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The Quality of Administrative Decisions and their Relationship to Cloud Computing among Administrative Leaders in Schools in the Kingdom of Saudi Arabia

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Abstract

The research set out to establish the norms by which administrative officials make decisions. With a high acceptance score of 69.56 percent, it also demonstrated a strong positive statistically significant link between cloud computing and the quality of administrative decisions made in Saudi Arabian schools. The research suggests that schools in Saudi Arabia should prioritize the adoption of cloud computing and its associated software and applications, as well as strive to regularly upgrade their technological services and applications. Creating training courses to increase staff members' decision-making skills and work toward a regular examination of the administrative decisions made. felt about cloud computing in relation to the grade of their decision-making. The sample for this study included 221 educators from different administrative levels throughout Saudi Arabian institutions. The study's sample size of (141) employees was determined using a stratified random sampling approach. The questionnaire was the main tool for gathering information in this research, which used a descriptive analytical technique. The study found that the majority of respondents (71.13%) found cloud computing to be acceptable. Furthermore, it provided convincing evidence in favor of the administrative discretion standard. With a high acceptance score of 69.56 percent, it also demonstrated a strong positive statistically significant link between cloud computing and the quality of administrative decisions made in Saudi Arabian schools.

Keywords: *cloud computing, administrative decisions, digital cloud, Kingdom of Saudi Arabia.*

Introduction

Presently, the educational landscape of Saudi Arabia encompasses a myriad of comprehensive strategies, boasting an impressive array of approximately 30,000 schools, alongside a multitude of esteemed colleges and other esteemed academic establishments. The educational system in the Kingdom of Saudi Arabia is designed to be inclusive and accessible to all citizens, ensuring equal opportunities for students. It offers a range of benefits, including free education, access to books, and comprehensive health services. These provisions are aimed at fostering a well-rounded and empowered society, where individuals can thrive and contribute to the nation's progress. The commitment of the Saudi Arabian government to prioritize education and healthcare reflects its dedication to

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the welfare and development of its citizens. In the contemporary era, the global community is swiftly adapting to keep pace with the incessant advancements in the realms of communication, technology, and computing. These advancements have undeniably exerted a profound influence on all facets of life, particularly in light of the substantial global impacts of the ongoing COVID-19 pandemic. Consequently, the utilization of technology has become an imperative for various institutions and companies, enabling them to continue delivering their services. Among the technological tools employed for this purpose is the electronic cloud, which facilitates the management of administrative functions with a notable degree of efficiency and efficacy. This is achieved through its capacity to store vast volumes of data, retrieve it effortlessly, and analyze it as required. Furthermore, the cloud enables convenient and expeditious access to information from any location, without the need for a physical connection. The act of being actively engaged within an organization confers upon users and customers the invaluable ability to effortlessly access their data and avail themselves of a plethora of applications and technological tools. This is achieved without the onerous requirement of possessing computers boasting formidable specifications and exorbitant costs. Consequently, these organizations are bestowed with a distinct competitive edge and formidable prowess in the seamless execution and accomplishment of tasks (Abuaddous, 2022).

According to Abu Naji et al. (2019: 680), the utilization of the electronic cloud in administrative tasks signifies the prevailing mode of communication in the contemporary epoch, known as the digital age. They argue that the Internet has evolved into an expansive repository of information, capable of accommodating vast quantities of data for individuals, institutions, and various entities, without being constrained by limitations of time and space.

The decision-making process holds a prominent and influential role within administrative procedures and functions across various organizations. The fulfillment of administrative tasks hinges upon the indispensable element of sound decision-making, as the caliber of these decisions profoundly impacts both the organization as a whole and the individuals comprising it. Furthermore, it is crucial to acknowledge that the external environment exerts its own influence on the quality of these decisions. It can be argued that each and every action or procedure is preceded by a deliberative administrative determination. Consequently, the significance of decision-making and its impact on employees, encompassing their satisfaction, performance, and other related aspects, becomes readily apparent. Furthermore, the study conducted by Al-Maghari (2021) sheds light on the pivotal role played by citizens in the successful implementation of this decision.

Problem Statement

In the current era of technological advancements, commonly referred to as the technical age, it has become imperative for institutions and organizations to incorporate information and communications technology (ICT) into their operational framework. Among the plethora of ICT tools available, cloud computing stands out as a prominent solution. The electronic cloud, as defined by Hassouna (2015), encompasses a collection of cutting-edge technologies offered by computer companies via the Internet. These technologies encompass a wide range of functionalities, including data storage, data retrieval, computing operations, file sharing, and information browsing. The electronic cloud's remarkable capacity to store and retrieve data, coupled with its seamless accessibility, aligns seamlessly with Hassouna's conceptualization. It is worth noting that the electronic cloud grants users unrestricted access to its various features, thereby fostering a sense of freedom and convenience. The utilization of computer systems for data storage and processing, with the added dimension of cloud computing, has become increasingly prevalent in contemporary society. The global landscape, encompassing various sectors such as government institutions and the health sector, has experienced a notable surge in work demands. Specifically, within the public sector ministries, which

play a pivotal role in delivering a wide array of services to a substantial portion of the population, the Kingdom of Saudi Arabia recognizes the significance of service provision. Consequently, the importance of rendering services lies in the ability to make accurate and high-quality decisions. Administrative leaders, burdened with the responsibility of decision-making, cannot afford to falter in their pursuit of excellence. Thus, the level of decision-making quality among administrative leaders in the Kingdom is of paramount importance. The Kingdom of Saudi Arabia has achieved a commendable level of progress, with a notable attainment of 59.64%. This figure represents an average value, indicative of the nation's overall performance. The findings from the research conducted by Abdel-Al (2020) revealed that the quality of administrative decisions was found to be at an average level, accounting for a relative weight of 61.20%. Conversely, the scholarly investigation conducted by Al-Najjar (2018) has substantiated the presence of a strong inclination among administrative leaders to embrace cloud computing, with an impressive adoption rate of 78.1%. Furthermore, the comprehensive research conducted by Al-Arini (2021) has revealed a significant surge in the utilization of cloud-based technology within the realm of education, particularly among administrative leaders. Consequently, this study aims to address the following inquiry:

What is the correlation between cloud computing and the efficacy of administrative decision-making among leaders in the Kingdom of Saudi Arabia?

Research questions:

1. What is the reality of using cloud computing in the Kingdom of Saudi Arabia School?
2. What is the level of quality of administrative decisions made by administrative leaders in the Kingdom of Saudi Arabia School?
3. Is there a statistically significant relationship between cloud computing and the quality of administrative decisions among administrative leaders in the Kingdom of Saudi Arabia?

Study hypotheses:

The first hypothesis: There is no statistically significant relationship at the level ($05.0 \leq \alpha$) between cloud computing (the role of senior management, organizational capacity, change management, technological environment, and data privacy) and the quality of administrative decisions among administrative leaders in the Kingdom of Saudi Arabia.

The following sub-hypotheses emerge from it:

1. There is no statistically significant relationship at the level ($\alpha \geq 0.05$) between the role of senior management and the quality of administrative decisions among administrative leaders in the Kingdom Saudi Arabia school.
2. There is no statistically significant relationship at the level ($\alpha \geq 0.05$) between organizational capacity and the quality of administrative decisions among administrative leaders in the Kingdom Saudi Arabia school
3. There is no statistically significant relationship at the level ($\alpha \geq 05.0$) between change management and the quality of administrative decisions among administrative leaders in the Kingdom Saudi Arabia school
4. There is no statistically significant relationship at the level ($0.05 \geq \alpha$) between the technological environment and the quality of administrative decisions among administrative leaders in the Kingdom of Saudi Arabia school.
5. There is no statistically significant relationship at the level ($0.05 \geq \alpha$) between data privacy and the quality of administrative decisions among administrative leaders in the Kingdom of Saudi Arabia

Objectives of the study:

1. Identifying the reality of cloud computing in the Kingdom of Saudi Arabia School.
2. Identify the level of quality of administrative decisions of the Kingdom of Saudi Arabia Schools.
3. Identifying the relationship of cloud computing and its dimensions (the role of senior management, organizational capacity, change management, technological
4. Environment, data privacy) in the quality of administrative decisions among administrative leaders in the Kingdom of Saudi Arabia schools.
5. Providing recommendations to the Kingdom of Saudi Arabia School about taking advantage of the advantages of cloud computing.

Literature review

Cloud computing

The concept of cloud computing

Due to advancements in communication and information technology, the modern period is marked by unprecedented velocity and the massive amounts of data utilized by organizations. Abounaji et al. (2019) confirm that the global trend for many institutions is to use the Internet as a large digital repository to store and analyze data for customers and companies, and to use many applications that allow the user to access data quickly, accurately, and from anywhere. This is why cloud computing has become such an integral part of the modern workplace. The cloud is defined by the United States' National Institute of Standards and Technology (NIST). The evolution of computer systems is inevitable, and the transition to electronic technology is the next phase. It lets the user to access a collection of computer resources (applications, networks, storage spaces...) over the Internet, which leads to satisfying consumer demands effectively and utilizing less physical resources. Cloud computing is defined by (Al-Salami, 2016) as a technique that enables computer programmers to host their work on remote servers rather than on their own or the company's machines. It is a technique designed to replace the processing step, as defined by Rizk (2013). Transferring information and files from local devices to the cloud (an Internet-accessible computer) makes them available as a service that can be accessed from anywhere and at any time. Cloud computing is described by Haimes (2018) as "a service and special features that help save costs and make information available to the widest possible audience over the Internet."

Characteristics of cloud computing

According to Houssem, 2015, the characteristics of cloud computing are as follows:

1. Availability of resources: The user can use the resources he needs automatically and become their owner, such as storing data on the server and retrieving it when needed.

2. Resource Center: A large number of computer and technology resources are collected in the server responsible for cloud computing, saving the user the high financial cost necessary to own such resources, and the server’s focus becomes on meeting the user’s desire.

3. Standard services: so that the use of services available on the network can be monitored and controlled so that an appropriate size is allocated to each user, such as usage time and storage size.

4. Effective computing power: which results from the connection and interconnection of a group of thousands or hundreds of computers.

Dimensions of cloud computing

In order to ensure the triumphant integration of cloud computing within business organizations, it becomes imperative to discern the pivotal factors that exert influence on the adoption process of this technology. Consequently, researchers have directed the attention towards the exploration of the ensuing dimensions:

1. The role of senior management: The significance of senior management within organizations is widely acknowledged due to its pivotal role in various critical functions, most notably the establishment of organizational objectives and the formulation of policies and strategies. According to the scholarly work of Low et al. (2011), the utilization of various modes of communication and information technology in an extensive and intricate manner gives rise to an increasingly significant role. In order to garner the endorsement of senior management, it is imperative to cultivate a novel vision that is adept at fostering a harmonious work milieu that aligns seamlessly with the ever-evolving landscape of technology and innovation.

2. Organizational capacity: The effective management of diverse resources within an organization, encompassing human, financial, technical, administrative, and knowledge resources, holds the potential to enhance work performance and foster business distinctiveness. Consequently, this strategic approach enables the organization to attain a competitive edge in the market (Thabet, 2020).

3. Change management: The integration of technical tools, such as cloud computing, in businesses and services necessitates a transformative shift in operational practices. This transition mandates a comprehensive training and educational program to familiarize stakeholders with sophisticated technical methodologies and tools. It is imperative that these technologies align harmoniously with the unique nature of the organization's operations. Undoubtedly, this paradigm shift is indispensable in modern business environments. In order to effectively conduct business operations, it is imperative for organizations to employ these technologies (Goh, 2003).

4. Technological environment: In the contemporary era, the implementation of cloud computing technologies has transformed the notion of organizational digital infrastructure. It has transitioned from complex data centers and servers to a streamlined communication network that facilitates connectivity to the Internet for accessing services, storing information, and conducting business operations. The storage capacity was found to be limited, while the expenses associated with maintenance and procurement of technical equipment were seen to be substantial. These circumstances have undergone a transformation as a result of the benefits offered by the electronic cloud. The current need of the firm is to effectively use the offerings that are readily accessible on demand. According to the study conducted by Stanoevska et al. (2019),

5. Data privacy: The aforementioned is a comprehensive framework including policies, processes, methods, and technological safeguards aimed at mitigating unauthorized access to data. These rules and procedures serve to safeguard the integrity, dependability, and accessibility of an organization's information resources. According to Laudon and Laudon (2022),

Obstacles to cloud computing:

According to a study conducted by Alassafiet.al. (2016), several challenges exist, with the primary impediment being a deficient Internet connection. This issue assumes significant importance since effective use of cloud-based services necessitates a robust and high-speed Internet connection. Additionally, several cloud-based programs have restricted functionalities that differ from those of locally downloaded software. The challenges posed by personal computers, information security, and data privacy are widely recognized as significant barriers to maintaining confidence in the storage, control, and accessibility of data on the Internet. Additionally, the potential loss of data and the

availability of backup copies in the event of damage to cloud storage further compound these obstacles.

Study review

In a recent research conducted by Ababtain and Al-Dariwish (2021), the focus was on examining the current state of cloud computing use in the educational context, specifically among female students at Shaqra University. Another relevant study by Arini (2021) was also explored, which shed light on a related aspect of the topic. This research aimed to assess the level of use of cloud computing by academic staff in the context of university education. In a recent study conducted by Al-Hallaq (2021), the objective was to ascertain the impact of new digital computing programs on enhancing employee performance inside private universities in Palestine. In a research conducted by Al-Maghari (2021), the primary objective was to ascertain the criteria used in promotion systems and their influence on the caliber of administrative judgments inside the Palestinian police organization. The objective of this study was to assess the degree of quality shown by administrative choices within the police force. The Sarsak Study conducted in 2020 examined the influence of strategic intelligence on decision-making processes inside the Palestinian Ministry of Interior, specifically focusing on its ability to improve decision quality.

In a research conducted by Hataht (2020), the primary objective was to ascertain the influence of artificial intelligence on the efficacy of decision-making inside the Ministry of National Economy in the southern governorates. A representative sample consisting of 107 individuals was selected from the population of personnel holding high positions within the Ministry of Economy. One of the key findings of the research indicates that the use of artificial intelligence by the Ministry of the Economy is rather limited, with a value of 45.15%. In a research conducted by Al-Najjar in 2018, the primary objective was to assess the level of preparedness among charity organizations in the southern governorates for the implementation and use of cloud computing technology. In a study conducted by Al-Shahrani and Al-Rifai (2017), the objective was to assess the level of interest in utilizing electronic cloud technology within the Ministry of Education. Additionally, the study aimed to examine the perceived benefits of implementing the electronic cloud as reported by employees of the Ministry of Education. Similarly, Radwan's study (2016) centered on the investigation of cloud computing and its correlation with enhancing the job performance of managers employed in Palestinian universities. (159) Questionnaires were issued to workers holding job designations such as president, vice president, In a research conducted by Bahour (2016): The objective of this study is to assess the presence of factors that impact the acceptance and utilization of electronic cloud technology in the public sector. These factors will be examined through the lens of several dimensions, namely: the involvement of senior management, support from the organization, strategies for managing change, provision of a suitable technological infrastructure, and ensuring data confidentiality. The study was done by the researcher within a comprehensive research community consisting of 170 senior management personnel in the public sector. The findings indicate that the adoption and deployment of cloud computing are significantly influenced by competitive advantage. The research conducted by Bhumgara and Salman (2015) sought to demonstrate the potential use of electronic cloud technology in non-governmental organizations (NGOs) in India for the efficient management of health requirements. In their 2014 study, Caroline and Gwendolyn conducted research with the objective of identifying electronic cloud technologies used by non-governmental organizations (NGOs) and examining the reasons that may be pertinent to management, workforce, or enterprises.

Field study

Methodology

The research employed a descriptive analytical approach, which is valuable for gaining a comprehensive and precise understanding of the various aspects and dimensions of the phenomenon under investigation. This approach effectively describes the phenomenon, expresses it both qualitatively and quantitatively, and reports its actual state.

Study population:

The research sample comprises directors and department heads employed in schools throughout the Kingdom of Saudi Arabia. The total number of individuals in this group is 221, as reported by the Administrative Affairs department in the year 2022 AD. This is seen in Table 1, which presents the count of individuals comprising the research population as follows:

Table (1) Number of members of the total research community.

Director/Deputy Director	Heads of Departments	Total number
52	169	221

The study sample:

The study included a total of 141 participants who held positions as directors, deputy directors, or heads of departments within the ministry. These participants were recruited using a stratified random selection technique. A total of 160 questionnaires were issued to the participants, of which 145 were returned. After screening for suitability, 141 questionnaires were deemed appropriate for analysis, resulting in a response rate of 88%.

Study tool:

In order to accomplish the study objective of investigating the correlation between cloud computing and the efficacy of administrative decision-making among educational leaders in the Kingdom of Saudi Arabia. The construction and design of the research questionnaire were informed by relevant literature pertaining to the topic matter, as well as consultations with individuals possessing expertise in the academic and professional domain. These consultations were helpful in determining the dimensions and structure of the questionnaire and its constituent sections. The questionnaire included the primary domains, and a Likert scale with five points was used. The questionnaire's validity and reliability are important considerations in assessing its effectiveness as a research instrument.

Table (2): Correlation coefficient between the score of each dimension of the questionnaire and the total score of the questionnaire.

N	the field	Spearman's correlation coefficient	Probability values.
1	the role of senior management	**768.	000.
2	organizational capacity	**868.	000.
3	change management	**880.	000.
4	Technological environment	**933.	000.
5	data privacy	**875.	000.
6	The second axis is the quality of administrative decisions	**957.	000.

The reliability of the questionnaire was assessed by calculating Cronbach's alpha coefficient. The findings revealed a high coefficient value of 0.971 for all questions in the questionnaire, indicating strong reliability. Regarding the questionnaire questions, the coefficient value for the cloud computing axis varied from 0.797 to 0.881, while for all fields it was 0.965. Additionally, for the quality of administrative choices axis, the coefficient value was 0.937.

Description of the study sample:

Table (3): Description of the study sample

variable	Category	n	The ratio	variable	Category	n	The ratio
Gander	male	108	76.6	Years of service	Less than 5 year	7	5.0
	female	33	23.4		From 5 to less than 10 year	21	14.9
total		141	100%		From 10 to less than 15 years	55	39.0
age	From 30 to less than 40 years old	43	30.5		From 15 years and more	58	41.1
	From 40 to less than 50 years old	75	53.2		Total	141	100%
	50years and over	23	16.3	Management position	Director	33	23.4
total		141	100%		Deputy director	10	7.1
Qualification	diploma	6	4.3		Head of a department	98	69.5
	Bachelor's	107	75.9		total	141	100%
	Postgraduate	28	19.9				
total		141	100%				

Source: Prepared by researchers based on statistical analysis information from the SPSS program

Answering the study questions and testing the hypotheses:

Addressing the primary inquiry of this investigation, namely: What is the veritable state of affairs pertaining to the utilization of cloud computing? The primary objective of this study is to ascertain the extent of cloud computing adoption within educational institutions in the Kingdom of Saudi Arabia. In order to accomplish this, an investigation will be conducted to examine the utilization of cloud computing technology in schools within the aforementioned region. Table (4) presents the computed arithmetic mean, relative weight, and standard deviation for each distinct domain within the realm of cloud computing, as well as for the overarching variable as a whole.

Table (4): Arithmetic mean, relative weight, and standard deviation for each field of cloud computing

	Domains	SMA	standard deviation	the weight Relative	Ranking	Degree of approval
1	The first area: the role of senior management	3.594	0.726	%71.89	2	big
2	The second area: is organizational capacity	3.688	0.648	%73.76	1	big
3	The third area: is change management	3.521	0.671	%70.41	3	big
4	Fourth area: Technological environment	3.484	0.722	%69.67	5	big
5	Fifth area: data privacy The first axis: cloud computing	3.495	0.622	%69.90	4	big
	The first axis: cloud computing	3.556	0.587	%71.13		big

Source: Prepared by researchers based on statistical analysis information from the SPSS program

The empirical analysis revealed that the arithmetic mean of the variable pertaining to cloud computing was determined to be precisely 3.556. This value, accompanied by a relative weight of 71.13%, signifies the significance and influence of this variable within the broader context of the study. Significant emphasis was placed on all facets of cloud computing, as evidenced by their substantial relative weights. The field that attained the most prestigious position among the various domains under consideration was the second field, namely organizational capacity. This particular field exhibited an impressive arithmetic mean of 3.688, signifying a commendable level of performance. Moreover, it carried a substantial relative weight of 73.76%, further emphasizing its significance in the overall evaluation. Hence, the entity under consideration secured the topmost position in this particular dimension, while its lowest ranking was observed in the fourth domain, namely the technological environment. The corresponding arithmetic mean for this domain was calculated to be 3.484, accounting for a relative weight of 76.96%. Consequently, the entity's ranking in this dimension was ultimately positioned at the bottom.

Table (5): The arithmetic mean, relative weight, and standard deviation for each item on the role of senior management

N	Paragraph	SMA	standard deviation	the weight Relative	Ranking	Degree of approval
1	Senior management supports the operation of cloud computing applications	3.681	0.966	%73.62	1	BIG
2	Senior management works to adopt everything new in the field of information technology technologies, such as cloud computing.	3.660	0.860	%73.19	2	BIG
3	Top management provides the necessary infrastructure To use cloud computing applications .	3.624	0.841	%72.482	3	BIG
4	Top management works to eliminate risks and obstacles facing cloud computing implementation.	3.589	0.986	%71.77	4	BIG
5	Top management is interested in training employees in skills The crisis ing dealing with cloud computing applications	3.418	0.957	%68.37	5	BIG
	All paragraphs	3.594	0.726	%71.89		BIG

Source: The data included in this report has been derived using the SPSS software and has been subjected to rigorous statistical analysis by researchers. According to Table 5, the arithmetic mean of all paragraphs discussing the function of senior management is 3.594, with a relative weight of 71.89%. Specifically, Paragraph No. 1 asserts that senior management plays a supportive role in the operation of cloud computing services. The calculated arithmetic mean of the text was 3.681.

Table No. (6): Arithmetic mean, relative weight, and standard deviation for each item of organizational capacity

N	Paragraph	SMA	standard deviation	the weight Relative	RANKING	Degree of approval
1	Cloud computing is compatible with the Kingdom of Saudi Arabia school administrative tasks	3.943	0.860	%78.87	1	M

2	Consider the laws and regulations that currently exist the Kingdom of Saudi Arabia school sufficient to protect the use of cloud computing	3.362	0.730	%67.23	5	M
3	Allows the use of cloud computing in the Kingdom of Saudi Arabia school To complete organizational tasks more quickly .	3.830	0.902	%76.596	2	BIG
4	Systems, services, and applications are updated Technology in the Kingdom of Saudi Arabia schools continuously and periodically to keep pace with technological development .	3.624	1.073	%72.48	4	BIG
5	The Kingdom of Saudi Arabia school has written laws and procedures that lead to improved work.	3.681	0.951	%73.62	3	BIG
TOTAL		3.688	0.648	%73.76		BIG

Source: The present report has been compiled by researchers using statistical analysis data obtained from the SPSS software.

According to Table 6, the arithmetic mean for all factors pertaining to organizational capacity is 3.688, with a relative weight of 73.76%. Paragraph 1, listed as the foremost statement, asserts that cloud computing is compatible with the administrative activities of schools in the Kingdom of Saudi Arabia. The paragraph's arithmetic mean was calculated to be 3.943, with a relative weight of 78.87%. In contrast, Paragraph No. (2) had the lowest ranking, since it asserts that the existing rules and regulations in Saudi Arabian schools adequately safeguard the use of cloud computing. The calculated value for the arithmetic mean of the paragraph was determined to be 3.362.

Table No. (7): Arithmetic mean, relative weight, and standard deviation for each change management paragraph

1	The organizational structure is developed to suit the cloud computing application	3.355	1.008	%67.09	5	M
2	The vision, mission, and objectives of the Kingdom Saudi Arabia school are updated in line with the application of cloud computing	3.404	0.949	%68.09	4	BIG

3	Cloud computing application fits into nature The work of the Kingdom Saudi Arabia school, especially in crises such as . Covid-19 crisis	3.766	0.842	%75.319	1	BIG
4	Senior management works to spread a culture of use Cloud computing applications for employees .	3.496	0.833	%69.93	3	BIG
5	Employees at the Kingdom Saudi Arabia school accept the measures taken to move towards adopting cloud computing applications	3.582	0.957	%71.63	2	BIG
	TOTAL	3.521	0.671	%70.41		BIG

Source: The data used in this study was obtained by statistical analysis using the SPSS software, and then compiled by the researchers.

According to Table 7, the arithmetic mean of all paragraphs pertaining to change management is calculated to be 3.521, with a corresponding relative weight of 70.41%. Paragraph 3, which is positioned as the opening paragraph, addresses the compatibility of cloud computing with...? The present inquiry pertains to the inherent characteristics of the educational endeavors undertaken by the Kingdom of Saudi Arabia, with a particular focus on their response during times of crisis, notably the ongoing Covid-19 pandemic. The paragraph's arithmetic mean was calculated to be 3.766, with a relative weight of 75.319%. It is worth noting that paragraph No. 1 was rated last, since it simply mentions that the organizational structure is currently being built. In order to ensure compatibility with cloud computing, it is necessary to consider the arithmetic mean of the item, which has been determined to be 3.355, with a relative weight of 67.09%.

Table No. (8): The arithmetic mean, relative weight, and standard deviation for each paragraph of the quality of administrative decisions axis

n		SMA	standard deviation	the weight Relative		indication
1	Verify administrative decisions taken	3.709	0.899	%74.18	1	BIG
2	The administrative decisions taken are characterized by integration and interdependence.	3.397	0.885	%67.94	10	M
3	Administrative decisions are made objectively and away from personal considerations.	3.411	0.919	%68.227	9	BIG
4	The administrative decisions taken are characterized by appropriate flexibility with different changes	3.355	0.927	%67.09	15	M
5	Managerial decisions made include all aspects of the business	3.383	0.998	%67.66	11	M

6	Management decisions are taken promptly without the slightest delay.	3.383	0.876	%67.66	11	M
7	The relevant employees participate in making administrative decisions.	3.433	0.905	%68.65	8	BIG
8	Those with expertise and experience are consulted when making decisions Important strategic decisions	3.603	0.940	%72.06	2	BIG
9	The problem that needs to be resolved is identified to reach the correct decision.	3.532	0.907	%70.64	5	BIG
10	All available alternatives are studied before making decisions.	3.589	0.903	%71.77	4	BIG
11	indication works to collect information accurately to ensure that the decision is made correctly	3.596	0.878	%71.91	3	BIG
12	Indication uses modern technical means and methods in the decision-making process.	3.532	0.922	%70.64	5	BIG
13	Employees are trained in the process of making and taking administrative decisions.	3.369	0.974	%67.38	14	M
14	Administrative decisions made are evaluated periodically.	3.376	0.914	%67.52	13	M
15	Learning from past mistakes is done when making management decisions	3.475	0.990	%69.50	7	BIG
	All paragraphs	3.478	0.683	%69.56		BIG

Source: Prepared by researchers based on statistical analysis information from the SPSS program

Table 8 presents the findings pertaining to the average score of paragraphs associated with the quality of administrative judgments, which is calculated to be 3.478. Additionally, the relative weight assigned to these paragraphs is determined to be 69.56%. Paragraph 1: The top ranking says that administrative choices are successfully accomplished. The objectives pursued by the educational institutions in the Kingdom of Saudi Arabia, namely in the field of schooling, resulted in an arithmetic mean of 3.709 for the item under consideration. This value corresponds to a relative weight of 74.18%. The observed outcome is ascribed by the researchers to the notable alignment between the objectives established by the school administration of the Kingdom of Saudi Arabia and the subsequent choices made. This finding suggests the proficiency of the top management team in their decision-making capabilities. The decision to be made in the Kingdom of Saudi Arabia school is based on a thorough assessment of various crises and evolving circumstances. This process involves seeking advice from experienced

individuals with expertise in the field and gathering accurate information to determine the most suitable alternative. This approach aligns with the findings of Abdel-Al's study (2020), which indicates that decision quality in the Kingdom of Saudi Arabia school carries a relative weight of 61%. Notably, Paragraph No. 4, which emphasizes the school's administrative decisions being adaptable to changes, ranks last in terms of importance. The paragraph's arithmetic mean was calculated to be 3.355.

Table (9): Correlation coefficient between cloud computing and the quality of administrative decisions

Main hypothesis	Pearson correlation coefficient	.Sig	indication
The relationship between cloud computing and the quality of administrative decisions.	747.0*	0.000	Statistically significant

Source: Prepared by researchers based on statistical analysis information from the SPSS program

The findings presented in Table 9 indicate a correlation coefficient of 0.747, with a corresponding probability value (Sig.) of 0.000. This probability value is below the predetermined significance level of 0.05, suggesting a statistically significant strong positive relationship between cloud computing and the quality of [the variable under study]. The administrative choices made by the leaders in the Saudi Arabia education system have considerable importance. This is seen in the growing interest in cloud computing, as it contributes to enhancing the overall quality of these administrative decisions. The researchers ascribe this outcome to the notion that it instills a sense of significance among workers about the utilization of cloud computing apps and programs in order to augment the caliber of administrative decision-making.

The following sub-hypotheses emerge from this main hypothesis:

The first sub-hypothesis: There is no statistically significant relationship at the level ($\alpha \geq 0.05$) between the role of senior management and the quality of administrative decisions among administrative leaders in the Kingdom Saudi Arabia school.

To prove this hypothesis, the Pearson test was used to find the relationship between the independent variable (the indication role of senior management) and the dependent variable (the quality of administrative decisions).

Table (10): Correlation coefficient between the role of senior management and the quality of administrative decisions

Main hypothesis	Pearson correlation coefficient	Sig	indication
The relationship between the role of senior management and the quality of administrative decisions.	516.0*	0.000	Statistically significant

Source: Prepared by researchers based on statistical analysis information from the SPSS program

The findings shown in Table 10 indicate that the correlation coefficient is 0.615, with a corresponding probability value (Sig.) of 0.000. This probability value is lower than the predetermined significance threshold of 0.05. This finding suggests the presence of a clear and statistically significant correlation between the involvement of top management and the level of quality. The administrative choices made by the leaders in the organization have a degree of importance when $\alpha \geq 50.0$.

The second sub-hypothesis: There is no statistically significant relationship at the level ($\alpha \geq 0.05$) between organizational capacity and the quality of administrative decisions among administrative leaders in school.

In order to substantiate this hypothesis, the Pearson test was used to ascertain the correlation between the independent variable, namely organizational capability, and the dependent variable, namely the quality of administrative judgments.

Table (11): Correlation coefficient between organizational capacity and the quality of administrative decisions

Main hypothesis	Pearson correlation coefficient	.Sig	indication
The relationship between organizational capacity and the quality of administrative decisions.	* 0.622	0.000	Statistically significant

Source: Prepared by researchers based on statistical analysis information from the SPSS program

The findings shown in Table 11 indicate that the correlation coefficient is 0.622, with a corresponding probability value (Sig.) of 0.000. This probability value is lower than the predetermined significance threshold ($\alpha \leq 50.0$). The aforementioned findings suggest the presence of a clear and statistically significant correlation between the capacity to organize and the caliber of administrative decision-making among administrative leaders in the Kingdom of Saudi Arabia, with a significance level of $\alpha \leq 0.50$.

Table (12): Correlation coefficient between change management and the quality of administrative decisions

Main hypothesis	Pearson correlation coefficient	.Sig	indication
The relationship between change management and the quality of administrative decisions.	207.0*	0.000	Statistically significant

Source: Prepared by researchers based on statistical analysis information from the SPSS program

The findings from Table 12 indicate that the correlation coefficient is 0.702, with a corresponding probability value (Sig.) of 0.000. This probability value is lower than the predetermined significance threshold (α≤0.05). This finding suggests the presence of a robust and statistically significant correlation between management and the variable under consideration. The relationship between change management and the quality of administrative choices among school leaders has statistical significance at a significance level of α≤0.05. This implies that a higher degree of interest in effectively managing change within schools is associated with an increased level of quality in administrative decision-making. The observed phenomenon can be attributed to the effective change management practices implemented by the senior management of the school. These practices encompass the development of work systems and organizational structures that possess a high capacity to adapt to continuous technological advancements and changes. Furthermore, the flexibility of these systems and structures in embracing modern technologies, such as cloud computing, has contributed to the enhancement of the quality of administrative decision-making. This finding aligns with the research conducted by Al-Najjar (2018), which demonstrated that the organizational structure of the company is well-suited for cloud computing and technological advancements, resulting in a high level of acceptance (83.9%).

Significance Probability Value Sig. Pearson correlation coefficient main hypothesis

Statistically significant 0.000 * 826.0 the relationship between the technological environment and the quality of administrative decisions.

Source: Prepared by researchers based on statistical analysis information from the SPSS program

The findings shown in Table 12 indicate that the correlation coefficient is 0.628, with a corresponding probability value (Sig.) of 0.000. This probability value is lower than the predetermined significance threshold (α≤50.0). This finding suggests that there is a statistically significant correlation between the technical environment and the quality of administrative choices made by administrative leaders, at a significance threshold of α ≥ 0.50.

Table (13): Correlation coefficient between data privacy and the quality of administrative decisions

Main hypothesis	Pearson correlation coefficient	.Sig	indication
The relationship between data privacy and the quality of administrative decisions.	176.0*	0.000	Statistically significant

Source: Prepared by researchers based on statistical analysis information from the SPSS program

The findings presented in Table 13 reveal a correlation coefficient of 0.671, with a corresponding probability value (Sig.) of 0.000. This probability value is lower than the predetermined significance threshold (α≤50.0), suggesting a statistically significant positive link between data privacy. The significance level (α) of administrative decisions made by administrative officials in the Kingdom of Saudi Arabia is equal to or more than 50.0.

Results

1. The study revealed a significant level of acceptance towards the use of cloud computing among personnel in the Kingdom of Saudi Arabia's educational institutions. The mean approval rating was determined to be 71.13%.
2. The availability of electronic cloud differed across several regions, with the organizational capacity dimension being placed highest. It was followed by the role of senior management, change management, data protection, and lastly the technology environment.
3. A significant level of consensus was observed on the quality of administrative judgments, with the relative arithmetic mean of staff in Saudi Arabian schools being 56.69%.
4. The research revealed a significant positive link between cloud computing and its many characteristics, and the quality of administrative judgments. This implies that as the use of cloud computing increases, there is a discernible improvement in the quality of administrative judgments.

Recommendations:

1. Senior management inside the Kingdom. It is essential for educational institutions in Saudi Arabia to prioritize the integration of cloud computing technology and its diverse applications and software. This would effectively streamline the dissemination of information and enable workers to access all services offered by the ministry, especially during emergency situations.
2. The imperative of always enhancing technological services and applications, as well as the need to stay abreast of technical advancements in the realm of cloud computing.
3. The need to establish training initiatives focused on enhancing the competencies of individuals in the realm of formulating and executing administrative judgments, with the commitment to regularly assess the efficacy of these choices.
4. The activation of the concept of participatory management, including the involvement of individuals engaged in decision-making processes, as well as seeking input from individuals with knowledge and experience, is vital for making significant strategic choices within the educational system of the Kingdom of Saudi Arabia.
5. The educational institutions in the Kingdom of Saudi Arabia should prioritize enhancing their technological infrastructure to effectively support the workload and requirements of cloud computing applications.

Conclusion

Based on a comprehensive analysis of the data collected from esteemed administrative leaders, namely managers and department heads, the researcher has arrived at a compelling conclusion. It has been determined that performance levels have exhibited a notable upsurge owing to the management's unwavering commitment to acquaint themselves with the workforce, delegate responsibilities, bestow administrative authority, and foster a collaborative work environment. The convergence of these various factors culminated in a notable enhancement in the overall performance. The convergence between the demands of cloud computing and the inherent characteristics of educational tasks is evident. The dynamic nature of educational systems necessitates the continuous evolution of the tools and methods employed to fulfill these tasks. This is further reinforced by the implementation of novel regulations and well-defined protocols, which ensure that all staff members are equipped to persevere in their duties, even during periods of crisis. The observed phenomenon can be attributed to the proactive approach taken by the school's senior management in effectively navigating change. This is

achieved through various means, such as the establishment of efficient work systems and the development of an organizational structure that possesses a remarkable capacity to assimilate the demands of ongoing technological advancements and transformations. Notably, this structure exhibits a commendable level of adaptability when it comes to embracing contemporary technologies, particularly in the realm of computing. The advent of cloud computing has significantly enhanced the efficacy of administrative decision-making processes, thereby elevating the overall quality of such decisions.

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References

Ababtain, Lama, and Al-Dariwish, Ahmed (2021). The reality of using cloud computing in education among female students at Shaqra University, Journal of Educational and Specific Research, Issue (4): 215-243.

Abdel Mohsen, Amer and Tawfiq, Ahmed. (2019). Contemporary challenges of cloud computing data governance in information centers: an analytical study, Journal of Economic and Administrative Sciences, 25(115).

Abdel-Al, Muhammad. (2020). Strategic leadership and its role in enhancing the quality of administrative decisions in the Palestinian Ministry of Labor in the southern governorates, unpublished master's thesis, College of Management and Finance, Jordan.

Abdel-Mohsen, A. &Tawfik, A. (2019). Contemporary challenges for cloud computing data governance in information centers: an analytical study (in Arabic). Journal of Economic a Administrative Sciences, Vol.25. No.115, University of Baghdad College

Abdullah, Rabeh. (2012). Administrative Decision. Amman, Jordan: Dar Al-Manhal Publishers.

Abu Naji, M. & Abed Alkarim, S. & Sayed, T. &Almaliji, H. (2019). Training Program Based on Cloud Computing Applications and Its Effectiveness in Developing Electronic Content Management Skills (in Arabic). Journal of the Faculty of Education

Abu Naji, Mahmoud; Sayed, Tohamy; Al-Meligy, Hosnia; Abdul Karim, Saad. (2019 AD). A training program based on cloud computing applications and its effectiveness in developing electronic content management skills, Journal of the Faculty of Education, Assiut University, 135 (11), 677-700.

Al-Arini, Hanan. (2021). The level of activation of faculty members at Imam Muhammad bin Saud Islamic University for cloud computing in teaching and academic learning, Journal of Educational Sciences, 27(3), Imam Muhammad bin Saud Islamic University, Saudi Arabia.

Al-Atawneh, Wajdi (2012). Analysis of the reality of administrative information systems and their role in decision-making in the Palestinian Ministry of Education and Higher Education, Master's thesis, Hebron University.

Al-Sarsak, Hashim. (2020): The impact of strategic intelligence in enhancing the quality of decisions in the Palestinian Ministry of Interior and National Security. Unpublished master's thesis.

Alshahrani, S, Al-Rifai, N. (2017). Cloud computing and its relationship to the performance of government sector employees (in Arabic). Fayoum Journal of Educational and Psychological Sciences, Fayoum University, Egypt.

Al-Shahrani, Sarah and Al-Rifai, Najwa Y. (2017). Cloud computing and its relationship to the performance of government sector employees, Fayoum Journal of Educational and Psychological Sciences, Fayoum University, Egypt.

Al-Shawabkeh, A. (2017). the effect of artificial intelligence applications, and "expert systems" in managerial decision-making in a group of Saudi banks operating in Taif Governorate (in

Arabic). Taif University Journal of Humanities, Management and Economics, Taif University, Vol.4, No.15.

Al-Shawabkeh, Awad (2017). The role of artificial intelligence applications "expert systems" in making administrative decisions in Saudi banks operating in the Taif Governorate. Taif University Journal of Human Sciences, Management and Economics, Taif University, Volume 4 (15), 14- 59.

Atawna, W. (2012), Analysis of the Reality of Management Information System (MIS) and its role in Decision-Making in the Palestinian Ministry of Education and Higher Education (in Arabic). Master Thesis. Hebron University, Hebron. Palestine.

Bahoor, Kh. (2016). Availability of factors affecting the adoption and implementation of cloud computing in government institutions from the standpoint of senior management (in Arabic). Master Thesis. The Islamic University of Gaza. Gaza. Palestine.

Bahour, Khaled. (2016). The availability of factors affecting the adoption and application of cloud computing in government institutions from the point of view of senior management. (Unpublished master's thesis) Islamic University, Gaza, Palestine.

Bhumgara A &SalmanK M. (2015). Cloud Computing as a Tool for NGOs in India and Pakistan. International Journal of CComputer Science and Information Technologies 6(6), 5226-5237.

Caroline & Gwendolyn (2014). Cloud Computing Adoption and Utilization amongst Zimbabwean NGOs. International Journal of Science and Research (IJSR) 3(1) 2319-7064.

Dar Safaa for Publishing and Distribution, Amman, Jordan.

Goh, Swee. (2003). "Improving Organizational Learning Capability: Lessons from Two Case Studies," The Learning Organization, Vol. 10, No. 4, 2003, pp. 216-227.

Haimes, Y. (2018).Modeling and Managing Interdependent Complex Systems of Systems.John Wiley & Sons, USA

Hammoud, Khudair, and Al-Sheikh, Rawan. (2010). Quality management in distinguished organizations. Dar Safaa for Publishing and Distribution, 1st edition, Amman, Jordan

Hasouna, I. (2015). Impact of Cloud Computing–Based E- E-Training (CCBT) on Developing Skills and Usage Acceptance Thereof Among Education Faculty Students of Al-Aqsa University (in Arabic). Palestinian Journal of Open Education, Vol.5, No.10.

Hassouna, Ismail (2015). The impact of electronic training based on cloud computing on the acquisition of skills and their ability to use them among students of the College of Education at Al-Aqsa University. The Palestinian Journal of Open Education, 5 (10). 165-202.

Houssem, M architectures and mechanisms of FFederation in cloud computing and cloud networking environments, doctoral thesis, Pierre et Marie Curie University, Paris, 2015.

Htaht, Anwar. (2020). The impact of artificial intelligence on the quality of decision-making in the Ministry of National Economy in the southern governorates, Master's thesis, Islamic University of Gaza, Palestine.

Huhut, A. (2020). The Impact of Artificial Intelligence on The Quality of Decision Making in The Ministry of National Economy in The Southern Governorates (in Arabic). Master Thesis. The Islamic University of Gaza. Gaza. Palestine.

Hussain, K., Abdullah, A. B., Tavares, J. M. R., &Humayun, M. (2022). Information Security Handbook (N. Z. Jhanjhi, Ed.). CRC Press. .62 Ismail, S. (2018). Practicing Strategic Agility and Its Role in Improving Quality of Decisions in Nongovernmental Organizations (in Arabic). Master Thesis. Al-Azhar University http://dx.doi.org/10.1108/02635571111161262

Ismail, Samaa (2018). The extent of practicing strategic agility and its role in improving the quality of decisions in non-governmental organizations, unpublished master's thesis, Al-Azhar University, Gaza, Palestine.

Khudair, H. & Al-Sheikh, R. (2010). Quality management in distinguished organizations (in Arabic).

Radwan, Aziza. (2016). The relationship of cloud computing to developing job performance for managers working in Palestinian universities, unpublished master's thesis, Al-Azhar University - Southern Governorates, Palestine. Al-Salami, Alaa Abdel Razzaq, (2016), Cloud Computing. 1st edition. Cairo, Arab Organization for Administrative Development.

Rafaels, R. (2015). Cloud Computing: From Beginning to End, Create Space Independent Publishing Platform. https://books.google.ps/books?id=dGFWrgEACAAJ

Raza (2015). The Slow Adoption of Cloud Computing and IT Workforce. Procedia Computer Science 52 (2015) 1114 – 1119.

Rizq, M. (2013). Cloud computing and mobile technologies: the most prominent security strategies in 2013 (in Arabic). https://alborsaanews.com/2013/01/10/296500, View date: 05/01/2022.

Rizq, Marwa. (2013). Cloud computing and mobile technologies: the most prominent security strategies in 2013. Dated 01/01/2013 AD, access date: 05/01/2022

Stanoevska, K., Wozniak, T., &Ristol, S. (Eds.). (2019). Grid and cloud computing: A business perspective on technology and applications.(2019th Edition).Scholars Portal.

Al-Orini, H. (2021). The activation level of faculty members at Imam Mohammad bin Saud Islamic University for Cloud Computing in academic teaching and learning (in Arabic). Journal of Educational Sciences, 27(3), Imam Mohammed Ben Saud Islamic University, Saudi Arabia.

Al-Hallaq, A. (2021). The Role of Innovative Cloud Digital Computing Applications in Improving the Performance of Personnel in Civil Universities in Gaza Strip (in Arabic). Master Thesis. The Islamic University of Gaza. Gaza. Palestine.

Al-Maghari, M. (2021). The Standards of Promotion Systems and Their Impact on the Quality of Administrative Decisions: An Applied Study upon Officers Working in the Palestinian Police Force at The Southern Governorates (in Arabic). Master Thesis. The Islamic University of Gaza. Gaza. Palestine

Al-Najjar. M. (2018). Preparedness of Palestinian Charity Institutions in the Gaza Strip for Adopting and Applying Cloud Computing (in Arabic). Master Thesis. The Islamic University of Gaza. Gaza. Palestine.

Thabet, W. M. (2020). The impact of the organizational ability on the adaption of results- based monitoring and evaluation system: an applied study on women's development organizations operating in the Gaza strip . Global Journal of Economics and Business, 9 (1), 122-132.

Embassy of the Kingdom of Saudi Arabia(2023) https://www.saudiembassy.net/education

Abuaddous, H. Y., Saleh, A. M., Enaizan, O., Ghabban, F., & Al-Badareen, A. B. (2022). Automated User Experience (UX) Testing for Mobile Application: Strengths and Limitations. International Journal of Interactive Mobile Technologies, 16(4).

AlGhamdi, S., Win, K. T., & Vlahu-Gjorgievska, E. (2022). Employees' intentions toward complying with information security controls in Saudi Arabia's public organizations. Government Information Quarterly, 101721.

Almarhabi, K., Bahaddad, A., & Alghamdi, A. M. (2023). Security management of BYOD and cloud environment in Saudi Arabia. Alexandria Engineering Journal, 63, 103-114.