS OF A SAMPLE OF LEADERS AT AL-NOOR AND AL-HADBAA UNIVERSITIES

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Abstract

The current research aims to identify the extent of the impact of artificial intelligence applications represented by (expert systems, intelligent agent systems, artificial neural networks, genetic algorithms) on the sustainability of human resources and its dimensions represented by (employee satisfaction, enhancing participation, intensive commitment) for the leaders of Al-Noor and Al-Hadba Universities.

The research problem crystallized in the extent of the impact of artificial intelligence applications on the sustainability of human resources at Al-Noor and Al-Hadba University. After presenting the theoretical frameworks, the study processed, examined, and interpreted the data using the descriptive analytical method. The study community was recognised, and sixty-two leaders from Al-Noor and Al-Hadba Universities were numbered in order to apply the practical aspect. They were chosen at random, and sixty-two leaders were numbered.

The questionnaire was relied upon as the main tool for collecting data within the practical aspect. For the purpose of analyzing the data, the researchers relied on a set of statistical methods and tools, including (arithmetic mean, standard deviation, relative importance), by using the statistical program (SPSS26) (to measure description and diagnosis The research variable, and the researchers reached a set of results, the most significant of which is that uses of artificial intelligence improve leadership styles among university leaders by improving performance, developing teaching and learning processes, and facilitating decision-making processes.

They also contribute to developing participation among leaders and enhancing their cognitive abilities. One of the most prominent proposals is the need for universities to hold training workshops due to their great importance in keeping pace with the rapid developments in the field of artificial intelligence. These workshops should also focus on

introducing participants to the latest artificial intelligence applications and tools, and explaining how to benefit from them in various academic and research fields.

Keywords: Artificial Intelligence, Human Resources Sustainability, Leadership at Al Noor and Al Hadbaa Universities.

Introduction

In recent years, the world has witnessed great developments in the field of smart information and communication technology, which has been reflected in all joints of life in general and organizations in particular, which led to arming with the latest technological technologies, most notably artificial intelligence and its applications, as it contributed to changing the way organizations work and their strategies in line with technical developments and rapid innovations, being one of the most important areas of the computer world.

The use of supercomputers that simulate the intelligence of the human mind is one of the tools for the success of organizations as a method of simulating human resources, and because it also focuses on enabling computers to perform tasks related to the cognitive behavior of workers.

The use of artificial intelligence applications helps organizations in making attracting and selecting the most prominent human resources in order to recruit efficiently and effectively and reduce potential errors, as well as reduce time and cost in the processes performed by human resources within organizations, as artificial intelligence applications in human resources management help to enhance and strengthen the efficiency and effectiveness of human resources activities and thus sustainability, the research is interested in clarifying the impact of artificial intelligence applications on the sustainability of human resources Through systems that depend on the knowledge management of human resources, which are in accordance with new technologies.

The first topic: research methodology

First: the research problem

In light of the many research efforts on applications on artificial intelligence and its link to the human resource management of organizations at the local and international levels, but the Arab attempts, specifically the local, still need to be strengthened and greatly enhanced due to the importance of the advanced technological changes that occur within organizations and in response to the requirements of the digital age in the development of education and based on the method of artificial intelligence, and that the rapid developments in artificial intelligence applications have imposed digital smart systems that contribute to the development of human resources systems, which in turn leads to Enhancing the sustainability of those resources at Al-Noor and Al-Hadba Universities, and in order for these two universities to be successful in a highly complex work environment, they must exert their efforts in using the most prominent applications and modern electronic technologies that lead them to reach a sustainable human resource, and from here the researchers set out to identify the research problem, which is the following main question:

What is the impact of artificial intelligence applications on the sustainability of human resources at Al-Noor and Al-Hadba Universities?

Through the main question, several research questions emerge, as follows:

- 1- What is the impact of artificial intelligence applications on the sustainability of employees at Al-Noor and Al-Hadba Universities?
- 2- Is there an impact between the applications of artificial intelligence and the dimensions of human resources sustainability in terms of their application in Al-Noor and Al-Hadba Universities?

Second: The importance of research

1- The cognitive importance represented by the theoretical aspect of the research: The importance of this theoretical research is the importance of using artificial intelligence applications and their impact on the sustainability of human resources at Al-Noor and Al-Hadba Universities, which is one of the important administrative concepts, as this research contributes to enriching the theoretical aspect of research and studies that dealt with artificial intelligence applications and dimensions of human resources sustainability.

2- The practical importance of the research:

A- The applied importance of research lies in contributing to bridging the research gap on the impact of artificial intelligence in achieving sustainability for the human resource in the academic context, where the research work that linked the two variables in the context of universities shows the outputs of achieving sustainable development, and on the other hand, Iraqi private universities are under pressure with public universities that have begun to apply the sustainable approach in their corridors which increases the importance of the study in providing comprehensive solutions on the sustainability of human resources at Al-Noor and Al-Hadba Universities.

B- Linking the university's immediate decisions to its aspirations that look to the distant future, based on the results of the sustainable approach followed by the universities and its great impact on the universities' access to advanced levels within the global rankings.

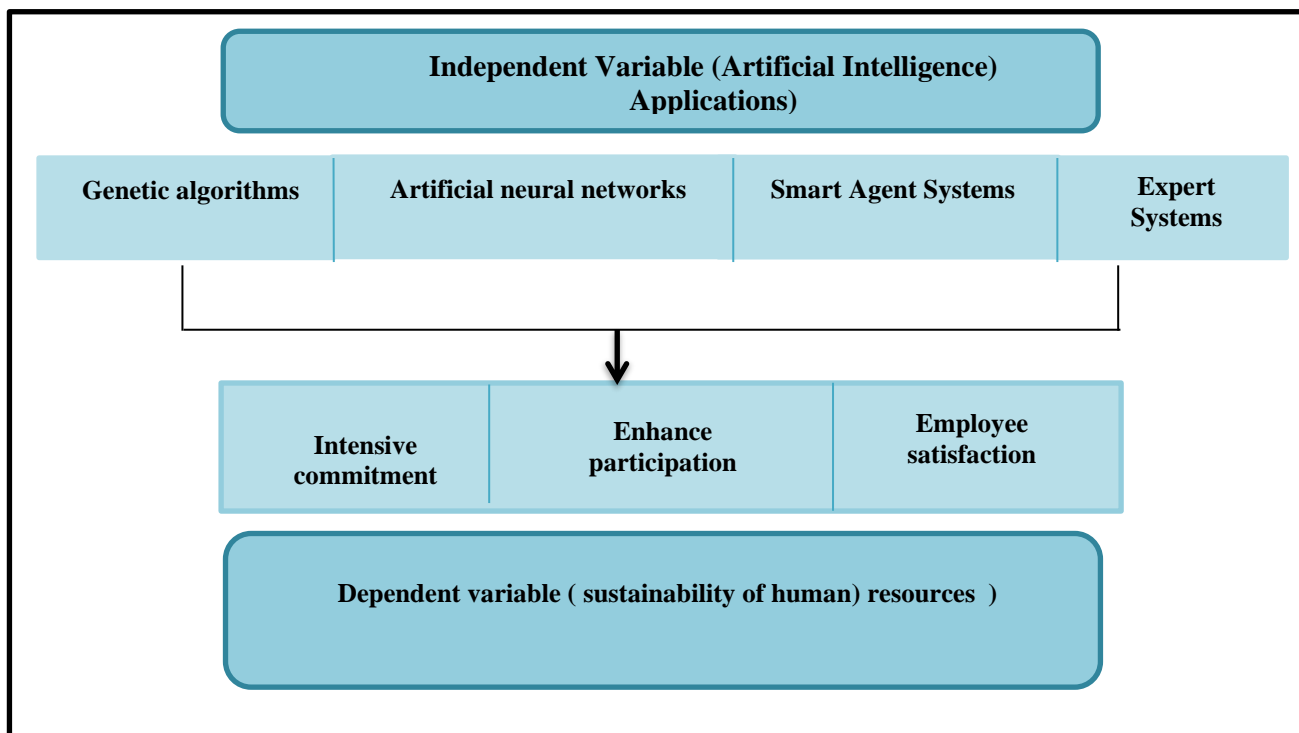
C- The results of the study and the proposals that will come out of it can contribute to the benefit of university leaders from the artificial intelligence applications they possess in the process of achieving a sustainable labor organization.

Third: Research Objectives

The current research aims to achieve a set of objectives, including:

- 1- Providing a theoretical framework that includes the presentation of intellectual frameworks and contributions submitted by researchers on the current research variables represented in artificial intelligence applications and human resource sustainability.
- 2- Identify the most prominent indicators for measuring the two variables.
- 3- Identifying the extent to which artificial intelligence applications affect the sustainability of human resources at Al-Noor and Al-Hadba Universities under research.

Fourth: The hypothetical model of the research



Fifth: Research hypotheses

The first main hypothesis: Artificial intelligence applications are available at Al-Noor and Al-Hadba Universities.

The second main hypothesis: The dimensions of the sustainability of the human resource are available in Al-Noor and Al-Hadba Universities.

The third main hypothesis: there is a relationship of significant impact of artificial intelligence on the sustainability of human resources.

Sixth: Research Methodology

The current research relied on (descriptive analytical approach), because it depends on the collection of information and data and then interpreted and analyzed in order to reach the main goal of the research, which is the most used approach in human and social phenomena, an approach that is commensurate with the current research It is the detailed and executive steps and a set of methods and methods leading to the researcher in order to reach the goal to be achieved .

The spatial, temporal and human boundaries of the research were as follows:

1. The research was conducted at Al-Noor and Al-Hadba National Universities in Nineveh Governorate, Iraq.
2. The research was sampled by the university leaders of Al-Noor and Al-Hadba Universities.
3. The time limits of the search were: 10/1/2025 – 15/3/2025

Seventh: Data Collection Methods

There must be a set of methods followed by the researcher to achieve the current research objectives, which includes the adoption of more than one method to collect study data in its theoretical and field aspects, as follows:

1- The theoretical aspect: The researchers relied in their coverage of the theoretical side of the research on Arab and foreign sources, which were represented by periodicals, theses and university theses, as well as books directly related to the variables of the study, as well as relying on the World Wide Web (Internet) in collecting research and studies that provided many scientific developments to enrich the contents of this research.

2- Field aspect: The researchers relied in collecting data on the practical side of the study on the questionnaire form, which included the two variables of the research as the main source adopted by the researchers in obtaining the data, which was prepared and formulated paragraphs in a way that ensures suitability for the purpose for which it was prepared, and that by relying on what was presented in the theoretical aspect, which included (25) paragraphs, and the researchers adopted the five-pointed Likert gradation, and the salary according to the grades (strongly agree , agree, neutral, disagree, strongly disagree (, according to weights and values (5, 4, 3, 2, 1), to emphasize the distinction between the strength of the compatibility of the vocabulary with the choice, and not convert them into results of the answers of the individuals surveyed from metadata to quantitative data.

Eighth: A brief overview of the research community

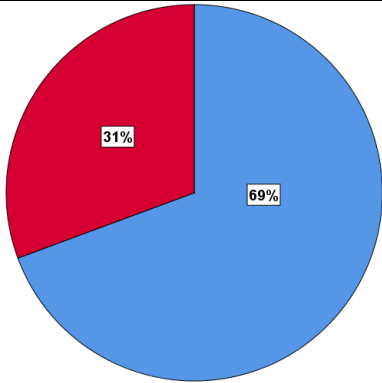
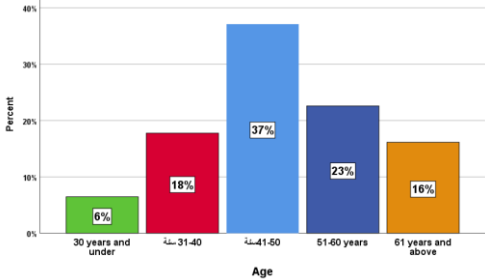
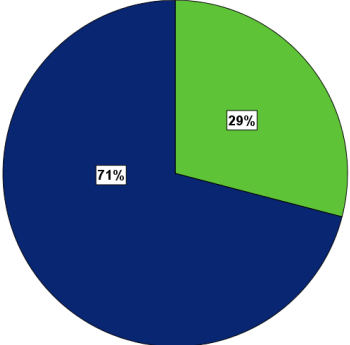
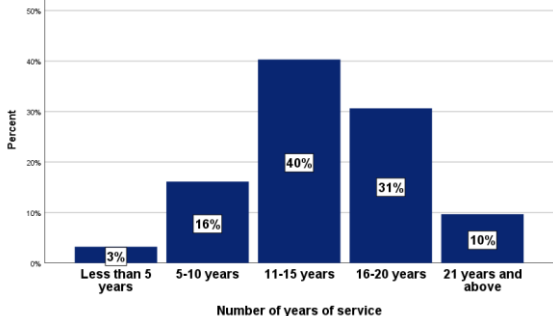
Al-Noor University is an Iraqi private university located in Nineveh Governorate in Mosul , founded in 2013 and bearing the name of Al-Noor University College, and began with four scientific departments: Law, Physical Education and Sports Sciences, Arabic Language, and English , and in 1/4/2024 , the college turned into Al-Noor University, and now includes seven colleges in addition to administrative units and educational clinics.

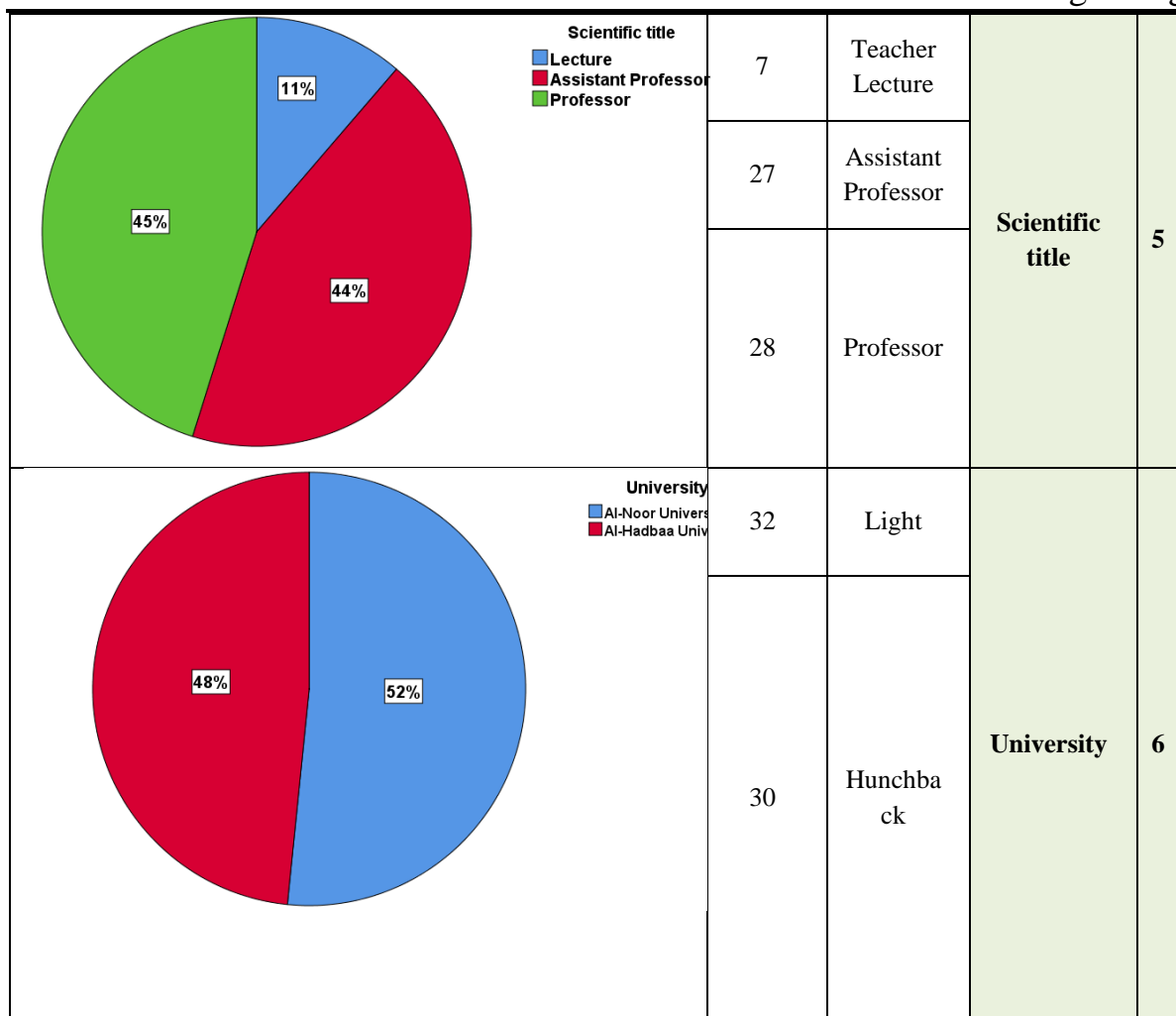
Al-Hadba University is a private university established in 1994 in Mosul, as it is considered one of the first private colleges in the country, and aims to provide distinguished education in various academic disciplines, departments and disciplines The university includes nine faculties including: College of Administration and Economics, Faculty of Law, College of Arts, Technical College of Engineering, College of Health and Medical Technology, College of Dentistry College of Pharmacy, College of Nursing, Al-Hadba University seeks to promote the principles of scientific analysis and creative thinking, and to provide a stimulating educational environment that keeps pace with the requirements of the labor market, and both universities are recognized by the Iraqi Ministry of Higher Education and Scientific Research.

Ninth: Description and sample of the research

The Members' responses to the first section (metadata) of the questionnaire form were used to characterise the research sample, as indicated in Table (1).

Table (1) Metadata

%	Number	Categories	General data	t
 <p>Gender Male Female</p>	43	male	Gender	1
	19	female		
 <p>Age</p>	4	30 years and under	lifetime	2
	11	40-31 years		
	23	50-41 years		
	14	51-60 years		
	10	61 years and above		
 <p>Qualification Master Doctor</p>	18	Master	Qualification	3
	44	Doctor		
 <p>Number of years of service</p>	2	Less than 5 years	Number of years of service	4
	10	5-10 years		
	25	11-15 years		
	19	16-20 years		
	6	21 years and above		



Source: Researcher preparation based on SPSS V.26 program outputs n=62

The second topic: the theoretical side

Boot

Artificial intelligence is one of the most prominent technological developments in the modern era, and it is a field that focuses on developing systems and software capable of simulating human capabilities such as thinking, learning, making decisions, and solving problems. Artificial intelligence is part of the technology revolution that contributes to changing the way we live and work, as it has a great impact in multiple fields, the most important of which are education, industry, transportation, and entertainment. From this standpoint, a number of artificial intelligence concepts, its importance and applications will be addressed as follows:

First: The concept of artificial intelligence (AI)

The world has witnessed many developments and changes in the field of knowledge and information technology as a result of the information and communication revolution, which has become a fundamental pillar that cannot be indispensable in various fields, and that the continuation of this progress and development achieved in the recent period requires the adoption of modern technologies, and artificial intelligence technology and its application to the creation of labour is one of these technologies. as the development of artificial

intelligence was in a slow pace and grew stronger in many fields such as mathematics and technology. Engineering and others and all these fields have helped the current change in this field, which has revolutionized the way customers live by removing obstacles and restrictions and shifting to a more efficient and productive future .(Jahlul et al., 2024, 122)

Artificial intelligence is known in English as "intelligence artificial", which is an abbreviation for (IA), which means that it is one of the branches of computer science that takes care of the tradition of modeling human behavior and is also interested in creating smart computer devices and programs similar to the thinking of the human mind. (Abdelati, 2024, 1884)

Some researchers defined artificial intelligence, each according to his point of view, and many of them differed in its definition of the reason for not adjusting an appropriate and specific definition for it since its inception, and the most prominent definitions provided in this regard are the following:

Table (2) Artificial Intelligence Concepts

Concept	Finder, Year, Page	t
A wide-ranging branch of computer science, concerned with building intelligent machines that are efficient in performing tasks that usually require human intelligence, as artificial intelligence is a multidisciplinary science and has a variety of methods, including (research and exploration, education, automated deduction).	(Boucher, 2020, 2)	1
It is a simulation process between computer systems and human intelligence, for example, education, self-improvement and reasoning.	(Marshall et al, 2021, 812)	2
The ability of computer systems to simulate the application of tasks similar to human intelligence operations, as it includes learning from data and past experiences and making decisions based on knowledge, reasoning, conclusion, and gathering knowledge and experience to enhance performance and achieve goals.	(Jin et al, 2022, 570)	3
It is the genetic genetics, natural predispositions or acquired skills that represent the essence of individual personalities, which are conducted similarly to the thinking of the human mind in decision-making by relying on previously defined algorithms and programs on computers.	(Azizul et al, 2023 ,4)	4
It is one of the areas of computing that is mainly concerned with transferring intelligence and thinking to systems that allow humans to be assisted in many ways where artificial intelligence reduces the time it takes on periodic tasks, enhances worker productivity and improves the overall customer experience.	(Jahlul, 2024, 123)	5
It is the possibility of recreating the thinking abilities of the human mind through multiple techniques and theories to build intelligent and effective systems that interact with various tasks and in various business organizations.	(Attabi, 2024, 23)	6

Second: The importance of artificial intelligence

The importance of artificial intelligence includes many aspects, and due to its great importance, we will show the following: (Josie et al., 2022, 12) (Kharshi et al., 2021, 159) (Azibi, 2024, 3011)

- 1- Applications of artificial intelligence improve learning and adaptability to new developments in the workplace.
- 2- Artificial intelligence applications contribute to improving the ability to interact with machines, robots and smart systems, and achieving communication between man and machine.
- 3- It has the capacity to create new employment opportunities, offer services at the most affordable price, help preserve security, and offer tools to deal with issues like cybercrime and others.
- 4- Artificial intelligence is the process of storing information and knowledge in a way that enables the organization to preserve its knowledge from loss.
- 5- It is predicated on the use of artificial intelligence in decision-making., because it is characterized by independence and impartiality, and these applications provide honest decisions away from bias.
- 6- Artificial intelligence contributes to the process of sending the accumulated human experience to the machine, which requires preservation and archiving.

Third: Artificial Intelligence Applications

Artificial intelligence applications mean the basic capabilities and pillars shown by modern and smart systems and can be explained as follows:

1- Expert systems: It is one of the applications of artificial intelligence that simulate human behavior, which are complex systems specialized in collecting information from human resources and knowledge, and expert systems are the main pillar of administrative systems, the main purpose of expert systems is to support and assist experts from human resources in thought processes and not only provide them with information, as these systems By practicing skills in interactive learning environments for organizations by answering inquiries and asking questions, providing guidance and guidance to the parties related to the organization, and also helping to distribute human experience to benefit from it in making good decisions, saving time and effort in addition to the administrative assistance it provides. On the focus, excellence, speed and creativity in the performance of the organization's activities, as well as contribute to enhancing the effectiveness of administrative decision-making by providing solutions to the problems under study. (Shehata, 2022, 210) .

2- Smart agents systems: They are experience systems that depend on knowledge that are within information systems, which in turn depend on the computer, as the agent system is used to automate many processes that are performed independently and without human intervention, it is a program for the end user or a way to accomplish the activities of a person or a specific process to make decisions and accomplish tasks in a way that achieves the goals of the organization, and agent systems are characterized by Proficiency in communicating with the environment, the customer and other agents in the environment in order to perform

his task in a way that ensures the implementation of greater and more effective performance). Abdulnabi et al., 2024, 66).

3- Artificial neural networks: Artificial neural networks are used to confine the human mind to the processing of non-systematic data, and that the composition of these networks simulates the structure of the human mind and the way it performs, as the work of these networks helps in the process of organizational decision-making by determining their goals and according to priority and making decisions that are effective and efficient from other decisions and evaluating the consequences of it. (Al-Fazari et al., 2024, 77)

4- Genetic algorithms: It is one of the most important computer programs that depend on biological processes in order to solve administrative evolutionary problems, as the algorithms work similarly to individuals in the work environment, and depend on the concept of evolution and genetic algorithms work as programs or software packages that provide possible solutions to the various problems of the organization's operations and are defined as ways to solve It supports the creation of solutions to specific problems using methods compatible with its environment, thus providing the organization and individuals with ways to research all possible combinations of numbers to identify the correct non-numeric variables. Abdulnabi et al., 2024, 66).

Fourth: The concept of human resources sustainability

In the beginning, the concept of sustainability should be clarified as a major step to reach the sustainability of human resources, as the idea of sustainability has been known for previous decades dating back to the time of Aristotle, as for management, sustainability has been determined to propose new solutions and put organizations and economic systems more viable in the long term (Kumar et al, 2020, 1014), between (Davidescu, 2020, 14) sustainability as "the renewal and development of materials, and it represents the survival strategy of organizations to organize systems and that there is an intention to work among employees. in a particular organization and their ability to perform tasks in a business-appropriate manner and the ability to work in order to reduce stress, or work-life balance."

In addition to the above, the human resource is a major resource for organizations, as the new curricula focus on the need to rely on the capabilities of the human resource to strengthen and sustain the organization and there is an important role in determining theoretical human resource relationships in developing new perspectives of the organization),³ 2022 (Mohiuddin et al, The philosophy of human resources sustainability is based on investing in developing the skills of employees and improving their ability in the long term, as it is considered the main supporter in achieving innovation, excellence, job security and achieving positive results for organizations. (Atallah et al., 2024, 52)

And the multiplicity of concepts of human resources sustainability by researchers and writers and the table below we will show some of them:

Table (3) Concepts of Human Resources Sustainability

Concept	Finder, Year, Page	t
It is a multi-tasking function that includes a variety of concepts, as it focuses on the transparent and proper implementation of recruitment procedures, training, retention, development, performance management, motivation implementation and employee participation in all sustainable work.	(Ashiru & Iucia, 2019, 4)	1
In order to make human resources competent and efficient to spend their intellectual and cognitive energy and assure their preservation, this all-encompassing development approach seeks to empower people, raise their knowledge capacity, and expand their possibilities in a variety of disciplines.	(Tweiqat& Adaileh, 2020, 285)	2
It is the employment of human resources tools to support the sustainability strategy and create a human resources management system that contributes to enhancing the sustainable performance of the organization.	(Eid et al., 2021, 333)	3
It is the capacity of organisations to implement human resource policies and procedures in order to produce value, which in turn allows them to rebuild value and renew wealth.	(Al-Abdi et al., 2022, 106)	4
A set of concrete systematic measures and methods whose long-term benefits are achieved, in addition to procedures directed to recruitment, recruitment and selection jointly and effectively in terms of time and cost.	(Shubar et al., 2024, 1292)	5

Fifth: The importance of human resources sustainability

The sustainability of human resources is necessary to ensure the continuity of the work of organizations, develop the level of their performance, maintain competencies and build a good reputation for the organization in the labor markets, and this is what made organizations oriented towards sustainability in their strategies, the importance of human resources sustainability lies in the following: (Al-Mahdi, 2018, 12) (Atta Allah et al., 2024, 53)

- 1- The sustainability of human resources is an efficient tool in transforming organizational goals into an actual applied reality.
- 2- The sustainability of human resources is one of the effective assets that organizations must manage efficiently in order to achieve survival, growth and continued competition.
- 3- Human resource sustainability improves an organization's capacity to deal with changing environmental conditions and advancements.
- 4- The presence of sustainable human resources in organizations increases the value of other resources and human resources increase with the obsolescence of time, while the rest of the regular resources of the organization decrease.
- 5- The sustainability of human resources contributes to providing workers with skills to be more efficient in facing any new challenges and tasks entrusted to them.

Sixth: Dimensions of Human Resources Sustainability

The sustainability of human resources is the basic measure of the sustainability of any business organization as it is not limited to achieving the current needs of work, but also works to develop, enhance and manage human resources skills in accordance with the

requirements of the work period, and we will address in this context the most prominent dimensions:

1- Employee satisfaction: It is the employee's sense of satisfaction in the performance of his work, as job satisfaction contributes to promoting innovation within organizations and that the most prominent characteristics of employee sustainability, including the work environment, organizational culture, external participation, cooperation between employees, justice and equality, job security that affects the loyalty of employees and increase their production, and it is not possible to ensure the achievement of the organization's goals and work towards long-term sustainability except by increasing the efficiency of workers and contributing to enhancing their satisfaction. Which leads to the creation of a stimulating work environment for them. Stankeviciute, Savaneviciene, 2018, 1).

2- Enhancing participation: Many organizations have tended to achieve the possibility of sustainability through the participation of their workers in various works that contribute to enhancing sustainability with regard to the environment and upgrading the work environment because of the great benefits achieved by the participation of workers in the organization's activities, namely: (Atta Allah et al., 2024, 55)

- Strengthening the ability of employees to put forward their suggestions that contribute positively to the development of the work environment.
- Developing the work culture among employees because of its importance in working on the sustainability of the organization and in the long term.
- Reducing the resistance of employees to follow sustainability procedures and policies.
- Take advantage of the acquired and tacit knowledge of workers through their cognitive relationships with work and production.

3- Intensive commitment: Job commitment reflects the strength of employees' attachment to the goals of the organization and their keenness to participate efficiently and effectively in the overall performance of the organization, as intensive commitment includes the conviction of employees of the goals and values of the organization being an important element of them, motivating staff to put forth their best effort in order to accomplish the objectives that the company hopes to accomplish, compatibility of the culture of employees and their intensive association with the culture of the organization as it contributes to achieving sustainability (Al-Sabawi, 2021, 18).

The third topic: the practical side of the research

First: Description and diagnosis of research variables

Table 4's findings show that every response to the dimensions of each of the study's two variables, which are represented by [(Artificial Intelligence Applications) and (Human Resources Sustainability)] were higher than the hypothetical arithmetic mean of (3), but at the level of relative importance of the dimensions of each variable, it came after (genetic algorithms) ranked first in terms of the relative importance of the variable (artificial

intelligence applications) in terms of the arithmetic mean value, which was 3.39, with a standard deviation of 0.75 and a relative importance of 67.74 percent; expert systems came in second with a mean value of 3.36, with a standard deviation of 0.66 and a relative importance of 67.18%; and smart agent systems came in third with a mean value of (3.34), with a standard deviation of (0.77) and a relative importance of (67.74%). (66.77%), and in fourth place came after (artificial neural networks) in terms of the value of the arithmetic mean, which amounted to (3.31) and a standard deviation of (0.78) and a relative importance of (66.13%), either the order of relative importance of the dimensions of a variable (sustainability of human resources)) It came in first place after (intensive commitment) in terms of the value of the arithmetic mean, which amounted to (3.50) and a standard deviation of (0.67) According to the arithmetic mean value of 3.47, the standard deviation of 0.71, and the relative importance of 69.35 percent, and a relative importance of 69.92 percent, respectively, were followed by greater involvement. On the basis of the arithmetic mean value, which was 3.43 with a standard deviation of 0.61 and a relative importance of 68.55%, the share after employee satisfaction came in third.

Table (4)

Summary of the relative importance of the dimensions and variables of the study

T (p-value)	Order	Materiality %	Deviation Normative	Arithmetic mean	Dimensions	Variables
4.31 (0.000)	2	67.18	0.66	3.36	Expert Systems	Artificial Intelligence Applications
3.47 (0.000)	3	66.77	0.77	3.34	Smart Agent Systems	
3.08 (0.000)	4	66.13	0.78	3.31	Artificial neural networks	
4.06 (0.000)	1	67.74	0.75	3.39	Genetic algorithms	
5.53 (0.000)	3	68.55	0.61	3.43	Employee satisfaction	HR Sustainability
5.21 (0.000)	2	69.35	0.71	3.47	Enhance participation	
5.81 (0.000)	1	69.92	0.67	3.50	Intensive commitment	
6.05 (0.000)	---	66.69	0.44	3.33	Artificial Intelligence Applications	
9.39 (0.000)	---	69.27	0.39	3.46	HR Sustainability	

Source: Researcher preparation based on SPSS V.26 program outputs n=62

Second: Testing the relationship of influence between the two variables

The third main hypothesis: There is no significant impact of artificial intelligence applications on the sustainability of human resources in Al-Noor and Al-Hadba National Universities.

Table (5) and Figure (2) show each of the following:

1- Artificial intelligence applications have a significant impact on human resource sustainability, as evidenced by the regression coefficient Estimate(β) of 0.73 and the p-value of 0.000, which is less than 0.05. The same result also shows that the critical value (C.R.) of 11.23 is greater than the tabular value (t_{Tab}) of 1.96.

As a result, we reject the null hypothesis and embrace the alternative, which holds that artificial intelligence applications have a direct and substantial impact on the sustainability of human resources.

2. The coefficient of determination (R-Square) value indicates that artificial intelligence applications account for 67% of the changes in human resource sustainability, with the remaining 33% being ascribed to other variables not included in the regression model. In other words, we can say that artificial intelligence applications account for 67% of the changes in human resource sustainability.

Table (5) Results of the impact of artificial intelligence applications on the sustainability of human resources

P-value	Critical value C.R.	Coefficient of determination	Standard error of the regression coefficient Se.(β)	Regression coefficient Estimate(β)	Dependent variable	Direction of influence	Independent variable
		R-square					
0.000	11.23	0.67	0.065	0.73	HR Sustainability	←	Artificial Intelligence Applications

Tabular value ($1.96=t_{Tab}$)

Source: Preparation of the researcher in the light of the results of statistical analysis using AMOS V24 software n=62

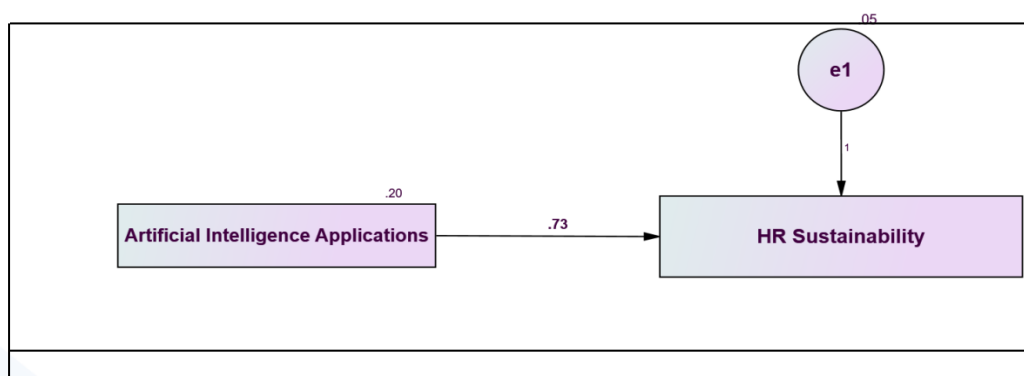


Figure 2

The impact of AI applications on human resource sustainability

Source: Preparation of the researcher in the light of the results of statistical analysis using AMOS V24 software n=62

Sub-hypotheses emanating from the third main hypothesis: There is no significant impact of the dimensions of artificial intelligence applications on the sustainability of human resources in Al-Noor and Al-Hadba National Universities.

Table 6 and Figure 3 show the following:

1- The existence of an effect of the dimensions of artificial intelligence applications represented by [(expert systems), (intelligent agent systems), (artificial neural networks) and (genetic algorithms)] in the sustainability of human resources, in terms of the value of the regression coefficient Estimate(β), which amounted to [(0.54), (0.57), (0.57) and (0.70)] for each dimension respectively, and this effect is significant in terms of the probability value (P-value), which was less than 0.05 and reached [(0.020), (0.012), (0.012), and (0.044)] respectively. The same result shows the critical value (C.R.), which was greater than the tabular value (tTab) of (1.96) and was [(9.31), (8.76), (7.12), (8.64) and (1.98)] respectively.

This leads us to reject the null hypothesis and accept the alternative hypothesis that there is an impact of the dimensions of artificial intelligence applications on the sustainability of human resources, and this effect is direct and significant.

2- The coefficient of determination (R-Square) value indicates that the aspects of artificial intelligence applications account for 55% of the changes in human resources sustainability, and that the remaining percentage of (45%) is attributed to other variables that were not included in the regression model, in other words, we can say that the dimensions of artificial intelligence applications explain the amount of (55%) of the changes in the sustainability of human resources.

Table (6) Results of the impact of AI applications on human resources sustainability

P-value	Critical value C.R.	Coefficient of determination R-square	Standard error of the regression coefficient Se.(β)	Standard regression coefficient Std.(β)	Regression coefficient Estimate(β)	Dependent variable	Direction of influence	Independent variable
0.020	9.31	0.55	0.058	0.73	0.54	HR Sustainability	←	Expert Systems
0.012	8.76		0.065	0.71	0.57		←	Smart Agent Systems
0.012	7.12		0.080	0.73	0.57		←	Artificial neural networks
0.044	8.64		0.081	0.79	0.70		←	Genetic algorithms

Tabular value (1.96=tTab)

Source: Preparation of the researcher in the light of the results of statistical analysis using AMOS V24 software n=62

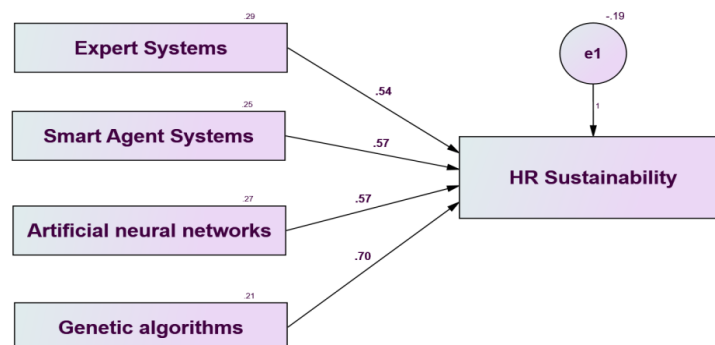


Figure (3)

The impact of the dimensions of artificial intelligence applications on the sustainability of human resources

Source: Preparation of the researcher in the light of the results of statistical analysis using AMOS V24 software n=62

Fourth Theme: Conclusions and Research Proposals

Conclusions:

- 1- Applications in artificial intelligence enhance the leadership styles of university leaders by improving performance, developing teaching and learning processes, facilitating decision-making processes, and contributing to the development of participation between leaders and enhancing their cognitive abilities.
- 2- Artificial intelligence applications contribute to supporting employees during the performance of their tasks, thanks to their great ability to carry out complex tasks that may be difficult for non-leaders and employees.
- 3- The relationship between modern departments and artificial intelligence applications is that they are part of the whole, where information technology is used in an advanced manner to complete the transactions that are completed within these departments by leaders, meaning that artificial intelligence applications contribute to linking the internal networks of these departments with a network that organizes all university units in an integrated manner.
- 4- Applications of artificial intelligence have an impact on human resource sustainability by increasing worker productivity and happiness., evaluating performance, and enhancing the participation and job commitment of university leaders.

Research Proposals

- 1- The need for universities to hold training workshops due to their great importance in keeping pace with the rapid developments in the field of artificial intelligence , andthese workshops should focus on introducing participants to the latest applications of artificial intelligence and its tools, and explaining how to benefit from them in various academic and research fields.

2- Increasing the commitment of university leaders to the application and support of artificial intelligence by spreading the culture of electronic work and spreading the advantages and advantages that come from using artificial intelligence in the workplace, as well as how it affects the long-term viability of human resources.

3- The need to develop a vision and philosophy for the application of artificial intelligence by automating duplicate routine procedures and providing implementable insights, which leads to sustainability in human resource management.

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