# The role of artificial intelligence in enhancing administrative decision support systems by depend on knowledge management

# Hasanain Abdalridha Abed Alshadoodee<sup>1</sup>, Muneer Sameer Gheni Mansoor<sup>2</sup>, Hasanien Kariem Kuba<sup>3</sup>, Hasan Muwafaq Gheni<sup>4</sup>

<sup>1</sup>Department of Geography, Faculty of Arts, University of Kufa, Iraq

<sup>2</sup>Department of Mobile Communications and Computing Engineering, College of Engineering, University of Information Technology and Communications (UOITC), Baghdad, Iraq

<sup>3</sup>Department of Bioinformatics, Biomedical Informatics College, University of Information Technology and Communications (UOITC), Baghdad, Iraq

<sup>4</sup>Department of Computer Techniques Engineering, Al-Mustaqbal University College, Hillah, Iraq

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# **ABSTRACT**

This study illustrates the role of artificial intelligence in enhancing administrative decision support systems by depend on knowledge management. As per new technologies are evolving and the workflow need more concious approach of implementation, thus the role of artificial intelligence is evolved in support to decision making. The study takes privates college administration as a varible on which the results rely. The upgrades in innovation have upgraded most techniques for leading business tasks that further develop organizations and administration conveyance. Companies in this area need to wander into digitizing of all industry cycles, business sequences linked to administration and more essential services in educational institutes over time. The need for a proper decision-making support using knowledge management stills create a big gap in the foundation of an effective and efficient eductaional system for the good governance and to improve the image of some institute. The examination interaction has been intended to follow an iterative methodology of information revelation chose for the review. Using the statistical package for social sciences (IBM-SPSS) version 23 logic instrument, the illustrative research was completed with insights into the segment profile of the respondents. Hayes' process macro v3.3 with SPSS was used to analyze the interceding effect.

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# Corresponding Author:

Hasanain Abdalridha Abed Alshadoodee Department of Geography, Faculty of Arts, University of Kufa Kufa, Iraq

Email: hasanain.allawi@uokufa.edu.iq

#### 1. INTRODUCTION

This study illustrates the role of artificial intelligence in enhancing administrative decision support systems by depend on knowledge management. As per new technologies are evolving and the workflow need more concious approach of implementation, thus the role of artificial intelligence is evolved in support to decision making. The study takes privates college administration as a varible on which the results rely. Adopting industry-specific technologies in administration decision support systems during the early 1970s, when [1]. This ascent in the quantity of associations accepting new organization decision supportive network innovations is because of the gainful ramifications of these advancements, like further developing their administration conveyance. In ptivate colleges, the utilization of new advances has brought about the

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progressive improvement of a quality encounter. Forthcoming digitization techniques are causing enormous scope changes of different parts of schools, for example, private universities in Iraq conveyance and the worth of different big business practices. The ramifications of getting this computerized upheaval in school organization exist bringing up issues and causing essential challenges regarding the general result of executing new advancements. The upgrades in the field of innovation have improved most techniques for directing business tasks that further develop client collaboration and administration conveyance. Groups in this area need just before wandering crazy about digitalization of everything corporate cycles along with businesses chain identified with organization and different administrations in schools according to [1]. clarifies that most modern applications and hierarchical stages in the instructive area have an appeal for added artificial intelligence (AI) highlights. Even for an association that uses the top market applications, says Burstein, foreword, there is no tolerable AI [2]. Through this unique improvement, the entire administrative structure is improved. By combining mechanical advances like artificial intelligence, productivity and efficiency in corporate processes can be further enhanced AI. Profound learning, and enormous information, among different procedures. Computer based intelligence is the reproduction of human insight in executing machine processes according to [3].

Machine learning and deep learning are subsets of AI. It is a systematic process and means to develop decision support system in terms of their knowledge, behavior, and skills to increase their productivity and improve the performance of their work, considering the development of psychological and social aspects to achieve the goals of the private colleges. The need for quality AI is a significant problem in implementing facing in the educational institutes according to [3]. AI can be clarified as a grouping, everything being equal, applications and exercises needed for the assortment, examination, and perception of information utilized in settling on key functional decisions for the educational institutes. Research by Sànchez-Marrè [4] an enterprise or educational institute should exploit any blend of mechanical advancements to further develop information attainable quality from both the interior and outer climate. This mix of advancements shapes an association's elements in the articficial intelligence role. The best insight execution system is coordinating the innovation capacities with their client types. Research by Forgionne [5] characterizes able AI as one that is versatile and adaptable such that makes it equipped for acquiring and adding steady information to a major information asset. Working climate is any encompassing on which it assumes an unequivocal part in achieving ways of making ideal conditions to perform everyday exercises of people specifically and the association overall. Preparing is a way to deal with improve employees" expertise, information, ability, and capacities. Research by Malof et al. [6], a decent AI is equipped for distinguishing patterns and examples in the total information, which offers basic help for the formation of new essential business openings, helps in opportune navigation and expectations. Experiences regarding new business sectors, item reasonableness, client requests, market contest, and promoting sway are realistic through carrying out competent AI says [6].

In this contemporary cutthroat and adaptable worldwide economy, the accomplishment of instructive area relies upon appropriate usage and proficient administration of it the new advancing advances. Consequently, instructive establishments can just win an upper hand through fashioning and holding cutthroat innovation authorization like man-made brainpower in their foundations for quite a while. In doing as such, supervisors in each association are attempting to take on various mechanical practices planned to build their employees" work execution by taking on various monetary and non-monetary prize frameworks in their organization. The need for a proper decision-making support using knowledge management stills create a big gap in the foundation of an effective and efficient eductaional system for the good governance and to improve the image of some institute. The following major problems summarized in the paper was, lack of enforcement spirit in administration, lack of performance monitoring by administration in the colleges and to overcome this problem, sufficient theoratical research is given in this paper. The role of artificial intelligence is the contemporary variable for the decision support phenomenon where associations are attempting to saddle their employees" potential for their hierarchical accomplishments. The aim of the study is limited to the following points: i) the significance of the artificial intelligence with context to the eductaional sector, ii) describing the application and theoratical model utmost eductional environment and theoretical perspective of artificial intelligence for the employee work system to enhance the performance, iii) finding the empirical studies on decision support system and standards setting for structural educational environment in private colleges, iv) how we can measure the AI influence on the structure of educational governance and performance by moving away from the rentier image of the colleges, and v) introducing and benefits of having highly structured AI in educational institutes for decision support system with relation to the knowledge management.

#### 2. METHOD

This segment plays out a writing audit of corporate diaries and insightful articles identified with the utilization of different imaginative methods inside AI in the instructive area. This paper utilizes an unequivocal examination design to analyze related academic articles with helpful data as follows basically. A methodical writing audit methodology is created in this review. The strategy can be portrayed as a repeatable and unequivocal technique used for characterizing fundamental functions from different specialists says [7]. By and large, the point of utilizing methodical audit is to distinguish and consolidate the discoveries of all significant individual examinations. Setting up an incorporation and prohibition models is important for a quality writing survey. It helps test the enormous number of pertinent articles and effectively decide the ones to decide for survey just as those to dispose of. The exploration structure permits future turns of events and updates to be done on the paper's decisions. The accompanying advances characterize the methodology applicable to the start of this review: i) topic meaning and extraction, ii) evaluating the alternatives, iii) filteration of the alternatives, and iv) defining the criteria.

According to Urbina [7] the orderly writing survey approach permits the ideal recognizable proof of significant logical works. The review has arranged the distinguished articles into some subcategories which relate to AI in educational sector. As referenced already, the articles have been recovered from enormous sources data sets like online libraries include Springer, Taylor & Francis, Emerald, Wiley, and Science Direct are just a few of the many reputable publishers in the field. Academic literature and modern exploration diaries are included in the data sets considered. Searches were made in the previously listed information repositories using catchphrases associated with the papers. The following are a few groups of keywords: "artificial intelligence", "analytics in colleges", "data mining", "decision support systems in college AI", "decision making", "decision support system", "AI in education," and "big data," the results of which were further reduced by coordinating the discovered cases with the topic of interest, namely the training area. To track down related works, the catchphrases were linked with "private schools in Iraq" and "colleges" conjunctions. To distinguish more relevant cases, a few catchphrases were paired together, such as "artificial intelligence" and "business knowledge" and "education sector." The results show a wide range of topics relevant to the chase phrases. The findings of the survey's unambiguous articles were perused, prompting a massive conclusion of important worth efforts with consistent substance for the audit. The substance from the investigation articles that has been analyzed is also used to assist disclosures in the discussion of the

The subject definition and rationale for the review were utilized to develop the search phrases that were used to find articles from the chosen sources. The inquiry bases on the gig of AI methods in selecting strong organization for the instructional region in Iraq. Diverse AI components have been identified and their functions clarified, revealing how the AI's abundance and decision-making support are maintained by the many components.

#### 2.1. Significant components of artificial intelligent system

This study will have significance review of the AI on the mediate role related to employee decision support system for concerned bodies. A concise portrayal of AI in instructive foundations/associations and its verbalization is given [8] showing every one of the essential fields and sub-parts enveloped inside shrewd frameworks in AI. These include:

- Decision support system: data framework utilized in supporting dynamic cycles. Appropriate AI will gather valuable experiences and make determinations and varieties needed for vital development and improvement.
- Artificial intelligence: AI works as a coherent framework inside the association framework, which allows the AI to work by providing the ability in terms of extending software applications and specialized hardware. AI programs can learn and make decisions rationally, which makes it capable of creating expert business systems that utilize user devices and corporate databases to download and store information intelligently [9].
- Data mining: this component involves the revelation of examples and relationships inside enormous informational indexes. Computer based intelligence components, for example, AI are critical for the mining system and numerical displaying.
- Descriptive analytics: this is one more fundamental element needed in the school's business insight.
   This sort of investigation utilizes information accumulation and mining techniques to give bits of knowledge regarding the depiction of an occasion that has as of now occurred.
- Predictive analytics: this element gives anticipating and gives experiences about occasions that poor person happened at this point. This is effectively misconstrued for prescriptive investigation, which is likewise a fundamental component of business insight. The regularizing examination gives bits of knowledge about the procedures to accomplish the best and ideal results, conceivably anticipated by AI and demonstrating strategies.

Big data: depicts huge informational collections that can't be taken care of utilizing a heritage information handling application. Large information requires progressed AI strategies to concentrate and make significant texts from the enormous information asset. Enormous information has been analyzed by the exploration study as a critical part of AI in educational organizations. Figure 1 shows depeicts the sub-components framework of intelligent system.

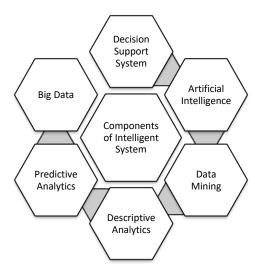


Figure 1. This depeicts the sub-components framework of intelligent system [9]

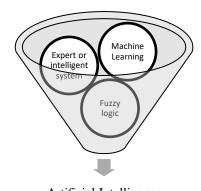
The use of artificial intelligence above fosters an excellent man-made consciousness that carries out models fit for thinking and astutely breaking down data to give critical thinking bits of knowledge. Man-made reasoning incorporates framework design, applications, information bases, apparatuses, and philosophies that target involving information for supporting navigation and choice emotionally supportive network. A strong artifital knowledge with choice emotionally supportive networks gives business process the executives, which further develops arranging and activities as per Eom. Subparts listed above can be used for a variety of smart AI applications in the Iraqi educational sector, according to this paper's main goal.

Research by Gray [10], great AI targets smoothing out the course of information assortment, examination, and announcing for settling on the choice emotionally supportive network smooth and available. Computer based intelligence assists organizations with enhancing information attainable quality, leading to an increase in the value of AI in a variety of different ventures for example, instructive, clinical medical services, military, internet business, banking, and so on investigation in the instructive area is regularly used to group understudies utilizing fluctuating variables, for example, conduct, and business patterns. Unmistakable examination helps to decide the school's most significant understudies, in this manner centering their faithfulness to such understudies. Prescient examination has additionally assumed a huge part in shifting the steadfastness on AI for independent direction and business support as [10]. Prescient investigation includes various methodologies and techniques for data extraction and examination to decide future occasions accurately [10]. AI examination can look at chronicled, continuous, and prescient investigation report to foster a granular perspective on the business performance. Executing a quality AI utilizing huge information is viewed as an imaginative method for directing the development of a business. It gives methods through which clients can unyieldingly deliver pertinent information from their cooperation. The information is saddled and put away in organized and unstructured structures inside a major information vault says [11]. The review communicates the advantage of large information in further developing AI and how a great AI is consequence of a superior information assortment and investigation. The review will generally play out an investigation based on certain schools' foundations that use new creative innovative techniques to keep an amazing design over educational institutes in Iraq. Pondering the requirement used for any cordiality involved to make reliable AI, AI, and huge information have demonstrated to be very valuable and useful says [11].

#### 2.2. Artificial intelligence in educational sector

The current comprehension of AI includes business processes saw from recorded, present, and prescient viewpoints as [12]. Capacities inside the AI are sorted into information assortment, text, and information mining, prescriptive examination, business execution the board, benchmarking, prescient investigation, and announcing conduct. The technologies the current comprehension of AI includes business

processes saw from chronicled, present, and prescient points of view as [12]. Capacities inside the AI are ordered into information assortment, text and information mining, prescriptive examination, business execution the board, benchmarking, prescient investigation, and revealing conduct. The advancements supporting AI must, in this way, be equipped for dealing with these tremendous lumps of organized and unstructured information says [13]. An inside and out writing survey has been given beneath [14] depicts different routes through which various advancements are brought and embraced into the educational institutes specially universities. Man-made intelligence envelops all parts of the creative kind's underneath, prompting a high reception, and reconciliation process. Development in AI covers new inventory techniques, new items, and administration conveyance frameworks, the capacity to take advantage of new business sectors, and new business associations making up further developed AI prompting better essential dynamic cycles just as new strategies for creation. This large number of viewpoints structure a school's business intelligence (BI). Some of the significant tools of artificial intelligence used for decision making or decision support system are shown in Figure 2.



Artificial Intelligence

Figure 2. Some of the significant tools of artificial intelligence used for decision making

Some more up to date utilizations of AI in the first-class instructive classes appear as though something out of a fiction film. The highlighted capacities incorporate facial recognizable proof, voice design acknowledgment, task robotization, discussion through visit bots, and ongoing administration of appropriated applications as per [14]. An imaginative pattern is recognizable in the different innovative progressions shaping a huge scope execution of AI in certain organizations, the mix of specific logical procedures enables them to make new items and administrations. It is turning into a need for instructive companies to put resources into the developing degree of huge information to maintain administration conveyance. This development being used for enormous information is levitation the necessary to have an AI instrument along with profound understanding, AI highlights as indicated by [15]. Figure 3 beneath shows the order connection of AI in combination with these innovations.

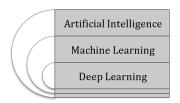


Figure 3. The AI hierarchy and structure

In 1955, John McCarthy came up with the first idea for artificial intelligence [15]. It was hoped that the machines would be capable of learning and making intelligent decisions, just as humans do. Current AI organizations inside business data frameworks use complex profound learning and investigation calculations that follow administered and solo learning. Bresfelean *et al.* [16] shows a few ordinarily utilized calculations utilizing regulated figuring out how to incorporate basic neural organizations, arbitrary timberland, choice tree and backing vector machines, while unaided calculations involve Gaussian combination model, various leveled grouping, recommender framework and K-implies clustering. Innovation in AI is improving visitor

experiences and reducing worker accountability. It also puts the company's growth in the best possible direction. D. L. Poole audited the company in Poole's audit. Bresfelean et al. [16] clarifies that more than 25% of undertakings in neighborliness inside the U.S. will be completely robotized by 2030, Standford school have sent off an AI innovation that does the obligations of an attendant. The robot, known as Connie, was put online in 2016 and showed highlights like human connection, self-determination, fix and improvement, and so forth the utilization of robots is a creative methodology that is right now taking up fresher structures. Computer based intelligence can exist exclusively as programming parts conveyed over various client gadgets and business the management frameworks. The full range of having such an arrangement is seen to be more gainful and proficient. As the most brilliant field arrangement, AI gives customized strategies for gathering information from clients. Client based applications accumulate information from reactions and decisions made by the client. Man-made intelligence can add to a few fields inside the inn booking and convenience area. AI has been incorporated into [16]: i) availability of college student information, ii) demonstrating of client choices, iii) breaking down data utilization measurements, iv) changing data into information, v) information mining and information extraction, vi) voice and picture acknowledgment, and vii) making decision upon information extracted. A business system's meaning is shaped by how it connects with other business systems. The association's AI is characterized by the IT structure adopted from these business points.

#### 2.3. Outcome funding method

Outcome funding requirements for cutting edge administration, arranging characterize the requirement for having a smart AI framework as indicated by [17]. Leaders and data clients are the determinants for required bits of knowledge that guide in essential preparation. Data clients give requests to specific things or administrations which is fathomable through appropriate investigation of deals as indicated by [18]. Required information with respect to the exchanges are intended to satisfy functional necessities. Leaders plan business objectives that direct the data needs feasible for the accomplishment of those objectives. Chiefs do not have excessive assumptions about readily available data, as [18] explain. BI is adept at always obtaining more data, says [18]. The needs of some data are dynamic and vary quickly according to [18] research. A client's association with an AI framework reveals a variety of previously unnoticed needs [18]. As a part of the educational process, recommendation systems decision support systems (DSSs) help colleges and other educational institutions gather information about how best to adapt administrative delivery and product development to the needs of students. Vasile according to [18], a DSS is a dynamic, intelligent application that offers chiefs powerful roles. The new DSS is integrated into AI, resulting in a new type of enhanced automatic identification system (AIS). In the beginning, DSS was used primarily for educational purposes, but it has since been adopted by businesses and, most recently, hotels. As an element of business knowledge, it is used in conjunction with AI and info mining to work more effectively. Few components linked to data gathering and management form the foundation of the decision support system. To collect the correct data for decision-making, just few components are critical. The DSS is depicted in the following diagram [19].

The Figure 4 has depicted the relations between the useful components of DSS, among them are internal or external data, model and data management, knowledge management and the end user or the decision maker in the end. Current employments of AI in the scholastics have been revolved everywhere four rooms, i.e client presentations, corporate activities, insight get-together and mechanization. DSS give ideal direction in improving visitor experience dependent on logical bits of knowledge. These advancements have been examined by [20] in a review investigating AI as a continuum in scholastics. BI is equipped for surveying complex assignments and making a nitty gritty portrayal of occasions that help settle on informed choices that push business restricts further. Moves that request ongoing choices to be made, accomplish it through DSSs. Computer based intelligence, profound learning strategies, prescient examination, and information investigation have introduced another time of business insight. Choice help can pull information on viable experiences and gives an inside and out investigation of complicated information through solo getting the hang of as [20]. The DSS can be intended to screen the whole framework requesting explicit information focuses to pass the necessary data [21]-[25]. Having wise frameworks permits forecast of conduct, which aids enhancing decision-making processes. DSS consequently, renovating the way that AI go to work.

#### 2.4. Knowledge managments

The role of knowledge management playing a mediation role in artifical intelligence and decision support system in short there are interconnected to some extent, in any case, clashing outcomes have been gotten between factors because of various AI rehearses deployed by some educational intitutes which results in a bad operational management in some institutes. Importantly, the knowledge management practices affect both DSS and AI, explicitly there is an immediate effect on administration of information the executives and its sharing in knowledge management while having an indirect impact on image of the institution. Also,

efficient knowledge management (KM) practices guide to enhance employee effectiveness and data handling which boosts employee high-performance by enhancing their commitment towards the job. Knowledge management is more useful for better responsiveness to customers and performance reviews of the employees other than whatever is related with improved outcomes in the foundations. Henceforth, KM is the considerable element for the increment of worker's efficiency. KM aspects, for example, information taking care of, and sharing is utilized to support worker inspiration to more significant level which straightforwardly influences the representatives' conduct and occupation fulfillment and furthermore the profession advancement openings which are utilized to prompt the improvement of worker elite execution in the foundations [26]-[30]. KM comprises of the data architecture, some of the components are as followed: i) implementation, ii) analysis, iii) learning, iv) sharing, and v) advocacy.

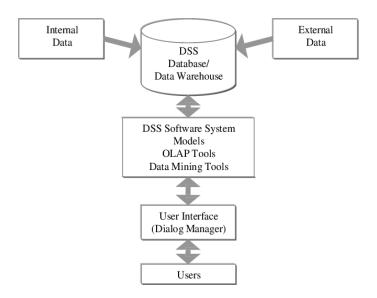


Figure 4. The useful components of decision support system

These components of KM may merge with the architecture of the DSS and AI to work better in the role of decision making for the institutions. The refined extent of the job which is changed through the KM can possibly prompt the higher efficiency of the representative. Further, they said for the most part instructive establishments have distinguished KM as an effective apparatus to build usefulness of a worker and information taking care of; therefore, the more elevated level of efficiency and choice emotionally supportive network (DSS) connected with AI will make a persuaded representative who thus drives the organizations to a superior heading.

The methodology alludes to an efficient and recursive technique of directing a subjective investigation. Utilizing an iterative model of examination will assist with obtaining the best outcomes. The researche in the study uses comparative methods to provide both a qualitative and quantitative analysis of the research question. Quantitative analysis is possible at this level of research as extraordinarily little data exists in the field of expatriate reconstruction inputs, necessitating further primary research. This review can be viewed as a logical review and examination type is co-social. This review assembled information in the picked exclusive school's ordinary environmental elements without managing the interior or outside factors. An iterative approach of information sharing was chosen for the review's examination interaction. Subjective study can be guided with precision and recursion using this technique. Using an iterative approach to inquiry will help provide the best possible results'. The subjective examination is also less centered around information however much gathering text-based information that answers questions, for example, "why?" and "how?". Directing a subjective examination is more adaptable and spotlights on gathering individuals' perspectives. Checking on the overall writing calculated system of the review is as determined by the hypothesis and the Figures. The theoratical model and conceptual framework of the study is as shown in the Figure 5.

Some of the study's hypothesis are as shown in:

H1: the dimensions of AI have effect that is beneficial to administrative decision support system.

H2: the dimensions of AI have effect that is beneficial to knowledge management.

H3: the dimensions of AI have effect that is beneficial to organization performance.

H4: knolwledge management mediates a positive relationship with the AI and DSS of the institution.

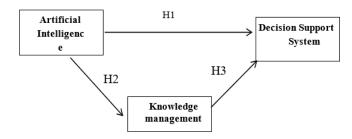


Figure 5. Conceptual framework

The research in the study uses comparative methods to provide both a qualitative and quantitative analysis of the research question. Quantitative analysis is possible at this level of research as extraordinarily little data exists in the field of expatriate reconstruction inputs, necessitating further primary research. This review can be viewed as a scientific review and examination type is co-social. This review assembled information in the picked state-possessed private school's typical environmental elements without managing the interior or outer variables. This review investigates the role of AI practices for the private college to discovery available its impression on DSS and the mediating role of KM of different alternatives like governance data handling and sharing across the institutions itself. Information was accumulated immediately in a predetermined phase to resolve the goal of the review 1 month. This review remains consequently a greek cross sectioned review. The experiment was represented from 201 employees of 10 privately-owned colleges across Iraq for the current study after contacting human resource (HR) and IT departments of the colleges. Headcounts of representatives were chosen for the review as all are youthful experts who are addressing with a high instructive foundation. To enter the teaching field, they must have a bachelor's degree or higher. This makes them capable workers. In this case, the number selected was 2101. mixed IT and HR employees belonging to state of Iraq based in Baghdad, Irbil, Basra, Najaf, and Mosul. The most proper method of social occasion information from respondents was found to be the electronic poll strategy (messages and WhatsApp) utilizing the Google structure. The enlightening investigation was finished with measurements connected with segment profile of the respondents of the review involving the insightful apparatus of SPSS.

- First part of the poll was utilized to assemble information about segment data of the representatives working around there, for example, sexual orientation, age bunch, conjugal status, number of youngsters, most significant level of schooling, and professional training.
- Second piece of the poll comprised of getting information about AI and decision support system elements of the privately-owned colleges. For this review reason a size of 31 things was created alluding to very much acknowledged inquiries of other academic work which was utilized to quantify AI rehearses in the instructive area. The questionnaire also focuses on the three dimensions of employee's effectiveness, job satisfaction and efficiency practices.
- Third piece of the poll comprised of acquiring information about AI, KM, and DSS parts of the school branches. Alluding to other insightful work, a size of 45 things was created for this reason, comprising of four parts in particular assignment execution, relevant execution (both relational and hierarchical), versatile execution and counter-useful work conduct.
- Respondents were mentioned to stamp their most ideal assessment or discernment with the given inquiry explanations through the size of 5 Likert focuses for all inquiries.

## 3. RESULTS AND DISCUSSION

A total of 30 people from the example were surveyed as part of the pilot study. Cronbach's alpha isn't really fixed for all of the developments as well as the variables to ensure the scale's appropriate dependability. The review examined high substance legitimacy, as this review theorized based on high-quality writing and uncommonly constructed and operationalized because of writing. The development is appropriately focalized if the normal variance extracted is 0.5 or above. According to the sample size, polls were taken among 201 administrative representatives. There were 21 significant reactions that were not obtained, resulting in a reaction rate a percentage of 90%. The survey was sent out for testing before being given out to the whole public. via email to most respondents, marking all of the filling lines as mandatory fields (\*), with access to the next page prohibited unless all of the survey items were completed. The current audit included 180 responses in total, with no missing value indicated.

# 3.1. Demographic and characheristics profile of the sample population

Females make up a larger portion of the responders, accounting for 62% of the overall model, as seen by the data. In terms of age groupings, 93% of respondents were between the ages of 1987 and 1993. According to the intimate status, 66% of people were single, which could be since many people do not marry until they are in their mid-twenties. Furthermore, because the plurality of agents is single, only 86% of them have children. Of those polled, 68% hold a master's degree and only 12% have the basic area-level competencies required to be a bank delegate, according to the results. Twenty percent of the total is made up of the two remaining testaments and managers. Sixty-one percent of the ceos' delegates in the model came from banking 1-5, while 39% came from bank 6-10, which included 201 workers. Only a few of Iraq's most major cities were included in the study, which covered the whole country, because of the location of the board members. Of individuals who participated in the study, 77% of those polled said they had participated in some capacity for one to two years.

### 3.2. Testing hypothesis

# 3.2.1. H1: the dimensions of AI have effect that is beneficial to administrative decision support system

To determine the relationship between the components, AI and DSS, a connection analysis was used DSS. The following is a table of the variables' correlations. Table 1 shows that the observed Pearson correlation coefficient is 0.402, indicating that the AI and the DSS have a positive association. The relapse investigation was also used in SPSS to determine the effect of the free factor on the dependant variable. For the analysis, the model summary is provided in Table 2.

Table 1. The correalation analysis of the hypothesis 1

		ΑI	DSS
AI (independent variable)	Pearson correlation	1	.402**
	(2-tailed)		.001
DSS (depedent variable)	Pearson correlation	.402**	1
_	(2-tailed)	.001	180

<sup>\*\*</sup>Correlation significance at 0.01

Table 2. Regression analysis and model summary of H1

Model	R	R squared	Adjusted R squared	Std. error of the projection	Constant	b value	Seg.
1	.402a	.161	.151	.44429	2.589	0.402	.001

The varied relapse factors R to the AI associated free variable star, DSS were 0.402 and the R Square was 0.161, according to the results Table 2. It shows that AI explains roughly 16.1% of the variation (R square) in the DSS. Similarly, the DSS relapse condition is DSS=2.589+0402 (AI). The p-value is less than 0.05, indicating that AI may be used to calculate DSS.

### 3.2.2. H2: the dimensions of artificial intelligence have a positive effect on the knowledge management

The investigation of connection method was used to assess the relationship between the study's AI and KM variables. According to Pearson development relationship discoveries Table 3, there is a positive correlation between AI and KM among workers in selected private-claimed universities in Iraq, with a coefficient of 0.754. Furthermore, a significant link between these two factors: AI and KM, may be quantified. Furthermore, the relapse experiment was also used to assess the impact of AI on KM.

Table 3. Correlations H2

		ΑI	DSS
AI	Pearson correlation	1	. 754**
	(2-tailed)		.000
KMP	Pearson correlation	.754**	1
	(2-tailed)	.000	

<sup>\*\*</sup>Correlation significance at 0.01 level

The distinct relapse factors R of the AI & KM is 0.754, and the R squared is 0.567, according to the results Table 4. It demonstrates that AI accounts for roughly 56.7% of the variation (R squared) in the KM. KM=0.193+0.753 is the relapse condition of representatives in the school (AI). P-value is less than 0.05. To ensure that AI should be used to evaluate KM, this value must be met in Table 4.

Table 4. Regression analysis and model summary H2					
R Squared	Adjusted R Squared	Std. Error of the Estimated	Constant	b value	Seg.
567	562	20600	0.102	0.752	OOOp

#### 3.2.3. H3: the dimensions of AI has a positive impact on society organization execution

Through analysis to the relationship, a relationship between AI and organizational performance (OP) elements is still up in the air. Table 5 shows a Pearson correlation coefficient of 0.237 for the two variables, indicating a positive correlation between AI but instead OP among Iraqi workers at selected prestigious colleges. Furthermore, the manner the P respect is under can be used to deduce a basic relationship between these two variables 05. Backslide examination was also encouraged to look at the effect of varying AI on factor OP.

 Table 5. Correlations analysis of H3

 AI
 OP

 AI
 Pearson correlation (2-tailed)
 1 .237\*\*

 OP
 Pearson correlation .237\*\*
 1

 (2-tailed)
 .034

Results Table 6 show a R square of 0.056 for AI's backslide coefficient (R) and 0.237 for the R square of OP. About 5.6 fraction of the transition (R squared) is explained by AI, according to the data. OP=3.243+0.237 is the backslid condition of AI for laborers (AI). It appears that AI may be a sign of OP, as the p-value is less than 0.05. imply Table 6.

Table 6. Model summary and reggression analysis of H3

Model	R	R Squared	Adjusted R Squared	Std. Error of the Estimated	Constant	b value	Seg.
1	.237ª	.056	.044	.47129	3.243	0.237	.034b

# 3.2.4. H4: knolwledge management go between a positive relationship with the AI and DSS of the institution

Process of Hayes high-performance work systems (HPWS) intercession examination between data frameworks (AI) and decision supportive channel (IB) at 95 confidence level was carried out using macro v3.3 with SPSS software. After the intercession test, Table 7 generates its effects. Table 7's post-effects show that man-made justification and control decision emotionally supported networks are completely affected. 0.379, with a 0.05 level of significance. In order to intervene between the two developments, both direct and indirect techniques were important. Go with Figure 6 for a visual thought.

Table 7. The mediation effect H4 was tested

	Direct impact	Indirect impact	Total impact	Mediation impact
Path	AI → DSS	AI → KM→DSS		Knowledge management is play
Co-efficient	0.239	0.140	0.379	acting as a mediator on artificial
P-Value *	0.0248	0.0037	0.0002	intelligence of institution and
Accept or reject	Accept	Accept	Accept	decision support system

<sup>\*</sup> Significance at 0.05 level

Model

R

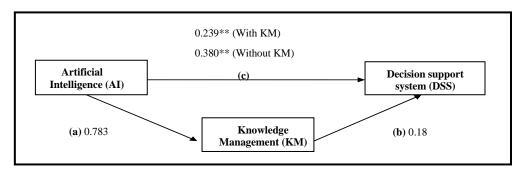


Figure 6. Mediation effect of H4

According to the current examination, the representatives of Iraq's exclusive educational sector were chosen because they were considered young and capable. As a result of the review's findings, it takes a lot of time and effort for these talented young experts to manage their careers and use technology as well as for them to advance in their compensation decision support systems for administration providing challenging tasks and supportive data management and ensuring right and accurate decisions on time. They replied by increasing their knowledge support and decision support systems, as well as their perception of staff efficacy, ultimately driving them to improve their exhibition level and potential dynamic greatness. Knowledge management mediates the interaction between AI and DSS, direct and indirect effects together have a combined coefficient of 0.379. After that, the scene was shattered, and subordinated entirely by information provided by the executives (KM). Furthermore, the choice of KM as an arbiter is consistent with the experimental findings. Furthermore, the intervening effect is like the educational investigations directed in the Middle East. In terms of DSS and AI, there is a strong correlation of the link coefficient esteem. According to the regression study, AI has a beneficial effect on OP among employees in Iraq's privately held educational sector. By upgrading the administrative decision support system, an employee with great control and grasp on the usage of technology for decision making at the proper times and the support of knowledge management will create a significant duty to work and exceed everyone's expectations. The findings are similar with previous studies, implying that staff were able to complete their tasks using this framework, which combines AI and knowledge management to improve the decision-making mechanism in the administration of privately owned educational institutions.

The current study revealed a positive impact of knowledge management as mediator role between the AI, DSS, and organizational performance throught the research findings and these finding are consistent. Knowledge management is incredibly significant and sensitive for revenue mobilization the success of decision support system in underdeveloped country like Iraq stands upon the degree of less technological advancement. What we recommend is the appropriate way to create valuable and effective system integrated with artificial intelligence for operation for the employees working in the administrations of the colleges to be responsive, trained, less time consuming, and knowledgebale from this type of KM criterion. The research model has the implications for the conceptual variables like artificial intelligence, decision support system, knowledge management and organizational performance. There appears to be a positive correlation between the Pearson correlation coefficient and KM. Man-made consciousness and choice emotionally supportive network. Furthermore, relapse examination was utilized to affirm the positive effect of artificial intelligence on administrative decision support system in privately-owned educational institutes.

#### 4. CONCLUSION

By considering the above setting, it very well may be reasoned that the consequences of the current review have essential ramifications for workers in the schools and instructive area carrying out or meaning to contribute on AI rehearses. The discoveries of the review reinforce the perspective on contributing man-made reasoning which would lead for better execution and rightly decision making if the organisations invest in AI practices integrated with knowledge management. Because of the assistance idea of the schooling area, the understudies are profoundly associated with the representatives in universities in satisfying their scholarly necessities, along these lines worry on gifted staff is an unquestionable requirement to obtain or get the cutthroat development that gets from the strength of workers. The consequence of the review demonstrates a solid arbiter job of acquaintance administration between AI and conclusion sustenance system of the institutions domestically; it legitimizes the trust in contributing on ability just as gives prompting to the people who wish to contribute for better execution. Further, the sign of AI emphatically connects with association's viability and execution, which can be helped in such speculation on the referenced drives. Subsequently an able association with incorporated mechanical progressions will create more result for the organizations. Further the review underscores that private schools across Iraq should reevaluate of contributing, by thinking about the financial worth of such practices. The above rehearses are in accordance with the upgrading capacity, fulfillment, and freedom to learn and develop inside the bank, which eventually bring about further developed picture of the instruction area. In this manner, such impacts would bring about creating reasonable upper hand through a fulfilled and drew in, youthful capable labor force with the impacts of man-made consciousness practices.

#### REFERENCES

- [1] H. Al-Barashdi and R. Al-Karousi, "Big Data in academic libraries: literature review and future research directions," *Journal of Information Studies & Technology (JIS&T)*, vol. 2018, no. 2, p. 13, Jan. 2019, doi: 10.5339/jist.2018.13.
- [2] D. Arnott and G. Dodson, "Decision support systems failure," Handbook on Decision Support Systems 1, pp. 763–790, 2008, doi: 10.1007/978-3-540-48713-5
- [3] C. Rudin et al., "Machine learning for the New York City power grid," in IEEE Transactions on Pattern Analysis and Machine

- Intelligence, vol. 34, no. 2, pp. 328-345, Feb. 2012, doi: 10.1109/TPAMI.2011.108.
- [4] M. Sànchez-Marrè, "Intelligent decision support systems," Intelligent Decision Support Systems, pp. 77–116, Mar. 2022, doi: 10.1007/978-3-030-87790-3\_4.
- [5] G. A. Forgionne, "Decision technology systems: A vehicle to consolidate decision making support," *Information Processing & Management*, vol. 27, no. 6, pp. 679–697, 1991, doi: 10.1016/0306-4573(91)90007-9.
- [6] J. M. Malof, M. A. Mazurowski, and G. D. Tourassi, "The effect of class imbalance on case selection for case-based classifiers: An empirical study in the context of medical decision support," *Neural Networks*, vol. 25, pp. 141–145, Jan. 2012, doi: 10.1016/j.neunet.2011.07.002.
- [7] A. Urbina-Garcia, "What do we know about University Academics' mental health? a systematic literature review," *Stress and Health*, vol. 36, no. 5, pp. 563-585, May 2020, doi: 10.1002/smi.2956.
- [8] L. Niu, J. Lu, and G. Zhang, "Decision making and decision support systems," Studies in Computational Intelligence, vol. 238, pp. 3–18, 2009, doi: 10.1007/978-3-642-03208-0\_1.
- [9] R. Talwar and A. Koury, "Artificial intelligence—the next frontier in IT security?," Network Security, vol. 2017, no. 4, pp. 14–17, Apr. 2017, doi: 10.1016/S1353-4858(17)30039-9.
- [10] P. Gray, "Group decision support systems," Decision Support Systems, vol. 3, no. 3, pp. 233–242, Sep. 1987, doi: 10.1016/0167-9236(87)90178-3.
- [11] A. Soofastaei, "Introductory chapter: advanced analytics and artificial intelligence applications," *Advanced Analytics and Artificial Intelligence Applications*, IntechOpen, Nov. 2019.
- [12] S. J. Miah, "Tailorable technologies for improving business intelligence systems," Research Anthology on Decision Support Systems and Decision Management in Healthcare, Business, and Engineering, pp. 814–829, 2021, doi: 10.4018/978-1-7998-9023-2 ch039
- [13] N. J. Nilsson, "Artificial intelligence: a modern approach," Artificial Intelligence-Amsterdam-Elsevier, vol. 82, no. 1–2, pp. 369–380, Apr. 1996.
- [14] R. Al-Amri, R. K. Murugesan, E. M. Alshari, and H. S. Alhadawi, "Toward a full exploitation of iot in smart cities: a review of IoT anomaly detection techniques," *International Conference on Emerging Technologies and Intelligent Systems*, vol. 322, pp. 193–214, 2022, doi: 10.1007/978-3-030-85990-9 17.
- [15] H. R. Abdulshaheed, S. A. Binti, and I. I. Sadiq, "Proposed a Smart Solutions Based-on Cloud Computing and Wireless Sensing," Int. J. Pure Appl. Math., vol. 119, no. 18, pp. 427–449, 2018.
- [16] V. P. Bresfelean, N. Ghisoiu, R. Lacurezeanu, and D. Sitar-Taut, "Towards the development of decision support in academic environments," *Proceedings of the ITI 2009 31st International Conference on Information Technology Interfaces*, 2009, pp. 343-348, doi: 10.1109/ITI.2009.5196106.
- [17] R. H. Bonczek, C. W. Holsapple, and A. B. Whinston, "Foundations of decision support systems. Academic Pres Foundations of Decision Support Systems. 1981.
- [18] F. Schwade, "Social collaboration analytics framework: a framework for providing business intelligence on collaboration in the digital workplace," *Decision Support Systems*, vol. 148, p. 113587, Sep. 2021, doi: 10.1016/j.dss.2021.113587.
- [19] M. Mansoor, B. Al-Khafaji and M. Dhahir, "Development of a System for Salary Calculation for State Establishments in Republic Of Iraq", IOSR Journal of Computer Engineering (IOSR-JCE), 2017
- [20] B. Zohuri and F. M. Rahmani, "Artificial intelligence driven resiliency with machine learning and deep learning components," Japan Journal of Research, vol. 1, no. 1, pp. 1-8, Apr. 2020, doi: 10.17265/1548-7709/2019.01.001.
- [21] S. R. A. Ahmed, I. Al Barazanchi, Z. A. Jaaz, and H. R. Abdulshaheed, "Clustering algorithms subjected to K-mean and Gaussian mixture model on multidimensional data set," *Periodicals of Engineering and Natural Sciences (PEN)*, vol. 7, no. 2, pp. 448–457, 2019, doi: 10.21533/pen.v7i2.484.
- [22] Z. A. Jaaz, I. Y. Khudhair, H. S. Mehdy, and I. Al Barazanchi, "Imparting full-duplex wireless cellular communication in 5G network using apache spark engine," 2021 8th International Conference on Electrical Engineering, Computer Science and Informatics (EECSI), 2021, pp. 123-129, doi: 10.23919/EECSI53397.2021.9624283.
- [23] M. Mohebbanaaz, Y. P. Sai, and L. V. R. Kumari, "Detection of cardiac arrhythmia using deep CNN and optimized SVM," *Indonesian Journal of Electrical Engineering and Computer Science*, vol. 24, no. 1, pp. 217–225, Oct. 2021, doi: 10.11591/ijeecs.v24.i1.pp217-225.
- [24] M. A. M. AL-hakeem, H. A. A. Alshadoodee, and A. F. Alzubaidi, "The use of 3D effects in Arab cinema," *Journal of Positive Psychology and Wellbeing*, vol. 6, no. 1, pp. 409-413, 2022.
- [25] M. Q. Dhahir, M. A. M. AL-hakeem, and H. A. A. Alshadoodee, "Automatic camera control and artificial intelligence in the future of cinematography," *International Journal*, vol. 7, no. 1, 2022.
- [26] S. S. M. Ali, A. H. Alsaeedi, D. Al-Shammary, H. H. Alsaeedi, and H. W. Abid, "Efficient intelligent system for diagnosis pneumonia (SARSCOVID19) in X-ray images empowered with initial clustering," *Indonesian Journal of Electrical Engineering and Computer Science*, vol. 22, no. 1, pp. 241–251, Apr. 2021, doi: 10.11591/ijeecs.v22.i1.pp241-251.
- [27] K. Z. Zamli, A. Kader, F. Din, and H. S. Alhadawi, "Selective chaotic maps Tiki-Taka algorithm for the S-box generation and optimization," *Neural Computing and Applications*, vol. 33, no. 23, pp. 16641–16658, Dec. 2021, doi: 10.1007/s00521-021-06260-8..
- [28] M. Q. Dhahir, H. H. M. Alkaraawi, and M. Mansoor, "The choice of methods and tools to implement the database and the web interface," *Journal of Engineering and Applied Sciences*, vol. 13, no. 18, pp. 7618-7623, Jan. 2018, doi: 10.3923/jeasci.2018.7618.7623
- [29] A. A. Abdulhussein, H. K. Kuba, and A. N. A. Alanssari, "Computer vision to improve security surveillance through the identification of digital patterns," 2020 International Conference on Industrial Engineering, Applications and Manufacturing (ICIEAM), 2020, pp. 1-5, doi: 10.1109/ICIEAM48468.2020.9112022.
- [30] H. A. A. Alshadoodee, M. Q. Dhahir, and Z. H. Rasool, "Digital camera in movement tracking on FPGA board DE2," 2019 International Russian Automation Conference (RusAutoCon), 2019, pp. 1-8, doi: 10.1109/RUSAUTOCON.2019.8867726.

#### **BIOGRAPHIES OF AUTHORS**



Hasanain Abdalridha Abed Alshadoodee Description Islamic University, Najaf, Iraq. He also holds a master's degree in computer sciences from the University, Najaf, Iraq. He also holds a master's degree in computer sciences from the University of Debrecen in Hungary, the European Union, and a doctorate in artificial intelligence, Department of Computer Science, from Tabriz University, in East Azerbaijan, Iran, from 2017, working as a lecturer in the Korean multimedia laboratory and engineering computing, software design and electronic tests, University of Kufa, since 2016. He has authored or co-authored more than 18 scientific journals and conference papers. Also, a book authored within the European Union. His research interests include information systems, web technologies, medical informatics, data mining, and analytics. big data, artificial intelligence applications, internet of things, and embedded systems. He can be contacted at email: hasanain.allawi@uokufa.edu.iq.



Muneer Sameer Gheni Mansoor Teceived the B.Sc. degree in Mathematics from University of Baghdad, Iraq, and the M.S degree in Fundamental informatics and information technology, Department of System Programming, from South Ural State University (national research university), Russian Federation, in 2015. Currently, he is a lecturer at the Department of Mobile Communications and Computing Engineering, College of Engineering, University of Information Technology and Communications, since 2016. He has authored or coauthored more than 6 refereed journal and conference papers. His research interests include information systems, web technologies, medical informatics, data mining, big data analytics, and applications of artificial intelligence, IoT, and embedded systems. He can be contacted at email: muneer.m@uoitc.edu.iq.



Hasanien Kariem Kuba received the B.Sc. degree in computer science from Al\_Mansour University College, Baghdad, Iraq and the M.S degree in Fundamental informatics and information technology, Department of System Programming, from South Ural State University (national research university), Russian Federation, in 2014. He has been a programmer at the Iraqi Commission for Computers and Informatics since 2002. Currently, he is a lecturer at the University of Information Technology and Communications, Biomedical Informatics College. He has authored or coauthored more than 3 refereed journal and conference papers. His research interests include information systems, numerical analysis and numerical methods, medical informatics, digital image processing, and artificial intelligence applications. He can be contacted at email: hasanien.k.a@uoitc.edu.iq.



Hassan Muwafaq Gheni Particulary 2018, he entered the master's program at the Faculty of Electrical and Electronic Engineering Engineer, Universiti Tun Hussein Malaysia. He is a lecturer at Al-Mustaqbal university college/Department of Computer Techniques Engineering. His research interest is optical communication, IoT, wireless sensor network, communications, V2V system, and artificial intelligent. He can be contacted at email: hasan.muwafaq@mustaqbal-college.edu.iq and hassanmuwafaqghenih@gmail.com.