Decision Support Systems as a Moderator for the Relationship between Tacit Knowledge and Strategic Decision Quality among Nurse Managers

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Abstract

Background: Leveraging Decision Support Systems (DSS) enhances nurses' access to tacit knowledge, eventually enhancing the quality of their strategic decision-making in patient care. **Aim:** To investigate the nurse managers' perception about decision support systems (DSS) as a moderator affect the relationship between tacit knowledge and strategic decision quality. **Design:** Descriptive correlational design. **Setting:** 12 hospitals affiliated to Assiut University. **Subject:** All nurse managers (N=255) working at Assiut University Hospitals. **Study tools:** Tacit knowledge scale, Decision support systems scale and Strategic decisions quality scale. **Results:** There was a positive correlation between decision support systems, tacit knowledge and strategic decision quality. **Conclusion:** Decision support systems play a moderator role in enhancing the relationship between tacit knowledge and strategic decision quality. **Recommendations:** Conducting training programs on nurses' abilities to leverage DSS for strategic decision-making. Applying future studies at different health care settings to generalize the results.

Keywords: Decision support systems, Nurse managers, Strategic decisions quality & Tacit knowledge.

Introduction:

Knowledge is a valuable resource and is crucial to a business in the quickly evolving world of today. It is a crucial element that influences an organization's capacity to maintain its competitiveness in the marketplace. It has come to be acknowledged as an essential component of the competitive and dynamic modern world. Furthermore, it is essential to the long-term viability and sustainability of organizations **(Kathryn, et al. 2021)**.

The experiences, abilities, implicit and explicit knowledge that employees and the organization had gathered tended to be organized, managed, and used by the organization to its advantage in accomplishing its strategic goals and assisting in the strategic decision-making process **(Muhammad & Abdel Aziz, 2017).**

Explicit and tacit knowledge are the two types. Explicit knowledge is documented, kept in a database, and is easily recognized, shared, and communicated without any ambiguity. Implicit knowledge, another name for implicit talents, abilities, and experiences are the knowledge and skills that people possess but find difficult or impossible to put into words. It is the implicit knowledge that exists in a person's mind and is usually challenging to communicate or explain **(Huie, et al., 2020)**.

An organization can benefit greatly from having access to tacit knowledge. As a result, firms need to pay attention to tacit knowledge since it sets them apart from competitors and can help the senior management team make better strategic decisions **(Muhammad & Abdel Aziz, 2017).**

Information and information systems have been crucial in altering the fundamentals, structure, and functions of management as well as the manner in which business activities are planned and carried out. As a result, information systems are now seen as more than just tools for storing and processing data; rather, they play a significant role in the process of supporting decisions. Modern information systems, such as decision support systems, are used in certain institutions. This system is one of the computer systems made to boost output and quality, support management choices more effectively, aid in strategic planning, and create organization-appropriate policies **(Adnan, 2019)**.

A program called a decision support system (DSS) that helps companies make decisions and choose their best course of action. A DSS processes vast volumes of data, organizes and analyzes it, and produces detailed reports that assist with problem solving and decision making. These reports can be written or graphic. It supports the mid-and high-level management of an organization by assisting them in making decisions that may change quickly and are difficult to define in advance, or unstructured and semi-structured decision problems **(Olavsrud, 2022)**.

One of the hardest things a manager has to do is make decisions. With the speed at which information systems and technology are developing, senior and middle management must use them to expedite

decision-making processes. DSS is one of the most important information systems to come out of the information technology revolution of the 1970s and 1980s, and it represents a logical progression of computer use **(Farhan, 2022).**

The goal of this system is to improve decision quality through the integration of software, models, and data into a coherent framework for making decisions. It is extremely important because of its intricate design, which incorporates cutting-edge information technologies that give businesses a competitive advantage over others that do not employ them (**Sutton et al., 2020).**

Significance of the study:

The key to an organization's survival and success is its implicit knowledge, which helps to make strategic judgments of a higher caliber. This is dependent upon DSS which are important to knowledge management as they aid in the information flow necessary to create an optimal knowledge base. The importance of DSS and tacit knowledge management is highlighted in how they affect decision makers' perceptions of the situation's reality. The more accurate and effective DSS and tacit knowledge management are in their information and analysis, the more they aid and enable decision-makers in reaching high-quality and efficient decisions (**Khalsa, 2022**).

While the researcher reviewing the scientific literatures regarding the relationship between DSS Tacit Knowledge and Strategic Decision Quality. It was noticed that there were no studies have been conducted in nursing related to this topic. So, this research conducted to study the perception of nurse managers about the relationship between the tacit knowledge and decision support systems and the effect of this relationship on the quality of strategic decision taken in a way that enhances the achievement of high levels of administrative functions, and the role that decision support systems play through its characteristics.

Aim of the study:

To investigate the nurse managers' perception about decision support systems as a moderator affect the relationship between tacit knowledge and strategic decision quality.

Research questions:

To fulfill aim of present study the following research questions are formulated:

Q1: To what extent do decision support systems play a moderator role in enhancing the effect of tacit knowledge on strategic decision quality as perceived by nurse managers?

Q2: To what extent does tacit knowledge affect strategic decision quality as perceived by nurse managers?

Q3: To what extent do decision support systems affect tacit knowledge as perceived by nurse managers?

Q4: To what extent do decision support systems affect strategic decision quality as perceived by nurse managers?

Subject and Method:

Technical design:

This design involved the research design, setting, subject, sample and data collection tool.

Research design:

Descriptive correlational design was used in the present study.

Setting:

The present study was conducted at 12 hospitals affiliated to Assiut University, namely the Main Hospital, Neurology Hospital, Urology Hospital, Reproductive Health Hospital, Pediatric Hospital, Al-Rajhi Hospital, Heart Hospital, Trauma Hospital, Students Hospital, South Egypt Institute, New Assiut City Hospital and Umm Al-Qusour Hospital.

Subject:

A convenience sample used for this study included all nurse managers working in Assiut University Hospitals (n =255).

Assiut University Hospitals	No
1. Main Hospital	44
2. Reproductive Health Hospital	20
3. Pediatric Hospital	30
4. El Rajhi Liver Hospital	22
5. Heart Hospital	38
6. Neurology Hospital	33
7. Urology Hospital	30
8. Trauma Hospital	14
9. New Assiut City Hospital	3
10. Umm Al Qusur Hospital	3
11. South Egypt Institute	11
12. Students Hospital	7
Total	**255**

Data Collection Tools:

The tools used to collect data consist of three tools:

Tool (I): Tacit Knowledge Scale: It consists of two parts**:**

The first part: Personal data form:

It covers items as age, gender, educational level, current job title, years of experience in the current job and total years of experience.

The second part: Tacit Knowledge Scale:

It was developed by (**Nick, et al., 2003**) to assess tacit knowledge. It consists of (9) items divided into 3 main dimensions: experience "3 items", skill "3 items" and thinking "3 items". Each item was answered on a 5-point Likert scale ranging from 1 point for (very low) to 5 points for (very high).

Scoring system: It ranged from 0 to 100% and will be classified into 3 categories: high for > 75%, moderate from 75% to 50% and low for< 50%.

Tool (II): Decision Support Systems Scale:
It was developed by (**Elgarah, 2002**) to assess decision support systems. It consists of (20) items divided into 4 main dimensions: simplicity "5 items", easier control the system "5 items", flexibility and the ability of adaptive "5 items" and communication easiness and capability "5 items". Each item was answered on a 5-point Likert scale ranging from 1 point for (strongly disagree) to 5 points (strongly agree).

Scoring system: It ranged from 0 to 100% and will be classified into 3 categories: high for > 75%, moderate from 75% to 50% and low for< 50%.

Tool (III): Strategic Decisions Quality Scale:
It was developed by (**Thomas & David, 2008**) to measure strategic decisions quality. It consists of 15 items divided into3 main dimensions: rare "5 items", consequential "5 items" and directive "5 items". Each item was answered on a 5-point Likert scale ranging from 1 point for (strongly disagree) to 5 points (strongly agree).

Scoring system: It ranged from 0 to 100% and will be classified into 3 categories: high for > 75%, moderate from 75% to 50% and low for< 50%.

Administrative design:
An official permission was obtained from Dean of Faculty of Nursing - Assiut University, Director of Assiut University Hospital, Nursing Managers in hospital and explaining the purpose of the study, and asking them for their verbal consent to participate.

Operational design:

Preparatory phase: After reviewing the available literature concerning the topic of the research, which took about one month from the beginning of November 2023 to the end of November 2023. Arabic translation of the research tools were done.

Ethical considerations: Research proposal was approved from ethical committee in the faculty of nursing Assiut University. There was no risk for study subjects during application of research. The study followed common ethical principles in clinical research. Verbal consent was obtained from nurses that were willing to participate in study, after explaining the nature and purpose the study. Confidentiality and anonymity were assured. Study subjects had the right to refuse to participate and or withdraw from the study without any rational any time & Study subject privacy was considered during collection of data.

Face validity: It was conducted to assure accurate completeness of the study tools through (a jury of experts' committee) composed of (5) experts (3 professors and (2 assistant professors) from the

Nursing Administration Department, Faculty of Nursing, Assiut University.

Pilot study: It was held to ensure clarity and applicability of study tools. Moreover, to identify problems that could encounter during the actual data collection. It was conducted during December 2023 on (26) nurse managers that represented 10% of the total sample. Data collected from the pilot study was analyzed by using SPSS version 26. The data obtained from the pilot study was analyzed and no changes were done for the study tools so the nurse Managers included in the pilot study was included in the total study sample.

Reliability: The study tools were tested for its reliability by using Cronbach's Alpha Coefficient test.

A table showing the degree of reliability using cronbach's alpha coefficient for the study tools:

Number	Measurements	Phrases number	Cronbach's alpha coefficient
1	Decision support systems	20	0.924
2	Tacit knowledge	9	0.858
3	Strategic decision quality	15	0.914

Field work:
The researcher subtended with each nurse manager participated in the study to declare the purpose of the study and request their participation. After obtaining verbal consent, the study instrument was delivered to the participants to be filled out via self-administration questionnaire to evaluate the perception of nurse managers about the relationship between the tacit knowledge and decision support systems and the impact of this relationship on the quality of strategic decision.

The study tools were distributed to the studied nurse managers and each participant took about thirty minutes to fill the questionnaires. The researcher manually collected the data from the participants in their units. The entire period of data collection took approximately four months from January 2024 to April 2024.

Statistical design:
Data analyzed by using IBM SPSS 20.0 software. The data was tested for normality using the Anderson-Darling test and for homogeneity variances prior to further statistical analysis. Categorical variables were described by number and percentage, where continuous variables described by mean and standard deviation. Pearson correlation was applied to explore the correlation between scores and used to assess the perception of nurse managers about the relationship between the tacit knowledge and decision support systems and the impact of this relationship on the quality of strategic decision. A two-tailed $p < 0.05$ was considered statistically significant.

Results:

Table (1): Personal characteristics of the studied nurse managers (n=255)

Personal characteristics	No.	%
Age: (years)		
Less than 30	**104**	**40.8%**
From 30 to 40	79	31.0%
More than 40	72	28.2%
Mean ± SD (Range)	**33.62 ± 8.89 (21.0-59.0)**	
Gender:		
Male	45	17.6%
Female	**210**	**82.4%**
Educational level:		
Technical Institute of Nursing	32	12.5%
Bachelor of Nursing	**200**	**78.4%**
Master degree in nursing	18	7.1%
Doctorate degree in nursing	5	2.0%
Occupation:		
Nursing director	13	5.1%
Nursing supervisor	85	33.3%
Head nurse	**157**	**61.6%**
Years of experience in the current job:		
Less than 5 years	**100**	**39.2%**
From 5 to 10 years	67	26.3%
More than 10 years	88	34.5%
Total years of experience:		
Less than 5 years	85	33.3%
From 5 to 10 years	64	25.1%
More than 10 years	**106**	**41.6%**

Table (2): Mean and standard deviation scores of tacit knowledge dimensions for studied nurse managers (n=255)

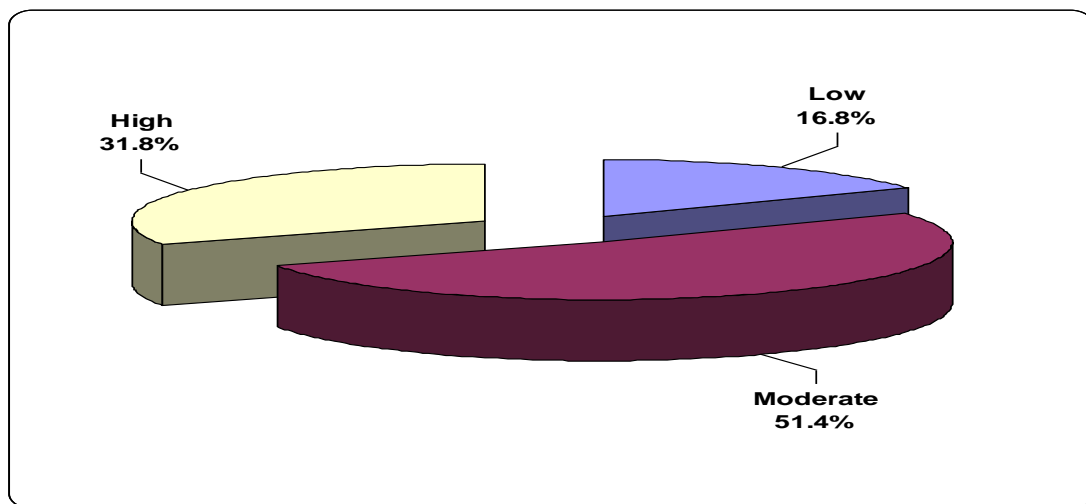| Items	Mean ± SD	Range
Experience	10.25 ± 2.25	3.0-15.0
Skill	10.53 ± 2.35	3.0-15.0
Thinking	10.17 ± 2.40	3.0-15.0
Tacit knowledge total score	**30.95 ± 6.12**	**11.0-45.0**

Figure (1): Distribution of the studied nurse managers according to total tacit knowledge scale (n=255)

Table (3): Mean and standard deviation scores of decision support systems dimensions for studied nurse managers (n=255)

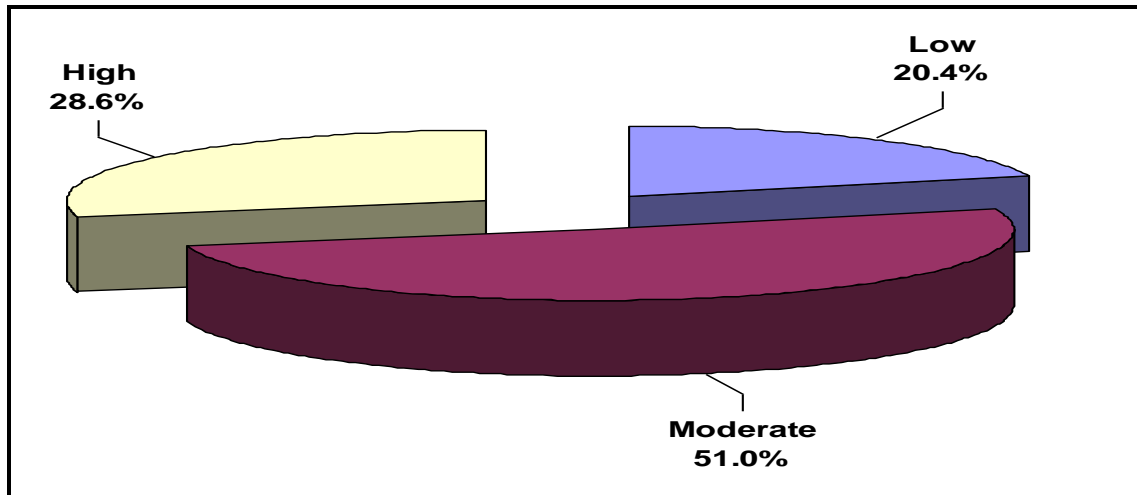| Items	Mean ± SD	Range
Simplicity	16.47 ± 3.60	5.0-25.0
Easier control the system	16.76 ± 3.58	5.0-25.0
Flexibility and the ability of adaptive	16.61 ± 3.53	5.0-25.0
Communication easiness and capability	16.87 ± 3.67	5.0-25.0
Decision support systems total score	**66.72 ± 12.74**	**20.0-100.0**

Figure (2): Distribution of the studied nurse managers according total decision support systems scale (n=255)

Table (4): Mean and standard deviation scores of strategic decision quality dimensions for studied nurse managers (n=255).

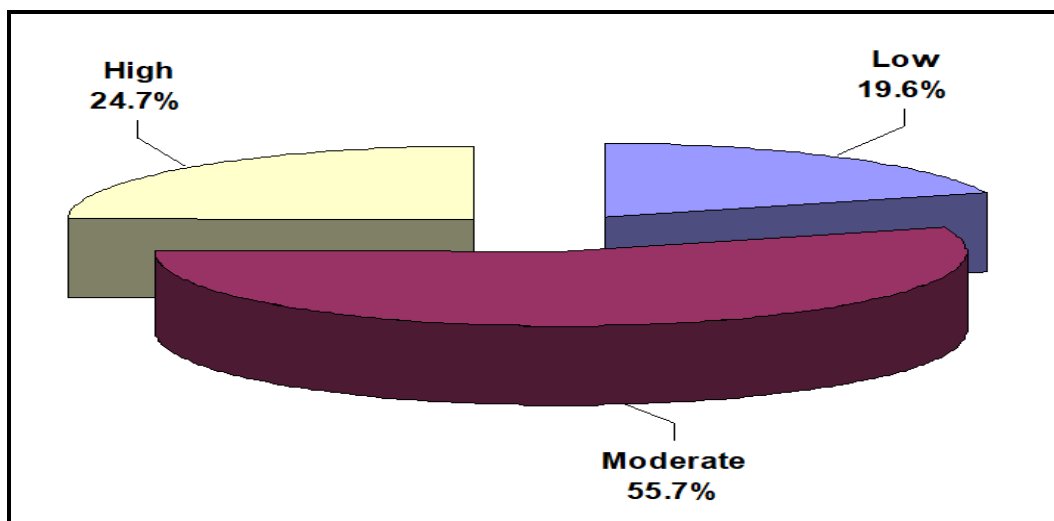| Items	Mean ± SD	Range
Rare	16.42 ± 3.51	5.0-25.0
Consequential	16.52 ± 3.37	5.0-25.0
Directive	16.70 ± 3.58	5.0-25.0
Strategic decision quality total score	**49.63 ± 9.63**	**15.0-75.0**

Figure (3): Distribution of the studied nurse managers according total scale Strategic decision quality (n=255)

Table (5): Correlation coefficient between tacit knowledge, decision support systems and strategic decision quality for studied nurse managers (n=255)

		Tacit knowledge score	Decision support systems score	Strategic decision quality score
Tacit knowledge score	r-value			
	P-value			
Decision support systems score	r-value	0.315		
	P-value	0.000*		
Strategic decision quality score	r-value	0.302	0.822	
	P-value	0.000*	0.000*	

*Statistically Significant Correlation at P. value <0.05   ***Statistically Significant Correlation at P. value <0.01*

Table (1): It shows that the majority of the studied nurse managers are females and have Bachelor of Nursing **(82.4% and 78.4%)** respectively. About two thirds **(61.6%)** of them are head nurses, about **(40.8%)** of the studied nurse managers aged **(<30 years)**, one third **(39.2%)** of them have <5 years of experience in the current job and about **(41.6%)** of them have >10 of total years of experience respectively.

Table (2): Declares the mean and standard deviation scores of tacit knowledge dimensions for studied nurse managers and reports that the total mean and standard deviation for the three dimensions of tacit knowledge as, experience, skill, and thinking are very high **(30.95 ± 6.12).**

Figure (1): Illustrates that about more than half **(51.4%)** of the studied nurse managers have a moderate level of tacit knowledge.

Table (3): Declares the mean and standard deviation scores of decision support systems dimensions for studied nurse managers and reports that the four dimensions of decision support systems as, simplicity, easier control the system, flexibility and the ability of adaptive, and communication easiness and capability are very high **(66.72 ± 12.74).**

Figure (2): Illustrates that about more than half **(51%)** of the studied nurse managers have a moderate level of decision support systems.

Table (4): Declares the mean and standard deviation scores of strategic decision quality dimensions for studied nurse managers and reports that the total mean and standard deviation for the three dimensions of strategic decision quality as, rare, consequential, and directive are very high **(49.63 ± 9.63).**

Figure (3): Illustrates that about more than half **(55.7%)** of the studied nurse managers have a moderate level of strategic decision quality.

Table (5): Shows the correlation between three variables (tacit knowledge, DSS, and strategic decision quality). There is a highly positive correlation between DSS and strategic decision quality. While there are moderate correlations between tacit knowledge, DSS, and strategic decision quality. It is observed that there are a highly statistically significant differences between all variables.

Discussion:
Decision Support Systems (DSS) play a crucial role as a moderator in the relationship between tacit knowledge and strategic decision quality. Tacit knowledge, which encompasses the intuitive and experiential insights that nurse managers acquire through their practice, significantly influences their decision-making processes. However, the effectiveness of this tacit knowledge can be enhanced through the implementation of DSS, which provides structured data, analytical tools, and access to relevant information. By facilitating the integration and application of tacit knowledge within decision-making frameworks, DSS can strengthen the quality of strategic decisions made by nurse managers. This dynamic interplay suggests that, while tacit knowledge is inherently valuable, its impact on decision quality can be optimized when supported by robust DSS, ultimately leading to improved patient outcomes and more effective management practices in healthcare settings **(Abdul-kareem et al., 2023)**.

The current study aimed to investigate the nurse managers' perception about decision support systems as a moderator affect the relationship between tacit knowledge and strategic decision quality.

Regarding personal characteristics of the studied nurse managers, the current study showed that, the majorities of the studied nurse managers were females and had bachelor of nursing respectively. About two thirds of them were head nurses, and about two fifths of them were aged (<30 years). About one third of the studied nurse managers had less than 5 years of experience in the current job and two fifths of them had more than 10 years of total years of experience respectively.

From the researcher's point of view, these findings could be linked to the higher representation of females in nursing, a trend that has been consistently observed in many healthcare systems worldwide. The educational background of most participants being at the bachelor's level may be attributed to the growing

emphasis on higher education within nursing, as this qualification often serves as a minimum requirement for leadership roles, such as head nurses.

In addition, the age distribution, with many participants being under 30 years old, might indicate an increasing trend of younger nurse managers entering leadership positions earlier in their careers, possibly due to structured career progression and continuous professional development programs in healthcare institutions.

The current study results were in agreement with the result of the study by **Hussein et al., (2021)** who conducted the study at Egypt entitled "Staff Nurses Perception Regarding Nursing Managers` Leadership Practices and It`s Relation to Their Knowledge Sharing", and who found that, two thirds of staff nurses were less than 30 years old, more than half of staff nurses were females. Also, less than three quarters of them had less than 10 years of experience. Further, the mean age group was 23-54.

In addition, the current study results were aligned with the study by **Alduais et al., (2023)** who conducted the study in Jordan entitled "The impact of information sharing on the quality of decision-making: From the point of view of employees in Jordanian private hospitals ", and who reported that, majority of participants were females. A significant proportion of participants belonged to the age group of 35 to less than 45, Furthermore; more than half of the participants had 10 or more years of work experience, while the lowest percentage had less than 5 years of work experience.

Furthermore, the present study findings were in the same line with the study by **Kucharska, (2023)** who conducted the study in the US and Poland, entitled "Tacit knowledge influence on intellectual capital and innovativeness in the healthcare sector: A cross-country study of Poland and the US", and found that more than half of the studied participants were females with age group from 35- 44 years old. Also, more than two thirds of them were professional as more than ten years of work experience.

As regarding the tacit knowledge level, the current study findings were revealed that, about half of the studied nurse managers had moderate level of tacit knowledge. Also, about one third of them had high level of tacit knowledge, and about one fifth of them had low level of tacit knowledge. These findings indicate a potential gap in the depth of experiential knowledge among nurse managers, which could influence their decision-making capabilities. Also, the predominance of moderate and low tacit knowledge suggests that many nurse managers may benefit from targeted educational initiatives or mentorship programs aimed at enhancing their practical skills and intuitive understanding of complex clinical scenarios.

The present study findings were in the same line with the study by **Constance et al., (2019)** who conducted the study in Malaysia entitled "Supervisory Justice, Organizational Citizenship Behavior, and Innovative Behavior: The Mediating Role of Tacit Knowledge Sharing among Nurses". Further, who illustrated that, near to half of nurses had   a high level of tacit knowledge, while, the minority of them had a low level of tacit knowledge.

Additionally, the current study results were matched with the study by **Castaneda & Durán, (2018)** who conducted the study in Colombia entitled "Knowledge sharing in organizations: Roles of beliefs, training, and perceived organizational support Knowledge Management & E-Learning", noted that most of the studied subjects had a moderate to high knowledge sharing level in organizations.

The present study results were contradicted with **Orr et al., (2023)** who conducted a study in the Canada, entitled "Valuing tacit nursing knowledge during the COVID-19 pandemic", and reported that, a majority of nurses had low level of tacit knowledge during the COVID-19 pandemic.

The present study results were indicated that, the total mean and standard deviation for the three subdomains of tacit knowledge experience, skill, and thinking was rated very high. From the researcher point of view, these results could be reflecting not only the depth of experience but also the practical skills and cognitive strategies that nurse managers employ in their daily practices.

The current study results were in the same line with the study by **Wah et al., (2018)** who conducted the study in Malaysia entitled "The Mediating Effect of Tacit Knowledge Sharing on the Relationship between Perceived Supervisor Support and Innovative Behavior among Nurses in a Malaysian Public Teaching Hospital", and showed that, nurses had a high mean of tacit knowledge dimensions.

Furthermore, the present study findings were in agreement with the study by **Kim & Kim, (2018)** who conducted the study in Korea entitled "Concept analysis of tacit nursing knowledge", and who noted that, total mean and standard deviation for the three subdomains of tacit knowledge experience, skill, and thinking was rated very high among studied nurses.

Regarding decision support systems level, the current study results were confirmed that, about half of the studied nurse managers had high level of decision support systems. Also, about one quarter of them had high level of decision support systems, and about one fifth of them had low level of decision support systems.

This may be due to that a segment of the leadership is effectively leveraging technology to enhance decision-making processes. Also, these findings

highlight a noteworthy range of familiarity and utilization of DSS among nurse managers, reflecting varying degrees of engagement with these essential tools.

The present study findings were similar to the study by **Adnan, (2019)** who conducted the study in Jordan entitled "Decision Support Systems and its Impact on organizational Empowerment in Jordanian commercial Banks. College of Economics and Administrative Sciences", showed that, less than half of the studied participants had a high decision support system.

According to the mean and standard deviation for the four dimensions of decision support systems, the current study results were reported that, the total mean and standard deviation for the four dimensions of decision support systems as, simplicity, easier control the system, flexibility and the ability of adaptive, and communication easiness and capability was rated very high.

The present study findings might be suggested that high mean score reflects a favorable assessment of how these dimensions contribute to the overall functionality of decision support systems in nursing management. Specifically, the dimension of simplicity suggests that nurse managers find the systems intuitive and straightforward to use, facilitating quicker adoption and integration into their workflows.

The present results were similar with the study by **Hak et al., (2022)** who conducted the study in Portugal entitled "Towards effective clinical decision support systems", and revealed that, the total mean among the studied subjects was rated very high as regarding dimensions of clinical decision support systems.

Furthermore, the present study results in agreement with the study by **Ackerhans et al., (2024)** who conducted the study in Germany entitled "Exploring the role of professional identity in the implementation of clinical decision support systems—a narrative review", also, who showed that, professional studied had a good clinical decision support systems mean scores.

On the other hand, the present study results were in opposite line with the study by **Khalfallah et al., (2023)** who conducted the study on Tunisia, entitled "Decision support systems in healthcare: systematic review, meta-analysis and prediction, with example of COVID-19", and showed that, healthcare participant had a low level on total mean of decision support systems.

As regarding the strategic decision quality level, the current study results were revealed that, about half of the studied nurse managers had moderate level of Strategic decision quality. Also, about one quarter of

them had high level of Strategic decision quality, and about one fifth of them had low level of Strategic decision quality.

From the researcher point of view, these findings suggest that although a portion of nurse managers are highly effective in making strategic decisions, the majority fall into the moderate category, indicating room for improvement in decision-making processes. In addition, the high level of strategic decision quality among some nurse managers may be attributed to their ability to integrate both tacit knowledge and decision support systems (DSS) effectively.

The current study results were in the same line with the study by **Al Eid & Yavuz, (2022).** Who conducted the study in Turkey entitled "The Effect of Using Decision Support Systems Applications and Business Intelligence Systems in Making Strategic Decisions: A Field Study in the City of Gaziantep", and who emphasized that, about one third of the studied subjects had a high level of strategic decision systems applications quality.

On the other hand, the current study results were in contrast with the study by **Alojail et al., (2023)** who conducted the study in Saudi Arabia entitled "An Informed Decision Support Framework from a Strategic Perspective in the Health Sector", and revealed that, the majority of the studied participants had low level of strategic decision quality.

According to the mean and standard deviation for the three dimensions of strategic decision quality as, rare, consequential, and directive, the present study findings were showed that, the total mean and standard deviation for the three dimensions of strategic decision quality rated very high.

From the researcher point of view, these results could be due participants are equipped to handle rare and complex decisions, which are less frequent but have significant implications for healthcare operations. Also, this indicates that the nurse managers are aware of and responsive to the significant consequences of their decisions.

The current study results were in the same line with the study by **Deep, (2023)** who conducted the study in USA entitled "Strategic decision-making: A crucial skill for business managers", and showed that, the total mean for the three dimensions of strategic decision quality was rated very high among the studied subjects.

Regarding the correlation between three variables (tacit knowledge, DSS, and strategic decision quality), the current study results were displayed that, there was a highly positive correlation between DSS and strategic decision quality. While there were moderate correlations between tacit knowledge, DSS, and strategic decision quality. It was observed that there were a highly statistically significant differences

between all variables. This could be explained by the fact that nurse managers with a high level of tacit knowledge-gained through experience and skill development-are more likely to effectively leverage DSS to support their strategic decisions. Tacit knowledge, which encompasses practical know-how, intuition, and problem-solving skills, can be enhanced by the structured data and analytic capabilities provided by DSS.

The present study findings were in the same line with the study by **Sanford et al., (2020)** who conducted the study in Canada entitled "The role of tacit knowledge in communication and decision-making during emerging public health incidents", also, who illustrated that, there was a positive correlation between tacit knowledge and decision-making during emerging public health incidents.

The current study results were in contrast with the study by **Yoo et al., (2019)** who conducted the study in Korea entitled "Nurses' knowledge sharing and decision-making: the mediating role of organizational trust", and revealed that, tacit knowledge sharing didn't directly lead to clinical decision-making abilities among the studied nurses.

This might be highlights the importance of fostering experiential learning and knowledge sharing among nurse managers. Developing tacit knowledge through continuous professional experience and mentorship may lead to better decision-making processes, ultimately improving organizational outcomes. This could be related to the significant role that decision support systems play in enhancing the decision-making process by providing timely, accurate, and data-driven insights. DSS enables nurse managers to assess complex scenarios more effectively, leading to more informed and higher-quality strategic decisions.

One possible explanation for this positive correlation is that DSS helps nurse managers process large volumes of information quickly, offering structured analysis and forecasting tools. These capabilities allow managers to evaluate multiple decision options and their potential outcomes with greater precision, which is crucial in strategic decision-making.

The present study results were supported with the study by **Al Eid & Yavuz, (2022).** Who conducted the study in Turkey entitled "The Effect of Using Decision Support Systems Applications and Business Intelligence Systems in Making Strategic Decisions: A Field Study in the City of Gaziantep", and found that. There was a positive correlation between using decision support systems and business intelligence systems in making strategic decisions among the studied subjects.

Conclusion:

The majority of the studied nurse managers had moderate level of decision support systems and tacit knowledge. There was a positive correlation between decision support systems, tacit knowledge and strategic decision quality. Decision support systems play a moderator role in enhancing the relationship between tacit knowledge and strategic decision quality.

Recommendations:
Based on the findings of current study, the following recommendations were suggested:
1. Conduct training programs on nurses' abilities to leverage DSS for strategic decision-making.
2. Hold workshops for developing technical and administrative expertise of nurse managers.
3. Future research using longitudinal studies should be conducted to examine causal relationships between decision support systems, tacit knowledge and strategic decision quality.
4. Apply the study at different work places such as universities and health insurance hospitals to generalize the results.
5. Encourage health care administrators to enforce applying DSS.

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