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The impact of Knowledge Management on effective Decision Making at The Ministry of Higher Education and Scientific Research

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Thesis Approval

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This thesis was defended successfully on 27/1/2024 and approved by:

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Declaration

I hereby declare that this thesis, entitled " Predicting Financial Figures using OCR and Machine Learning: Automated Extraction from Arabic Annual Reports" is the result of my original research work and has not been submitted for the award of any other degree or diploma in any university or institution. The work presented in this thesis is based on my findings and analysis under my supervisor's guidance.

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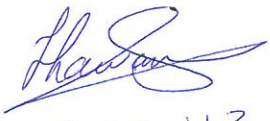
Signature: 

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Dedication

To those for whom I lower the wing of humility in mercy. To the one who cleared thorns from my path to pave the way for my journey in knowledge, to the generous heart whose spirit always flutters with me, and from whom I draw my strength, to my dear father (may God's mercy be upon him). To the heart shining with purity, to the source of love and tenderness, to the light that illuminates my life, my beloved mother.

To the companion of my journey and the engine of my dreams, to the one who stood by my side, who walked with me step by step towards the dream and supported me in my journey of seeking knowledge, my dear husband, Mohammed.

To my children and the most beautiful things in my life, Ibrahim, Obay, Ayham, and Aysar.

To those who shared life's sweetness and bitterness with me and stood by me at every step, to my supportive brothers and my sister, the bouquet of tenderness.

To my husband's family, my second family, who have never hesitated to shower me with their prayers. May Allah protect you and grant you a long life.

To my dear friend who was a support for me and eased all difficulties Bayan

To those I loved and who loved me.

To those who are more precious than everyone, my beloved Palestine.

Rawan Khalil Honihen

Gratitude and Appreciation

First and foremost, thanks to Allah, the Lord of the worlds, who guided me in preparing and presenting this thesis in its current form.

To Dr. Shaher Obaid, who spared no effort or knowledge, serving as assistant, mentor, and a shining example of guidance and support. His determination to see excellence in my work has been invaluable.

I extend the highest expressions of thanks, gratitude, and appreciation to those who paved the way for us in the realm of knowledge and enlightenment, the faculty at the Graduate School of the Arab American University.

To all friends who supported me in various ways and everyone who assisted me in accomplishing this work.

To this esteemed academic institution, the Arab American University, a beacon of knowledge.

Contents

Table Index

Figure List:

Abstract

The study aimed to examine the impact of knowledge management on effective decision making in the Palestinian Ministry of Higher Education and Scientific Research. The study's sample consisted of employees within the ministry, including the general director, managers, department heads, and administrative staff, totaling (111) employees. Out of this sample, (91) employees participated in the study. The research employed a descriptive analytical methodology.

The knowledge management processes investigated in the study included knowledge acquisition, knowledge storage, knowledge sharing, and knowledge application. The study's findings revealed a positive impact of knowledge management on effective decision making within the ministry. Knowledge management explained 73% of the variance in effective decision making at the Ministry of Higher Education and Scientific Research.

The study concluded that investing in knowledge management represents a strategic investment that yields benefits for the ministry. It enables the achievement of its strategic goals and enhances its effective response to increasing challenges, ensuring a more comprehensive decision-making process. The study recommended a focus on knowledge management processes and their greater activation within the ministry to attain effective decisions. This, in turn, would meet the needs of beneficiaries, including students, the labour market, and educational institutions relying on the ministry's services. Additionally, the study emphasized the necessity of providing the ministry's employees with the necessary training courses to empower them in utilizing knowledge management processes and making effective decisions across all ministry activities. Furthermore, it recommended involving all employees, regardless of their job titles, in the decision-

making process, as this would positively impact improving ministry operations and achieving its objectives.

Keywords: Knowledge management, Knowledge management processes, Decision making, Effective decision making.

Chapter One:
Introduction for the study

1.1. Background of the study

Institutions, in their various types and with diverse objectives, operate in unstable conditions interacting with both internal and external environments that continuously change due to various circumstances. These circumstances include the growth and expansion of institutions, as well as the rapid changes in information technology. These changes rely on advanced scientific knowledge and the optimal use of the information flowing in the age of knowledge explosion.

The changes in these conditions compel institutions to adapt their coping mechanisms and find swift solutions. Hence, the importance of the decision making process becomes evident, as it is a crucial and central dimension of administrative activity. The continuity and progress of an institution depend on the accuracy and soundness of the decisions made, thereby ensuring the formulation of correct goals and their effective achievement.

Many institutions have begun to focus on knowledge and how to manage it, enabling them to place knowledge and acquired skills among their workforce at the right time and in the appropriate manner to achieve the highest levels of accomplishment. institutions that effectively manage and leverage their knowledge tend to be more innovative and better attuned to their surrounding conditions. Several scholars have affirmed that adopting knowledge management in institutions yields various benefits, including the evolution and sustainability of institutions, improvement in decision making processes, enhancement of creativity and responsiveness, increased efficiency and effectiveness, and overall performance improvement.

Management scholars have affirmed that the effective utilization of knowledge management in making decisions is one of the key factors for the success of institutions, regardless of their goals or types of activities. Therefore, the efficient use of knowledge management ensures that an institution makes effective managerial decisions. One of the most distinguishing features of institutions embracing knowledge management is their ability to anticipate decisions before events occur. Consequently, they can deal with all surrounding circumstances with high readiness.

The Palestinian Ministry of Higher Education and Scientific Research is one of the main governmental entities in the State of Palestine. Considering the changing, fast paced, and unstable conditions experienced by Palestinian institutions, the Ministry is obligated to adapt to these changes. The goal is to develop new mechanisms for the effective implementation of its activities and to provide services more efficiently and quickly.

Given that the effective use and investment of knowledge in making strategic decisions contribute to achieving the ministry's goals and improving its performance, this study focused on the impact of knowledge management on effective decision making in the Ministry of Higher Education and Scientific Research. The results of this study provide a practical contribution to the ministry, ensuring more effective administrative decision making through the adoption of knowledge management. This study was divided into five chapters, the first chapter introduction for the study. The second chapter delved into the theoretical framework, while the third chapter addressed the study's methodology. The fourth chapter discussed the study's results, and the final fifth chapter presented the conclusions and recommendations.

1.2. Study problem

This study came to shed light on the impact of knowledge management on effective decision making in the Palestinian Ministry of Higher Education and Scientific Research. The goal is to enhance and improve the decision-making process within the ministry, elevate its performance, achieve its objectives, and increase the ministry's capacity to navigate with high readiness under various surrounding circumstances. Foreign studies that have linked these variables are scarce. Although some Arab studies have explored the relationship between knowledge management and decision-making, they have not been applied specifically to the Palestinian Ministry of Higher Education and Scientific Research. Therefore, this study seeks to fill the gap in research related to this ministry, given its vital role in overseeing all higher education institutions in Palestine and serving as a primary contributor to the labour market.

1.3. Study questions

First main question:

1.3.1. What is the impact of knowledge management on effective decision making at the Ministry of Higher Education and Scientific Research?

The following sub-questions emerge:

1.3.1.1. What is the reality of knowledge management in the Ministry of Higher Education and Scientific Research?

1.3.1.2. What is the reality of decision making in the Ministry of Higher Education and Scientific Research?

1.3.1.3. What is the impact of knowledge acquisition on the effective decision making in the Ministry of Higher Education and Scientific Research?

1.3.1.4. What is the impact of knowledge storage on the effective decision making in the Ministry of Higher Education and Scientific Research?

1.3.1.5. What is the impact of knowledge sharing on the effective decision making at the Ministry of Higher Education and Scientific Research?

1.3.1.6. What is the impact of knowledge application on the effective decision making in the Palestinian Ministry of Higher Education and Scientific Research?

The second main question:

1.3.2. Are there statistically significant differences at the level of significance ($\alpha \leq 0.05$) in the respondents' responses about the knowledge management with its four processes (knowledge acquisition, knowledge storage, knowledge sharing, knowledge application) and effective decision making due to the following demographic variables (gender, age, qualification, experience inside Ministry, experience outside Ministry, job title)?

1.4. **Objectives of the study**

The first main objective:

1.4.1. Identify the impact of knowledge management on the effective decision making at the Ministry of Higher Education and Scientific Research.

They emanate from the following sub-objectives:

1.4.1.1. Identify the reality of knowledge management in the Ministry of Higher Education and Scientific Research.

1.4.1.2. Identify the reality of decision making in the Ministry of Higher Education and Scientific Research.

1.4.1.3. Identify the impact of knowledge acquisition on the effective decision making at the Ministry of Higher Education and Scientific Research.

1.4.1.4. Identify the impact of knowledge storage on the effective decision making at the Ministry of Higher Education and Scientific Research.

1.4.1.5. Identify the impact of knowledge sharing on the effective decision making at the Ministry of Higher Education and Scientific Research.

1.4.1.6. Identify the impact of knowledge application on the effective decision making at the Ministry of Higher Education and Scientific Research.

The second main objective:

1.4.2. Finding differences in the positives of respondents at the level of significance ($\alpha \leq 0.05$) about the knowledge management with its four processes (knowledge acquisition, knowledge storage, knowledge sharing, applying knowledge) and effective decision making attributed to the following demographic variables (gender, age, qualification, experience inside Ministry, experience outside Ministry, job title).

1.5. Hypotheses

The first main null hypothesis:

There is no significant impact of knowledge management on effective decision making in Ministry of Higher Education and Scientific Research at ($\alpha \leq 0.05$).

The following sub null hypotheses emerge from it:

Null hypothesis 1.5.1. There is no significant impact of knowledge acquisition on effective decision making in the Ministry of Higher Education and Scientific Research at ($\alpha \leq 0.05$).

Null hypothesis 1.5.2. There is no significant impact of knowledge storage on effective decision making in the Ministry of Higher Education and Scientific Research at ($\alpha \leq 0.05$).

Null hypothesis 1.5.3. There is no significant impact of knowledge sharing on effective decision making in Ministry of Higher Education and Scientific Research at ($\alpha \leq 0.05$).

Null hypothesis 1.5.4. There is no significant impact of knowledge application on effective decision making in Ministry of Higher Education and Scientific Research at ($\alpha \leq 0.05$).

The second main null hypothesis:

There are no significant differences of knowledge management processes (knowledge acquisition, knowledge storage, knowledge sharing, applying knowledge) on effective decision making attributed to the following demographic variables (gender, age, qualification, experience inside Ministry, experience outside Ministry, job title) at ($\alpha \leq 0.05$).

1.6. The importance of the study

This study sheds light on the structure and development of the ability at the Ministry of Higher Education and Scientific Research to deal with the variables surrounding them and increase their sense of changes and anticipate them early that allows management to prepare for confrontation, and create opportunities for the growth and development of this Ministry by deepening the use of the results of science, knowledge and technology, as well as the skills and experience accumulated by its members of human resources, to support

management in the decision making process so that this decision is effective and of high quality, and thus contributes to development this Ministry .

The institution that adopts knowledge management will be able to achieve its goals by giving an opportunity to its employees through the knowledge gained by them or acquired from their colleagues and used in the various work entrusted to them, then gradually improve their performance so that they can achieve excellence in the workplace on the one hand, and on the other hand create added value for the institution to be able to face any sudden or expected changes and achieve better management. Anshari et al., (2023) emphasized that one of the benefits of using knowledge management in institutions is that it takes less time to recreate existing knowledge and enables the institution to get the information it needs quickly, reduce errors, make better decisions, and provide better service to employees and customers.

Therefore, the importance of this study is summarized in identifying the impact of knowledge management as an imperative necessity for all institutions in the effective decision making process. The scientific and practical importance of the study can be formulated as follows:

1.6.1. Scientific importance:

- This study sheds light on one of the modern concepts in the field of management, which is knowledge management, that gives knowledge resources great attention to improve performance and achieve excellence.
- knowledge management and decision making processes are one of the most important institutional concepts, which are vital important topics in administrative thought, as they constitute two main sources of institutional survival and development, and therefore this study contributes to knowing the impact of

knowledge management processes on effective decision making at the Ministry of Higher Education and Scientific Research.

- This study enables the researcher to know the reality of knowledge management and decision making at the Ministry of Higher Education and Scientific Research, also identify the impact of knowledge management processes on effective decision making in the Ministry, especially since foreign studies that linked these two variables are few.

1.6.2. Practical importance:

This study identify the procedures used in knowledge management processes, which is reflected positively on decision making and the development of employees in providing them with skills and knowledge and developing their experiences, which enables them to carry out their tasks with high efficiency, less effort and shorter time through the use of knowledge management processes whose use leads to organizing, storing and updating information, developing work methods, developing the capabilities, skills and experiences of employees, improving their motivation towards work, reducing stress caused by lack of knowledge, and helping them solve problems, and taking effective decision making, thus reflected in the development and progress of this ministry.

1.7. Procedural definitions

1.7.1. Knowledge management

Knowledge Management encompasses the principles and primary objectives of acquiring, storing, sharing, and applying knowledge within an institution. Its primary goal is to enhance performance and encourage innovation through the effective management of both explicit knowledge (documented information, databases, etc.) and tacit knowledge

(personal experience, expertise, etc.) of employees, and utilizing them in making effective decisions.

1.7.2. Decision making

Decision making refers to the cognitive process of selecting one option from multiple alternatives. It involves evaluating and analysing various options, taking into consideration their potential consequences and outcomes. Ultimately, decisions are made based on the value of the institution and its objectives.

1.7.3. Effective decision making

Effective decision making refers to the ability to make sound and appropriate decisions, conduct a comprehensive evaluation of possible options, and thereby provide an effective solution to the problem based on the decision maker's experiences. The goal of effective decision making is to achieve the institution’s objectives.

Chapter Two:

Theoretical and Conceptual Framework of the Study

2.1. Conceptual Framework for Knowledge Management

2.1.1. Introduction

One of the most important elements in maintaining the success of an institution is knowledge management. A profound understanding of knowledge and its management enables institutions to anticipate the future and make proactive decisions before events occur, thereby ensuring institutions are highly prepared to deal with all surrounding circumstances. Therefore, in this chapter, the researcher discusses the concept of knowledge, the knowledge hierarchy, and then identifies the concept of knowledge management, the importance of knowledge management, as well as recognizing the fundamental requirements for utilizing knowledge management. Additionally, the barriers to using knowledge management are addressed, followed by an introduction to knowledge management processes, and the knowledge management processes used in this study.

2.1.2. The concept of knowledge

Knowledge is a widely used phrase, and it has a variety of connotations in different fields of use, knowledge in all its forms has received great attention recently because of the tremendous developments that the world has recently witnessed, which prompted many to call this period the knowledge revolution.

According to Ting and Xue (2017) knowledge referred to information that humans have in their brains, experiences, and understanding. While Anand, A. and Walsh (2016) stated that knowledge is made up of facts, abilities, and experience. As well as Davenport and Prusak (1998) describe knowledge as a combination of qualifications, beliefs, general

understanding, and specialized knowledge that offers a framework for assessing and incorporating newly discovered information and experiences that come to light and are applied in the minds of the knowledgeable. Since knowledge is created both individually and collectively, knowledge is viewed as a social constructivist model that is both individual and collective in nature.

From the researcher point of view, Knowledge is the comprehensive collection of concepts, information, and understanding acquired by employees through study, experience, and reflection. It includes the understanding of facts, information, and skills that enable employees to interact with the world around them more effectively.

2.1. 3. Hierarchy of knowledge

Different scientists indicate to the pyramid of data, information, and knowledge (DIK) by different names. Some of them added wisdom to this pyramid and called it (DIKW). In most knowledge management literature, the pyramid is referred to as the "knowledge hierarchy", while the field of information science refers to the same pyramid as the "information hierarchy" (Rowley & Hartley, 2008).

Intezari (2014) proposed a hierarchy and link between each of these concepts by linking wisdom to knowledge and knowledge to information and information to raw data. This hierarchy also implies that one can change into another and have an impact on the other. The following figure (2.1) shows the DIKW pyramid.

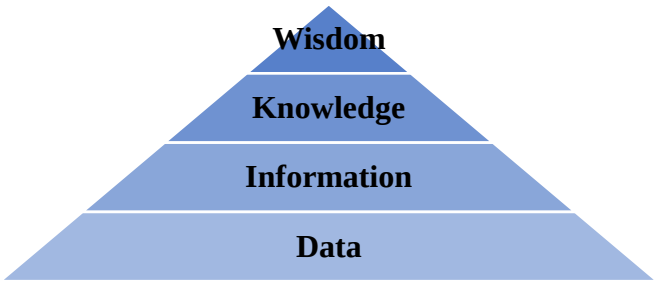

Figure (2.1): DIKW (Data, Information, Knowledge, Wisdom) pyramid (Intezari, 2014).

The DIK hierarchy was highlighted by Russell Ackoff (1999) in his speech at the "International Society for Public Systems Research (ISGSR)" in 1989. Ackoff (1999) explained how knowledge systems can apply information to tasks and how information systems can be used to organize and access data. On the other hand, humans have never been able to automate wisdom generation systems. Perhaps what sets humans apart from machines is wisdom, which is necessary for successful pursuit of ideals.

Stafford (2011) claims that scholars and researchers have devoted years to debating and elaborating on the definitions of data, information, and knowledge. According to him, there are discrepancies in definitions, and the fundamental terminology employed in these definitions vary depending on the author's experience and the objectives being met.

However, from Liew (2007) point of view, definitions of data, information, knowledge and the description of their interrelationships do not constitute a definition. Their definition and the description of their interrelationships is distinct issues. However, there are some agreements in some definitions. The researcher reviews some of these definitions:

Data:

Davenport and Prusak (1998) defined data as distinct, objective facts about an event that are expressed symbolically, as with numbers or symbols. Since it cannot forecast an event's fate or explain some parts of it, including why it happened, data by itself lacks importance. But data is the basic material that businesses require to function and respond to inquiries about what, where, when, who, and how much or how many. According to Lucey (2005), data are basic facts without any inherent context or significance. While

Becerra-Fernandez, Sabherwal, and Gonzalez (2004) demonstrate that data refer to abstract facts devoid of any context, this means that unordered facts become data that is a key input into the process of knowing information.

Information:

According to Kalkan (2008) information is data within a meaningful context. Lucey (2005) stated that information is data that is given meaning through relational communication. Information is made up of interpreted and comprehended facts and data organized to explain a specific circumstance or issue . When data is analysed, condensed, or processed in any other way to create a message or report that the recipient typically understands, it becomes information. Information is important because it has meaning, relevance, and objective, which is to assist in decision making and problem solving or seize the opportunity and provide answers to the questions of "who, what, where and when" (Ackoff, 1999).

Knowledge:

Knowledge is the first step in knowledge management because it is accompanied by an understanding that differentiates between different forms of knowledge (Frost, 2012). Davenport and Prusak (1998) defined knowledge as an easy combination of expertise, values, contextual understanding and expert experiences that provide a framework for evaluating and integrating new experiences and information that arise and apply in the minds. Raj (2017) defined knowledge as the collection of appropriate information. Information becomes defined when it is interpreted, contextualized, or meaningful. Although knowledge is linked to both data and information, it is neither data nor information.

Wisdom:

It is the knowledge applied in action. To perform it in the best way and it reflects the degree of intellectual maturity that moves its owner towards the status of the wise, wisdom expresses a firm conviction and draws consequence after predicting the future, wisdom answers questions such as: “Why do we do something?” and “What is better?”. The application of knowledge frequently leads to experience, analysis and reflection of knowledge and experience lead to wisdom and is the peak of the cognitive pyramid (Intezari, 2014).

2.1.4. knowledge management Concept

Many definitions of knowledge management have been proposed by many writers and scholars. Anshari et al. (2023) defined knowledge management as the process of identifying, recording, evaluating, retrieving, and disseminating all an institution’s information to make wise decisions. While Younas, Noor & Arshad (2022) defined knowledge management as the process of providing a debriefing when necessary, at a specific time. According to Djajasinga et al., (2022), a systematic process to acquiring, organizing, storing, and sharing knowledge with the intention of fostering institutional learning, improving decision making, and accomplishing objectives is known as knowledge management. Whereas Zanker and Bureš (2022) defined knowledge management as a process of methodical establishing, observation, monitoring, and the enhancement.

From the researcher's point of view, knowledge management can be defined as a set of processes that include acquiring knowledge, whether explicit or implicit knowledge, from employees in institutions, using experiences, skills, and knowledge from outside the

institution, and then storing, sharing, and applying this knowledge to achieve the institution objectives and make effective decision in it.

2.1.5. The importance of knowledge management

knowledge management is one of the contemporary ideas in modern management, which proposed new approaches in the study and understanding of institutions, and its role emerged after researchers realized the importance of knowledge in achieving the objectives of the institution in addition to its role in the great transformation towards the knowledge economy, which focuses on investing in intangible intellectual and knowledge assets more than focusing on tangible physical assets, in which scientific knowledge is formed. Technological developments are key to economic growth to a greater degree than natural resources themselves (Demir et al., 2023). institutions that have adopted knowledge management have achieved the following benefits:

2.1.5.1. knowledge management helps to improve and accelerate various processes within the institution such as: production, marketing, accounting, and others, through easy access to information and expertise by looking for resources, information or people who possess knowledge to provide it immediately without wasting time (Demir et al., 2023). This will increase the productivity and efficiency between institution 's employees, enabling them to function more efficiently (Joywin & Sang, 2015). In addition, knowledge management accelerates the flow of knowledge within the institution by reducing attempts at trial and error. Also, it helps employees to learn from their previous mistakes and achievements. An institution would do well to leverage its existing knowledge assets by repurposing them in ways that are beneficial to the institution. Some examples of this include leveraging expertise from one department to enhance the works in another

department, adapting knowledge from a previous process to discover a new approach, etc. There are many indicators from which the importance of knowledge management in institution can be inferred, such as enhancing productivity, reducing errors, process efficiency, flexibility in the face of rapid changes (Abbas et al., 2020).

2.1.5.2. knowledge management greatly boosts an institution's ability to function and the efficacy of its business processes and operational divisions. When information and resources are readily available and well organized across the institution, knowledgeable staff members can complete tasks as quickly as feasible (Kiprotich et al., 2015). This shows its impact on the introduction and development of new products that result in an increase in the institution 's earnings, and thus enhances the institution's ability to maintain organized performance based on experience and knowledge (Indrees et al., 2023).

2.1.5.3. Providing an appropriate environment that motivates employees who possess knowledge to share their tacit knowledge and move towards renewed knowledge in their various disciplines (Santhose & Lawrence, 2023), which confirms that knowledge is the basis for improving job satisfaction (Kiprotich et al., 2015; Kumar, 2018; Karyatun et al., 2023).

2.1.5.4. Improving the decision making process, making decisions is one of the hardest things to do when running an institution in general, because decision making in difficult situations and crises that the institution is going using knowledge stock is what distinguishes a successful administrator (Almansoori et al., 2021). knowledge management helps to improve the quality of data collected from employees and speed up the decision making process, which saves time and

increases the quality of decisions made (Abubakar et al., 2019; Anshari et al., 2023).

- Creativity within the institution, by introducing and generating new creative ideas for its human resources and converting them into assets of added value, to create good knowledge and pre disclose obstacles in their expectations, along with emphasizing the development of the required competencies and skills, getting rid of outdated knowledge , and improving the capacity of the business to stop important knowledge and competencies from being lost or replicated (Abubakar et al., 2019). Which increases the excellence of the institution's work, products, and services (Ode & Ayavoo, 2020).
- Growth and development institution at rates appropriate to its potential and capabilities by utilizing the knowledge and expertise of its workforce in addition to the advancements in science and technology (Ode & Ayavoo, 2020).
- It increases the ability of institutions to adapt to the various variables of economic, technical, social, and cultural changes, and the challenges they impose. institutions achieve a higher degree of adaptation if they have knowledge of these variables, their sources, requirements, and causes, and better if they have prior knowledge of the possibilities of these variables to prepare and address them (Ha & Lo, 2018).
- knowledge management promotes innovation and cultural transformation. Today's business environment is changing quickly (Alqershi et al., 2020), innovation has become an indispensable element in an institution's quest for enhanced adaptability. The character of global economic advancement has undergone a transformation owing to the rapid pace of innovation, facilitated by swift technological evolution, abbreviated product life cycles, and an accelerated rate of

new product development. The process of innovation heavily relies on knowledge (Diaz-Molina and Acevedo, 2023). New and valuable knowledge is created and transformed into new products, services, and processes by turning general knowledge into specific knowledge (López-nicolás and Mero, 2011). Institution shows a growing interest in knowledge management due to the potential for realizing economic advantages, including heightened creativity and innovation in the development of products and services (Freiin von Dörnberg, 2019).

From the above, the researcher believes that there are many benefits of using knowledge management in Ministry of Higher Education and Scientific Research, including accelerating, improving and developing their operations, enhancing creativity and innovation within a supportive practical environment that is technologically and cognitively qualified, motivating employees, improving its services provided to the public, in addition to improving, accelerating and effectively making decisions based on knowledge management, and adapting to the surrounding conditions, all of which would improve the work of Ministry and achieve their goals.

2.1.6. Enablers of knowledge management

According to Robbins and Coulter (2018), the primary determinants of an institution's knowledge management effectiveness are management knowledge management enablers, also claimed that strategic leadership, human resources, institutional culture, information technology, and institutional performance are the most important enablers of the implementation of knowledge management. Robbins and Coulter (2018) explained these factors as:

2.1.6.1. Strategic leadership: Leadership is essential to the success of any project within the institution. Institutions should not underestimate the role leadership plays in

knowledge management. Strategic leadership means the ability to anticipate, visualize, maintain flexibility, think strategically, and work with others to create, develop and employ social and human resources to produce value. Strategic leaders should focus on key resources, competencies, and capabilities where they can provide a long-term success. knowledge management is critical, and you need the executive leadership of an institution to provide guidance and support. The primary objective of knowledge management processes is to facilitate the efficient exchange of information between employee and groups to improve knowledge transfer, which can only be done with the support of strategic knowledge leadership (Mahdi, Nassar, & Almsafir, 2021).

2.1.6.2. Culture: While leadership is critical to the successful implementation of knowledge management, culture may have a greater impact on knowledge management performance (Mohammadi et al., 2023). The idea that institutional culture can facilitate the effective application of knowledge management is supported by a wide range of research. Culture plays a crucial role in promoting learning and creating and sharing knowledge. The culture of knowledge places a high value on knowledge, encourages its creation, exchange, and application, and creates an open climate for the free exchange of ideas. An effective knowledge management culture consists of policies and procedures that facilitate the exchange of information between employees and throughout the institution. Research aimed at explaining the reasons for the failure of knowledge management in institution has revealed that institutional culture is the main barrier to the success of knowledge management (Saif & Yeop, 2021).

2.1.6.3. Information technology: knowledge management is greatly supported by information technology. The timely availability of knowledge is crucial, and this

is what information technology provides, so information technology plays a valuable role in knowledge management. The set of tools, strategies, and procedures for collecting, analysing, and sharing data is known as information technology. Since information technology supports knowledge management procedures (capturing, sharing, and applying knowledge), its use is crucial to managing knowledge within an institution. This happens through (Ayatollahi & Zeraatkar, 2020):

- Give employees a mechanism to save, organize, and retrieve explicit knowledge.
- Develop a way to communicate to share basic knowledge.

2.1.6.4. Human resources: The effectiveness of knowledge management is significantly influenced by the role that human resources play in institutions. Since employees are the ones who produce and disseminate knowledge, managing those people is crucial. Considering that knowledge is created by people (Jabeen & Al Dari, 2023). Volpel and Davenport (2001) said that "knowledge management is people management, and people management is knowledge management". An individual possesses knowledge, and it is a crucial process to transfer this concealed knowledge to other members of the institution so that it can be utilized, shared, and developed into new knowledge. As a result, encouraging employees to interact and exchange knowledge with others is essential to the institution's success. Ayatollahi and Zeraatkar (2020) pointed out that to motivate employees to participate in the gathering and sharing of knowledge, institutions must acknowledge that their workforce is a critical resource. To that end, they must incorporate the idea of knowledge management into their employee management policy. Jabeen and Al Dari (2023) argued that highly intrinsically motivated employees show positive attitudes toward knowledge sharing regardless of the

extrinsic motivation they receive, suggesting that employees need to be motivated to share knowledge. These motivations may be either internal or external and have a positive impact on knowledge management processes. He also emphasized that a employee will be less creative if he is not allowed to impart his experience and education.

2.1.6.5. Institution Performance: Performance within an institution is an ongoing topic in most branches of business administration, and there is interest on the part of employees seeking to learn as well as by managers working in institutions. An institution's performance is typically described from a traditional standpoint as its financial performance, where budgets, assets, processes, services, and human resources are the variables that compete to affect the institution's overall performance. Institution success is typically correlated with the financial outcomes of institutional efficiency (Haseli et al., 2023). The concept of competence includes a broader dimension of interpretations by focusing on the knowledge acquired by the branch and related results. It also serves as the basis for institutional development (Mohammadi et al., 2023).

From the researcher's point of view, the researcher believes that adopting the concept of knowledge management requires a set of requirements, to apply and enable the foundations and rules knowledge management to reach the maximum possible benefit from knowledge. One of these enabling factors is the existence of effective strategic leadership because of its key role in the acquisition, exchange and application of knowledge among its employees, leadership has a key role in setting goals, formulating policies and directing employees to use knowledge management at work, and institutional culture is a key element of enabling knowledge management in institutions because of its

role in encouraging employees to collaborate, appreciate knowledge and enhance its participation, while the presence of information technology infrastructure has a key role in providing a base data and information that keep pace with developments, the technical base is a basis for building the necessary plans and goals and ensuring their participation among employees, as for human resources, it is one of the most important supporting elements to enable knowledge management, as employees accomplish all work and tasks in the institution, including acquiring, sharing and applying new knowledge, and finally institutional performance is one of the basic requirements for the success of the work carried out by the institution.

2.1.7. Barriers to using knowledge management.

Bartczak (2002) argued that Lack of resources, lack of control or management of knowledge management systems, focus on the individual rather than a team approach, and teaching leadership and commitment are barriers to the implementation of knowledge management. Abdolshah and Abdolshah (2011) asserted that He stressed that the lack of understanding of knowledge management concepts by senior managers, the absence of proper competition between institutions to attract customers, the absence of the establishment of a knowledge management team, and the improper exchange of information between employees are some of the main barriers to the uses of knowledge management in institutions. While Frost (2012) provided a list of sporadic knowledge management failures that could prevent knowledge management from being implemented successfully, These include lack of measurable performance indicators and benefits, inadequate management support, inadequate planning, design, coordination and evaluation, insufficient skills for knowledge managers and staff, problems with institutional culture, and inappropriate institutional structure. While Dzunic, Boljanovic, and Subotic (2014) found that a highly complex system, a lack of trust among employees,

inadequate training, and employees' reluctance to share knowledge with one another are the main obstacles to the knowledge management. It was also discovered that the personal benefits that employees will receive from knowledge sharing and management are a major distraction. Ujwary-Gil (2017) notes to the absence of incentives and rewards for acquiring and disseminating knowledge, the ignorance regarding the location of the institution's knowledge base, and the institutional culture that fosters individual outcomes of knowledge sharing, and other things, like the unfriendly technology system and scarce resources prevent knowledge sharing in institutions . Igbinovia and Ikenwe (2017) highlighted social and personal obstacles to the transfer of knowledge. A few individual factors are low motivation, unclear about the value of knowledge to be shared, loss of knowledge power, and inadequate disclosure of knowledge sharing. In addition, social factors include the absence of a universal language for knowledge exchange and unique linguistic characteristics like metaphors and measurements that reveal implicit knowledge concealed in each person's mental models. Nnevertheless, Oliva and Kotabe (2019) explained that the lack of resources (staff, systems, and time) of the institution , the focus on operational work, the lack of institution resources to acquire and store knowledge, the pressure for results in a short period, and the resistance to documenting knowledge are all factors that hinder the use of knowledge management in institutions. Soroka-Potrzebna (2022) identify a set of obstacles to the use of knowledge and divide them into three main groups, namely employees, institutions, and technology, including methods, means, tools, and information technology, the attitude of the work team towards knowledge management, technological competencies from the team's ability to use information technology tools in communication processes and project implementation, stimulating tools to increase motivation to work among the work team, the work plan in terms of distributing work time and tasks to the work team, social competencies in terms of the

ability to deal with stress, and ethical values and the ethical principles that the team must take into account in knowledge management, the competencies of the team leader in knowledge management, and cooperation between the work team.

From the researcher's point of view, there are many obstacles that prevent the implementation of knowledge management to include the lack of awareness or familiarity with the concept of management; the weak culture of knowledge sharing; poor management of people as a knowledge base, systems, tools and processes of knowledge management; insufficient resources; insufficient administrative support; ignorance regarding the position of the knowledge base in the institution; insufficient training; poor motivation of employees; institutional culture and unsupportive institutional structure, and employees who are not skilled to manage complex technologies. In addition to the lack of clear measurable indicators, all of them are major obstacles that prevent the application of knowledge management in institutions.

2.1.8. Knowledge management processes

Several scholars have discussed knowledge management processes, however, their descriptions of the knowledge management lifecycle (processes) vary, as the table below (2.1) illustrates:

Table (2.1): knowledge management processes

Reference	knowledge management processes
(Nonaka & Takeuchi 1995)	Socialization, internalization, combination, and externalization knowledge
(Alavi & Leidner, 2001)	Acquisition, indexing, filtering, linking, distribution, and application knowledge

(Van der Spek & Spijkervet, 1997)	Develop, distribute, combine, and hold knowledge
(Ipe, 2003)	Create, share, and use knowledge
(Maier & Schmidt, 2007)	Identify, create, storing, sharing and Application knowledge
(Heisig, 2009)	Create, store, share and Apply knowledge
(Rabeea et al., 2018)	Generate, store, share, and apply knowledge
(Abubakar et al., 2019)	Creation, capture, organization, storage, dissemination, and application knowledge
(Sime, Lemmie, & Gutu, 2020)	Create, share, translate, and apply knowledge
(Almansoori et al., 2021)	Acquisition, storge, sharing, and application knowledge
(Riswanto, 2021)	Discovery, capture, sharing, and applying knowledge
(Limsangpetch et al., 2022)	Acquisition, storge, sharing, and application knowledge
(Bloem & Salimi, 2023)	Acquisition, conversion, application, and protection knowledge
(Mohammadi et al., 2023)	Acquisition, storge, sharing, and application knowledge

According to (Mohammadi et al., 2023; Bloem and Salimi, 2023; Limsangpetch, Phayaphrom, and Siripipatthanakul, 2022; Almansoori et al., 2021), the knowledge

management processes are knowledge acquisition, knowledge storage, knowledge sharing, and knowledge application.

2.1.8.1.Knowledge acquisition:

The dynamic and multifaceted process of knowledge management begins with the acquisition of knowledge. It is the capacity of an institution to create and share knowledge about its systems, services, and goods (Nonaka & Takeuchi, 1995). An institution's ability to create and apply knowledge effectively and consistently is essential to its success (Mousavizadeh et al., 2016). Acquiring knowledge enables institutions to better understand their external environment in a dynamic setting, increase the breadth and depth of knowledge that is accessible, and enhance the technical proficiency of their workforce (Bozic & Dimovski, 2019). Conducting an external survey, hiring a knowledge-rich institution , sending employees to external training, hiring an expert, purchasing a data set, monitoring technological progress, and obtaining information through competitive intelligence are examples of knowledge acquisition (Kiprotich et al., 2015). The institution's knowledge base and external knowledge acquisition serve as the foundation for knowledge acquisition (Abubakar et al., 2019). Fındıklı, Yozgat, and Rofcanin (2015) expands on this concept by splitting knowledge acquisition into two primary components. The first section is accumulation, in which data is gathered from the environment surrounding the institution, both internally and externally (Sanz-Valle et al., 2011), with the goal of gaining, constructing, and expanding knowledge, which is known as knowledge acquisition. The term “acquisition” refers to the procurement of novel and practical concepts (Daud & Yusuf, 2008). Knowledge creation is the second component of knowledge acquisition. An institution’s ability to generate new ideas and practical solutions on a range of business related topics, including the production of goods,

management techniques, and technological procedures, is referred to as knowledge creation (Bloem & Salimi, 2023).

Even though acquiring knowledge appears to be crucial for innovation, many institutions still struggle with it. The ignorance of the staff and the institution itself is one of the disadvantages. It is difficult to recognize and apply knowledge because of one's incapacity to remember information and one's incapacity to utilize outside sources (Bloem & Salimi, 2023). A person needs to acquire new knowledge and skills through many ways, including reading books. However, knowledge acquisition often occurs through dialogue with others, and therefore information is transferred between employees and groups (De Felice et al., 2023).

2.1.8.2. Knowledge Storage:

Acquiring new knowledge is not enough, the most important thing is storing knowledge, storing knowledge means keeping information in the institution and easy and quick access to it and using it in effective decision making (Demir et al., 2023). Soto-Acosta, Popa, and Martinez-Conesa (2018) indicates that the knowledge stored and used has a significant impact on the institutional performance of the institution. Knowledge storage often relies on information technology (Ode & Ayavoo, 2020). Storing knowledge is regarded as a useful source of innovation. An institution's degree of innovation, such as new technologies for solving problems and new products in response to market demand, is influenced by its capacity to store, transform and use information (Arfi, Hikkerova, & Sahut, 2018). The concept of institutional memory which is essentially the existence of knowledge in different structures and forms like written documents, electronic databases, codified knowledge , individual and collective tacit knowledge (Tan et al., 1998)704. Walsh and Ungson (2009) explains that institutional memory consists of personal memory

(which consists of a person's actions, experiences, and observations), an archive of information, knowledge, shared interactions, and the environment, which is the physical setting for action, institutional culture, the changes, and institutional roles. Numerous institutions have in the past disregarded the impact of institutional memory. As a result, the enterprise's level of knowledge decreased. so, information needs to be protected and maintained on all forms of institutional data media, and suitable indexing systems need to be available for access and retrieval (Sun & Hao, 2006).

2.1.8.3. Knowledge Sharing:

Also known as knowledge dissemination, it is defined as the process of transferring knowledge across a range of communication channels between people or groups throughout an institution to be used effectively in many applications, including problem solving, decision making , and performance improvement (Jarrahi et al., 2023). Others have defined knowledge sharing as communication between employees that involves transferring and receiving knowledge from others, and one of the main ways to transfer knowledge is through human interaction (Sa'adah & Rijanti, 2022). Litvaj et al., (2022) said that institution with a more interactive creative climate (where work is associated with trust, teamwork, good communication, accepting mistakes, taking risks, accepting new ideas and opinions, and being able to listen, help, appreciate knowledge, and initiative) have more favorable conditions for knowledge sharing than a less creative institution. The extent to which employees participate in knowledge sharing affects the quality of new goods and services. Knowledge sharing is influenced by human resource practices. Also the extent to which staff members participate in knowledge sharing affects the calibre of new goods and services (Yang, Nguyen, & Le, 2018). Sharing knowledge is known to stimulate creative behaviour (Huarng & Mas-Tur, 2016). Knowledge sharing is

the basic process of knowledge management, since one of the main objectives of knowledge management practice is to enhance the flow of knowledge among members of the institution (Chua, 2004; Supyuenyong, Islam, & Kulkarni, 2009). Bartol & Srivastava (2002) explained Knowledge sharing refers to the social exchange that takes place within a department or institution wherein staff members share ideas, experiences, and suggestions that are pertinent to the institution. employees communicate both formally and informally with one another about explicit and implicit knowledge (Holste & Fields, 2010). Knowledge sharing occurs at the institutions and individual levels (Lin, 2007). By integrating existing knowledge, new concepts (knowledge creation) can be developed, showing how the transformation process can contribute to a more appropriate form of knowledge. Knowledge sharing processes aid in the identification and use of existing knowledge (Bloem & Salimi, 2023). The procedures and actions involved in knowledge synthesis, improvement, integration, combination, coordination, dissemination, and restructuring enable knowledge sharing. Through this process, a business may transform individual knowledge into firm knowledge that is beneficial to the institution (Kiprotich et al., 2015).

2.1.8.4.Application of knowledge:

Making sure that knowledge is effectively applied to the institution's profit is the main goal of knowledge management (Probst, Raub, and Romhardt, 2000). (Yang, Nguyen, & Le, 2018) defined the procedures inside businesses that allow them to apply and leverage knowledge to enhance procedures, create new goods, and produce new knowledge assets are known as knowledge application processes (Ode & Ayavoo, 2020). Achieving the institution's objectives may ultimately result from applying knowledge,

which includes applying cognitive processes, problem solving, and decision making protection. Applying practical knowledge lowers expenses and improves an institution's expertise (Hannola et al., 2018).

The cycle of knowledge management starts with knowledge acquisition, continues with knowledge storage and sharing, and concludes with knowledge application to support institutional processes that generate knowledge and result in sustainable products through knowledge application in practice (Awan, Arnold, & Gölgeci, 2021). To support and provide insight into how knowledge employees can contribute to better outcomes, the impact of knowledge management on management decisions needs to be evaluated (Centobelli, Cerchione, & Esposito, 2018). institutions should, nevertheless, search for knowledge that can benefit them. Effective institutions incorporate all relevant information sources into the process of developing new products and encourage the gathering and management of knowledge since they enable people to gain from the experience of others (Gürlek & Cemberci, 2020).

In this study, and from the point of view of the researcher, the study relied on the four main processes of knowledge management, namely knowledge acquisition, knowledge storage, knowledge sharing, and knowledge application, and these processes are defined based on the researcher's point of view as follows:

- Knowledge acquisition:

Knowledge acquisition means collecting knowledge about the institution’s systems and services from the environment surrounding the institution internally and externally, creating new knowledge by generating buildings and practical solutions on a range of topics related to its business, involving employees in training courses, hiring an expert,

and dialogue with others to transfer information between employees, motivating employees with the aim of acquiring, building and expanding knowledge, enhancing the technical competence of employees in the institution and thus achieving its goals and improving its services.

- Knowledge Storage:

It involves documenting old knowledge and documenting, organizing, coding, and constantly updating new ideas through a database or through written documents to make them accessible to everyone in a way that preserves knowledge and makes it easy to browse, search, index, and constantly check its quality.

- Knowledge Sharing:

Knowledge sharing describes the actions that employees, groups, or institutions take to disseminate, distribute, and share knowledge among employees. This is done by providing technological technologies and encouraging employees to share their experiences and knowledge by offering rewards and incentives, enhancing trust, spreading the culture of the institution, and easy access to knowledgeable people within the institution, which benefits the institution and improves its performance.

- Knowledge Application:

Ultimately, to achieve the institution's goals, knowledge must be applied to institutional processes to make wise decisions, enhance outputs, and minimize error.

2.1.9. The conclusion:

Through the above, it became clear to us that knowledge management is a relatively new field that was launched at the beginning of the nineties of the twentieth century, and researchers have addressed this concept from different angles due to the different intellectual and literary references, but all of them stressed the importance of knowledge

in our time and the need for institutions to seek to collect and provide the necessary knowledge for their activities of various kinds, whether implicit or apparent from various external and internal sources and the purpose of collecting them to be used to achieve the goals of the institution, which is the goal of knowledge management Which seeks to invest knowledge through the acquisition, storage, distribution and application of knowledge in various activities of the enterprise. To implement knowledge management in institutions, it is necessary to create an environment to reach the maximum possible benefit through the availability of an appropriate institutional structure for knowledge management, leadership and institutional culture that encourages it, and information technology. In addition to the need to reduce obstacles and obstacles to ensure the proper application of knowledge management, which reflects positively on the performance of the institution and its achievement of its goals and making correct decisions.

2.2. Conceptual framework for decision making.

2.2.1. Introduction

The decision making process is considered one of the primary administrative duties, sometimes referred to as the essence of managerial leadership. It serves as the starting point for all activities and behaviors within an institution. Management continuously faces problems that require decision making to solve. Furthermore, the interruption or cessation of the decision making process leads to the disruption of work and the halt of activities within the institution. Due to the importance of this administrative topic, the researcher addressed the concept of decision making in this chapter, as well as its type of decision and classifications, approach to decision making, conditions for decision making, stages of the decision making process, errors and biases in decision making, and finally, and finally addressed the effectiveness of decision making.

2.2.2. The concept of the decision

There are numerous definitions of decision making, but they all agree that it involves a problem or issue for which a decision is to be made. Eberhard (2023) defined decision making as choosing between several alternative courses of action. According to Oliveira et al., (2017), decision making is a series of steps to make decisions that include identifying the problem, getting all the data, formulating alternatives, thinking, and making a decision. While Eisenfuhr (2011) defined adecision making as a process of making a choice among several alternatives to achieve a desired outcome. As well as Simon precise the decision making as a process in three stages: the first stage is the intelligence phase and is like searching in the military context to look for problems, i.e., the need to decide. The second stage is the design phase and includes the development of alternative methods to solve the problem, and the third stage consists of analysing the alternatives and selecting one of them for implementation (Courtney, 2001).

2.2.3. Type of decision

Although everyone in the institution must make decisions, managers have unique responsibilities. It is included in the four administrative duties (planning, organizing, directing and controlling) (Mone, London, & Mone, 2018). Managers are therefore referred to as “decision makers”. While decision making is an integral part of a manager's job, this does not always mean that decisions are daunting, difficult, or complex (Litvaj et al., 2022). decision making Therefore, it is necessary to identify the classifications of decisions that are taken at work, which are as follows:

2.2.3.1. Programmed decisions and structured problems (Lyhne, 2012): By structured problems we mean obvious, familiar, and easily identifiable problems, some problems are simple. The decision maker, with a well-defined goal and a solid understanding of the issue at hand, has access to comprehensive and easily accessible information regarding

the problem. In such instances, the manager relies on programmed decisions, which are repetitive choices that can be routinely made (Muchtarom, 2023). The decision making process does not require the manager to overwork himself or incur significant costs during the substitution phase because the problem is organized and identified, the solution is usually clear. The manager uses one of three types of automated decisions, namely policy, rule, or action (Robbins & Coulter, 2018):

- Policy: a policy serves as a framework for decision making, offering guidance to the decision maker rather than presenting specific directives on what must or must not be done. Typically, policies provide general information and may include ambiguous terms, leaving their interpretation to the discretion of the decision maker.
- Rule: a rule is a clear and direct statement that outlines permissible or impermissible actions for the manager. Laws are commonly employed for their simplicity and ability to ensure consistency. An illustration of such a programmed decision is the implementation of punitive measures when employees fail to adhere to official working hours.
- Procedure: a procedure entails a set of consecutive steps employed by a manager to address an organized problem. The primary challenge for the manager lies in identifying the problem, and once identified, the course of action becomes apparent.

2.2.3.2. Nonprogrammed decisions and unstructured problems (Asemi, Safari, & Zavareh, 2011): Not every problem can be solved using pre-programmed options. Unstructured problems are new or uncommon problems with vague or insufficient information that arise in many institutional contexts (Muchtarom, 2023). This means

that nonprogrammed decisions have no pre-built administrative procedure, either because they have not appeared before, or because of their complexity, importance, and associated risks. Dealing with this type of decision requires broader knowledge, courage, deeper understanding, and additional resources (Zaheer & Mayo, 2022). Managers must therefore rely on nonprogrammed decision making to develop a unique solution. Lower-level managers frequently resort to programmed decisions, such as actions, rules, and policies, as they grapple with familiar and repetitive issues. As managers advance within the institutional hierarchy, the nature of the problems they encounter tends to become more complex. Lower-level managers adeptly handle routine decisions, enabling senior-level managers to address unconventional or challenging issues. Moreover, senior level managers delegate routine decisions to lower levels, freeing up their capacity to tackle more intricate problems.

2.2.3.4.Strategic Decisions

Strategic decision making is critical to the long-term success and survival of institutions, as it leads to an optimal redistribution of resources (Kunn, Palacios, & Pestel, 2023). Strategic decision making is a process that requires accurate identification of actionable options and choosing from them, and this requires great effort to choose decisions that seek to improve the institution (Rajagopal et al., 2022). Strategic decisions are defined as decisions made by managers at senior levels that significantly affect the survival of an institution. Strategic decisions are characterized by ambiguity and complexity, as well as risk and uncertainty, and are the product of institutions and not the product of a single individual in the institution (Berthet, 2022).

2.2.3.5.Regulatory decisions

A manager makes an institutional decision when he formally assumes his expected role in the institution; this decision then becomes the official position of the institution. The policies and programs of the institution are reflected in the regulatory decision. It can be delegated to other people (Selart, 2010).

2.2.3.6.Tactical decisions

Tactical decisions are tactical in nature and are called routine decisions. They are few, repetitive, significant, and require some thought. First line and middle level managers make tactical decisions, which are devoid of risk or uncertainty. The institution's strategy is complemented and supported by tactical decisions. Lower levels of the institution may be given the authority to make tactical decisions (Prasad, 2019).

2.2.4. Decision classifications

Different kinds of decisions exist. According to Drucker, the type of decision and the degree of authority to make it are determined by four fundamental factors (Ismail, 2011), they are:

- Future times involved.
- Qualitative factors
- type of decision rarely or frequent and routine, Whether the decision is rare or frequent and routine.
- Whether the decision affects other functions or regions (James, 1998).

Decisions are usually classified as structured, semi-structured, and unstructured decision, and they are distributed over 3 administrative levels in the institution, as the following figure (2.2) shows:

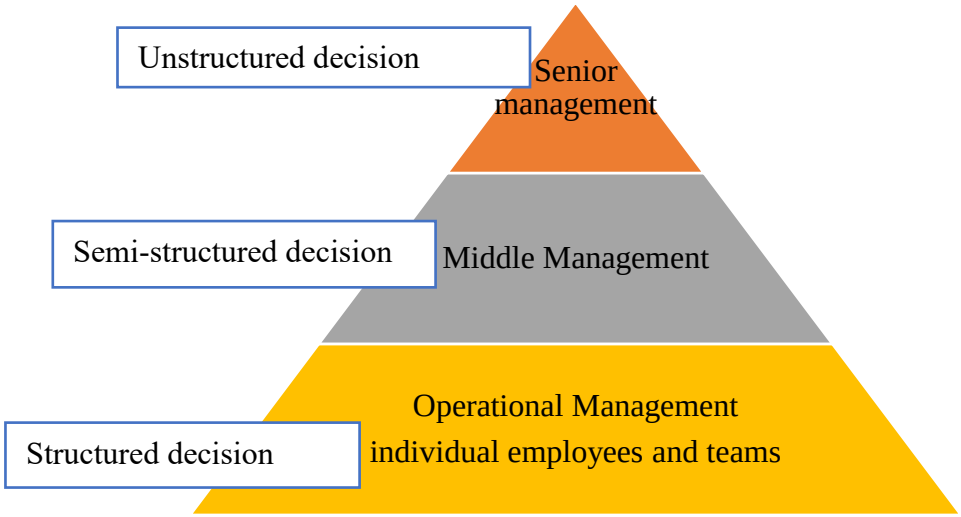

Figure (2.2): classification of decision depends on Functional Structure (Hall, 2010).

2.2.4.1.Unstructured decisions

Situations where it is not feasible or desirable to predetermine many decision actions are considered unstructured decision making situations. Due to the fact that they involve numerous unknown variables or relationships, too many random or changeable events, or both, many real-world decision making situations are chaotic (Lucena & Popadiuk, 2020). It happens when pertinent knowledge and affective connections are unknown. The manager is unaware of the necessary data. In this kind of scenario, the manager cannot benefit from the information system. Unstructured decision making can be achieved through the application of strategies like cost systems, sales planning, production, and research and development (Oliveira et al., 2017).

2.2.4.2. Semi-structured decision

Semi-structured decisions are made in an environment where the majority of relevant information is known, and influential relationships are almost known (Oliveira et al., 2017). In these situations, the information system can aid in decision making by offering

data. Certain strategies can be applied to semi-structured decisions, like cash scheduling, production planning, general budgeting, and new product planning (Ismail, 2011).

2.2.4.3. structured decision

Structured decisions include cases where procedures can be determined when a decision needs to be made in advance (Oliveira et al., 2017). Structure decision (Ismail, 2011) are made when relationships and pertinent information are known. An organized process is any decision making process that can be described in a procedure and applied to any kind of institution. Examples of structured decision systems that offer analytics to support decision making include managing customer accounts and inventory, figuring out the order's economic quantity, the short-term budget, the safety level, and inventory. It is possible to automate and create a computer system out of organized decisions. The goal of the MIS is to make sure that managers don't have to spend too much time making structured decisions and that all decisions are made electronically (James, 1998).

2.2.5. Approach to decision making

In the fifties, Brown and Simon (1978) initially presented an alternative framework for decision making to comprehend institutional behaviour. Their model added a new dimension—the notion that human rationality is limited—even though they worked on the bureaucratic model by emphasizing individual work in good institutions and consequently, on rational behaviour. This model bolstered the behavioural perspective of human and institutional behaviour by providing a more grounded substitute for traditional notions of rationality in decision making. According to the model, when a person makes a decision, he or she takes into account a smaller pool of potential options rather than all of the options that are available. This means that the person chooses options that are satisfactory or good rather than insisting on the best option, which results in decisions that are good enough

because the person does not search until an ideal solution to the problem is found (Certo, 1997). Therefore, it is necessary to identify the approach of decision making, which are as follows:

2.2.5.1.Rationality

A rational decision maker must make consistent and logical decisions. The element of rationality in the managerial decision making process is a prerequisite for the performance of the managerial function. Managers can make logical decisions with the help of a variety of tools, techniques, and strategies. A rational decision maker must be completely logical and objective. So that his decisions are directed towards the interest of the institution and linked to the achievement of its goals in a specific and measurable way, and personal interests are not favored (Litvaj et al., 2022), and he must be aware of all applicable options and their implications (Highhouse, Dalal, & Salas, 2014).

2.2.5.2.Bounded rationality

Managers must be logical thinkers who are committed to making wise choices (March, 1981), When making decisions, they need to do specific actions and exhibit positive behaviours such as recognizing issues, weighing options, obtaining data, and acting with caution and confidence. By doing this, they demonstrate to others their competence and the fact that their choices are the product of deft negotiation. However, the idea of bounded rationality offers a more grounded explanation of how managers come to their decisions (Campitelli & Gobet, 2010), which says that managers make decisions rationally, but they bounded (constrained) by their ability to process information (Hernandez, J, & Ortega, 2019). They accept adequate solutions in place of the ideal ones since they are unable to analyse all the information available about all the options. Within the parameters of their

information processing capacity, they behave rationally (Sayegh, Anthony, and Perrewé, 2004). Managers typically compromise when making decisions because they do not align with the ideal rationality assumptions. Since managers do not want to acknowledge that their initial choice may have been incorrect, their decisions are also impacted by the institutional culture, internal politics, strength considerations (Campitelli & Gobet, 2010; Highhouse et al., 2014).

2.2.5.3.Intuitive Decision

Managers frequently rely on their intuition when making decisions, which means they base their choices on past experiences, current emotions, and accumulated wisdom (Chen et al., 2023). Researchers have identified five distinct facets of intuition from their study on managers' use of intuition to make decisions. They are as follows (Sayegh et al., 2004):

- Ethical or values-based decisions involve managers making choices guided by ethical principles or institutional culture.
- Decisions based on experience entail managers drawing on their past encounters to inform their decision making process.
- Affect-initiated decisions are those in which managers rely on their emotions or feelings to guide their choices.
- Cognitive-based decisions are made by managers leveraging their skills, knowledge, and training to arrive at informed choices.
- Subconscious mental processing involves managers tapping into data from their subconscious mind as a resource to aid them in decision making.

Both bounded rational and rational decision making can benefit from the application of intuition. With similar prior experiences under their belt, the manager can decide to act fast even with what seems to be incomplete information (Robbins & Coulter, 2018). An intuitive decision may be appropriate in simple, everyday decisions within an institution, but for complex decisions it leads to inaccurate estimates and therefore a bad one (Hemming et al. 2022).

2.2.5.4.Evidence-Based Management (EBM)

In this type of decision making process is used relevant and reliable evidence EMB, “the systematic use of the best available evidence to improve management practices” (Pfeffer & Sultan, 2011). EBM has a lot to do with making management decisions. The decision maker's experience and judgment, the external evidence the decision maker considers, the opinions, preferences and values of those with an interest in the decision, and pertinent institutional (internal) factors like the institution’s members, context, and circumstances are the four fundamental components of EBM (Janati et al., 2018). Every decision has a different level of each of these factors' power or influence. The decision maker's intuition may be given more weight in some situations than in others, depending on the viewpoints of stakeholders or moral issues (institutional context). Managers must be able to identify and comprehend conscious choice when it comes to prioritizing the most crucial factors (Neumann et al., 2022).

2.2.6. Decision making conditions

While making decisions, managers may face three different circumstances: certainty, risk, and uncertainty.

2.2.6.1. Certainty: The presence of certainty is the ideal condition for decision making. In this scenario, the manager can make precise choices since every alternative's outcome

is known, the decision maker is fully aware of the future, and they are knowledgeable about the science of certainty regarding the different types of variables, their behaviours, the quantitative and qualitative effects on the problem, and the outcomes of its solution (Weber, 1997).

2.2.6.2. Risk: The most prevalent scenario is one in which there is risk, and the decision maker can calculate the likelihood of a particular result. Managers can assign possibilities to various alternatives in risky situations by using historical data from their prior personal experience or secondary information (Yoe, 2019).

2.2.6.3. Uncertainty: These situations are completely unknown (uncertainty) (Al-ashimi et al., 2022). It is difficult for managers to determine certain probabilities for outcomes due to lack of information or concern about possible side effects. These circumstances require urgent action and decision making based on available data, limited information, psychological orientation, optimism, or pessimism of the future decision maker and how inclined he is to maximize return by risk or reduce loss with caution. Sometimes, these conditions are the most difficult and require making strategic and quick decisions based on available information and analysis (Litvaj et al., 2022).

2.2.7. Stages of decision making processes

Although choosing between options is the most common way to characterize the decision making process, there is more to it than that because decision making is a process rather than just an act of choice. As a result, the decision makers must follow the eight steps when making any decision (figure 2.3), regardless of how straightforward. This procedure is crucial for both executive and personal decisions.

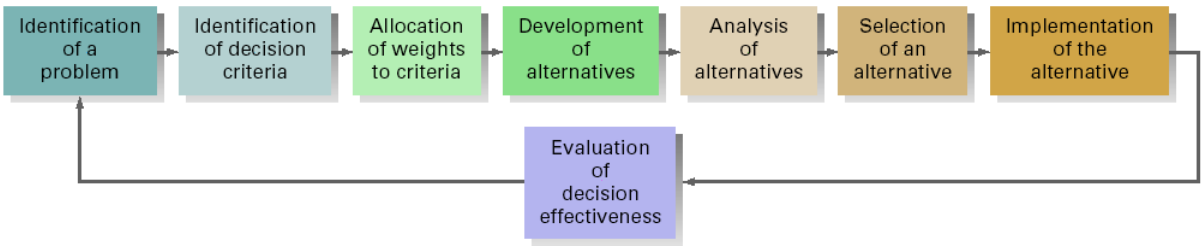

Figure (2.3): Stages of the decision making process (Robbins & Coulter, 2018).

Using a decision making model can help to streamline the decision making process. Decision models serve as a methodical roadmap for the decision making process, enhancing its efficacy and efficiency (Robbins & Coulter, 2018). decision making models are useful tools because leaders are so busy and must simultaneously focus their attention on several conflicting directions. The issue of danger is another. Peril The idea of decision making is integral, and leaders can evaluate and reduce the risks involved in each choice by adhering to sound decision making models. When used well, decision models also help leaders maximize their time and guarantee that a methodical and strategic approach to decision making is always taken.

Step 1: identification of the problem

Every decision starts with a problem, which is the distinction between the intended and actual states (Lunenburg, 2010). Managers should therefore be careful not to confuse the problem with its symptoms to avoid making the wrong decision. Effectively identifying the problem is crucial, but it is challenging since a mistake made at this stage can have repercussions on the subsequent decision making process. Inaccurate or ambiguous identification of the problem can lead to inappropriate or incorrect selection of alternatives and decision criteria (Guo, 2020). As a result, both the problem and the decision-analysis process need to be precisely defined. Using accurate data and drawing the right

conclusions can help people make better decisions and get the results they want (Hemming et al., 2022).

Step 2: identification of decision criteria.

Once a manager identifies a problem, he must identify important or relevant decision criteria for solving problem (Certo, 1997). Even when they are not stated clearly, every decision maker has guiding principles that they use to make decisions. Decision criteria are subject to change. For instance, demographics and customer preferences and interests must be considered as fundamental factors when making decisions about advertising (Certo & Certo, 2022).

Step 3: Allocate of weights of criteria

If all the criteria are equally significant, the person making the decision should weigh the items to determine their proper priority. by using this criterion to determine the weights of the remaining criteria after allocating a weight of 10 to the most significant criterion. For comparison, the weighted criteria are displayed (Taherdoost & Madanchian, 2023).

Step 4: Development of alternatives

Making a list of potential solutions to the problem is required of the decision maker in the fourth step of the decision making process. The decision maker in this step needs to be creative; alternatives are actions or courses of action that, by addressing the current issue and confirming what must be done, assist in achieving the intended goals or outcomes. Options must be able to resolve the issue and work with the resources and capabilities that are available, should one of these Since the two requirements are not satisfied, the decision maker needs to come up with a range of options. This aids in avoiding errors and selecting the best option (Lunenburg, 2010).

Step 5: Analyses of alternatives

Following the identification of the options, the decision maker must use standards to analyse and assess each one (Taherdoost & Madanchian, 2023; Guo, 2020). According to Krupa, Bridges, and Hunter (2015) there are several ways to evaluate alternatives, including:

- Pros and Cons Analysis: This qualitative comparison method identifies the advantages and disadvantages of each option. Then the option with the greatest number of advantages and the least disadvantages is chosen. When choosing between two to four simple options, analyzing the pros and cons is appropriate.
- Kepner-Tregoe (K-T) Decision Analysis: is a quantitative comparison method where a group of expert's rate criteria and options numerically based on everyone's evaluations and opinions. The calibre of the data that is currently available determines how big of a team is required. Making medium-complex decisions involving a few criteria is appropriate for this analysis.
- Analytic Hierarchy Process (AHP) :Quantitative comparison of alternatives in pairs is carried out according to predetermined criteria to determine the best alternative. The components of any problem are organized in a hierarchical manner, to show the intensity of the impact of the elements in the hierarchy. Then the problem is broken down into smaller and smaller parts. Numbers are used to represent these comparisons and thus identify potential solutions.
- Multi-Attribute Utility Theory (MAUT): Combines stakeholder and individual preferences with different measures of costs, risks, and benefits to create a high-level preference set. Benefits criteria are converted into a common measure and

take dimensions (0 to 1) referred to as "multi-attribute benefit". The weights of the criteria depend on their importance in deciding on the best option.

- Cost-Benefit Analysis (CBA) :a methodical, quantitative approach to evaluating the appeal of government initiatives or policies when it's critical to consider both potential long-term effects and wide-ranging side effects. CBA is a good technique when the main basis for making decisions is the cash cost versus cash benefit of alternatives.
- Custom Tailored Tools :This might be required to aid in the understanding of the system's complex behaviour. To create a custom tool, the decision support team ought to think about bringing on professionals with knowledge of computer programming and decision analysis.

Deep thinking and careful examination of options are essential for evaluating alternatives. The availability, timeliness and consistency of data collected by decision makers – i.e., prior to decision making – are critical to their ability to evaluate alternatives (Salas, Rosen, & Diazgranados, 2010).

Step 6: selection of an alternative

Selecting the best alternative, or the one that performed the best overall during the alternative's evaluation stage, is the sixth step in the decision making process. This alternative is the most suitable and best option among the alternatives that are currently available. (Lunenburg, 2010).

Step 7: Implementation of the alternative

This step means putting the decision into effect by informing those who will implement the decision and gaining their support, knowing that their participation in decision making

will be more supported. Taking into consideration the decision was re-evaluated if the decision was long-term or there was a change in the surrounding environment during implementation (Guo, 2020). To check whether requirements, options and alternatives remain the best choices or if a new assessment is needed considering the amendment. The decision maker also needs to create a plan for the implementation of the chosen course of action at this stage. The following should be part of this strategy (Robbins & Coulter, 2018):

- Determine the time: Specify the start date of execution and the time frame for completing various tasks.
- Implementation adaptation: It is important to identify steps that could be taken in the event of poor implementation of the alternative or the emergence of new circumstances. This enables the manager to adapt to changing circumstances and ensures that goals are achieved.
- Limitation of responsibility: Ensure that the entity that will implement and monitor the alternative. It is essential to define responsibilities accurately to ensure effective and successful implementation.
- How to implement: Plan the exact actions to be taken and provide guidance on how to implement the alternative. Implementers should be able to understand and follow these instructions easily.

By preparing this plan, the manager can ensure that the alternative is implemented effectively and in a timely manner, can be followed up and ensure that the desired goals are achieved.

Step Eight: Evaluation of the Decision Effectiveness

Evaluating the decision's result to determine whether the issue has been resolved is the last stage in the decision making process. If the assessment reveals that the issue is still present, the manager must assess what went wrong. Is the problem's definition wrong? Did you evaluate alternatives incorrectly? Were the appropriate substitute selected but inadequately executed? (Turpin & Marais, 2004).

2.2.8. Errors and biases in decision making

The process of making decisions can be impacted by a variety of errors and biases (Sánchez-Fuenzalida, 2023). Kahneman (2011) highlight that institutions saw a 7% increase in performance returns when they reduced the impact of bias in decision making. The list of common biases is below as the figure(2.4) shown: (Hemming et al., 2022; Featherston et al., 2020; Prasad, 2019; Meissner & Wulf, 2013; Kahneman et al., 2011; Gilovich, Griffin, & Kahneman, 2004):

Figure (2.4): Biases in Decision (Kahneman et al., 2011)

2.2.8.1. The overconfidence bias: decision makers frequently have irrationally high expectations for themselves and their abilities or think they know more than they do.

2.2.8.2. The immediate gratification bias :it characterizes decision makers who have a propensity to shun immediate expenses in favour of immediate rewards. Decisions that yield immediate benefits are more alluring to these people than ones that yield long-term benefits.

2.2.8.3. The anchoring effect :it explains how decision makers find it difficult to modify their initial conclusions considering new information because they hold onto the initial information as a starting point. Early perceptions, concepts, costs, and estimates are given more weight than later information.

2.2.8.4. The selective perception bias :based on their calculated perceptions, decision makers choose and interpret events, which influences the information they consider, the issues they recognize, and the solutions they devise.

2.2.8.5. The confirmation bias :They are decision makers who look for data to support their previous decisions and reduce data that challenges those decisions. They are skeptical and pessimistic about information that contradicts their preconceptions, but they tend to accept information that supports those beliefs.

2.2.8.6. The framing bias :it happens when decision makers pick out and emphasize some parts of the circumstance while leaving out others. They distort what they see and establish false reference points when they highlight and call attention to aspects of the situation while neglecting or omitting others.

2.2.8.7. The availability bias :it happens when decision makers recall the most recent, distinct events from their memories. Therefore, skewing their capacity to recollect events objectively and causing bias in judgments and probabilistic approximations.

2.2.8.8. The representation bias :decision makers evaluate an event's probability based on how similar it is to past occurrences or groups of past occurrences. Managers that exhibit this bias create parallels and perceive situations that are identical to ones that do not exist.

2.2.8.9. The randomness bias :it characterizes the actions of decision makers who are attempting to give meaning to seemingly random occurrences. They act in this way because, even though random events are unpredictable and happen to everyone, most decision makers find it difficult to deal with chance.

2.2.8.10. The sunk costs error :this type of bias happens when decision makers disregard the fact that the present cannot undo the past. When weighing options, they erroneously consider past time, money, or effort outlays rather than concentrating on potential outcomes. Decision makers must remember past costs rather than ignoring them.

2.2.8.11. The self-serving bias :they are quick to claim credit for their accomplishments and place the blame for their failures on outside forces.

2.2.8.12. The hindsight bias: it is a bias of leaders to think that, once they knew the true outcome of an event, they could predict it with accuracy.

The decision maker must be conscious and avoid these common mistakes and biases in decision making because they affect him negatively. According to some studies, coaching can reduce biased decision making and help employees identify their biases. In addition, managers should be aware of the decision making process, try to identify the abbreviations they use frequently, and assess whether they are appropriate or not (Cristofaro, 2017).

2.2.9. Effective decision making

Divergent opinions exist regarding the efficacy of a given decision. It might be the choice that best satisfies the requirements and objectives. Some believe it to be a consensus

decision free of glaring mistakes. Others view it as a prompt decision that gets right to the point and offers a workable solution right away. Others might view it as a creative choice that involves weighing numerous, competing objectives, coming up with fresh ideas, or adopting quick fixes that will help the institution achieve its long-term objectives (Wiig, 2015).

effective decision making is crucial to the success of institutions , Good decisions are those that result from effective decision making – that is, decisions are made in accordance with the principles of decision quality (Spetzler, Winter, & Meyer, 2016), and it depends heavily on the accuracy of information, and the presence of this appropriate information at the right time. Having enough information helps decision makers take informed action, thereby enhancing the effectiveness of decision making (Alduais et al., 2023). Siebert, Kunz, & Rolf (2021) stated that decision quality is linked to seven elements: “correct identification, information excellence, innovative alternatives, clear values, integration and evaluation by logic, balance of basis, and commitment to action”. To achieve these elements, the decision maker must exploit mental skills between all decision making tasks. The quality of the decision reflects the ability and superiority of the decision maker in each of the practical steps of decision making, and a good decision maker must avoid common biases in decision making.

Making decisions that are effective affects decision makers' performance ratings within the institution and helps them advance to more senior roles. Thus, to help decision makers make better decisions, the following things must be considered:

2.2.9.1. Understand cultural differences: When making decisions, managers must consider the different values, beliefs, attitudes, and behavioral patterns of the employees

involved. When members of one culture ignore the cultural laws of another, the decision becomes less effective (Yates & De Oliveira, 2016).

2.2.9.2. Create standards for good decision: good decisions anticipate the future, make use of the information at hand, consider all feasible options, and avoid creating conflicts of interest. Employees of the institution should therefore abstain from any ethical, legal, financial, and other conflicts, because it will directly affect the effectiveness of decisions and this reflects negatively on the institution (Klein & Graves, 2018).

2.2.9.3. Know when it's time to call it quits :The choice of withdrawal should be made as soon as the decision turns out to be wrong. A lot of decision makers suppress or distort unfavorable information because they don't want to think their choice was incorrect. As a result, when it comes time to move to a new phase, they refuse to acknowledge it because they have become firm in their decision. This kind of thinking simply won't work in the current dynamic environment and will hurt the institution (Hammond, Keeney, and Raiffa, 2015).

2.2.9.4. Use an effective decision making process: There are six characteristics, according to experts, that characterize an effective decision making process (Hammond et al., 2015; Siebert et al., 2021):

- Focused on what matters.
- Decisions are logical and consistent.
- Recognize subjective and objective thinking and combine analytical and intuitive thinking.
- Need only the required amount of appropriate information and analysis to solve a particular problem.
- Encourage and guide the collection of relevant data and informed opinions.

- Effective decisions are easy to make, dependable, simple, and adaptable.

2.2.9.5. Develop your ability to think clearly :it is important for decision makers to improve their clarity of thought to make better decisions in the workplace. Because making sound decisions is not a natural skill, people must hone it by reading scholarly publications on the topic, as well as by assessing the decisions they make, their validity, and the effects they have on the institution (Barabba & Barabba, 2022).

2.2.10. The conclusion:

decision making is the focus and basis of the administrative process, but it is a major factor in the success of the institution, as decision makers seek to make effective decisions that will achieve the goals of the institution, that decision makers must take into account the circumstances and challenges surrounding them when making decisions to make their decisions to be objective and benefit the institutions, and they must also take into account all the factors that affect the effectiveness of the decision, so that they can reach effective and high-quality decisions as effective decisions achieve There are many significant differences in the design of these decisions, but they share characteristics that distinguish them from being a continuous process and goes through several successive steps, starting from identifying the problem and searching for primary data, and then choosing the appropriate data, to the final decision making process. To ensure the success of this process, this decision must be characterized by quality and acceptance, and be smooth in implementation with the need to take it in a timely manner, and it is worth noting that decision makers must avoid biases and errors when making the decision because of its negative impact on the effectiveness of decisions, and this is one of the challenges and difficulties that the decision maker must overcome. Besides, this decision must be implemented carefully and carefully, so that the desired benefits of effective decision making are achieved.

2.3. Conceptual Framework: knowledge management and effective decision making

2.3.1. Introduction

Knowledge of phenomena and their application in the decision making process has become more important nowadays, which is characterized by the rapid advancement of digital technologies and the rapid spread of data and information, necessitating rapid understanding and exchange of issues and phenomena, as well as rapid decision making. Therefore, managers and policymakers need to move beyond constraints on making decisions based on their experiences, intuitions, or feelings, and they need to increase their ability to understand data and facts and broaden their horizons (Eppler and Burkhard, 2004).

Appropriately conceived information and knowledge facilitates goal setting, alternative formulation, and optimal option selection for decision makers. This lowers uncertainty and enhances decision making results (Schiuma, Gavrilova, & Carlucci, 2022).

Oliveira et al., (2017) demonstrated that effective knowledge management has improved institutional procedures and communication between different departments and sectors. The enhancement involved recognizing issues with the institution's structure and resolving them precisely and directly through managers. Information technology can be used to enhance management procedures. They perform well and comprehend the true requirements of various institutional levels (Bloem & Salimi, 2023). knowledge management plays an important role in the decision making process for institutions dealing with a range of issues and institutional levels, as well as the advantages it offers the institution in terms of lower decision making risks, cost savings, security during the decision making process, quick and accurate information sharing, high quality and

adaptable customer and employee service, improved time management, and increased productivity (Oliveira et al., 2017).

2.3.2. Knowledge management and decision making:

knowledge management is a purposeful endeavour aimed at guaranteeing that employees possess the appropriate knowledge when needed (Wroblowska, 2019). Creating appropriate knowledge resources within the institution and guaranteeing a smooth workflow in each department are the main objectives of knowledge management (Younas et al., 2022). institutions that are adept at consciously managing knowledge can quickly succeed. Thus, the endeavour to comprehend theory and assist in the actual development of social and technical conditions that will support and encourage the acquisition, capture, sharing, and application knowledge in institutions constitutes the significance of knowledge management. Making wise decisions starts with having solid knowledge (Younas et al., 2022). Abubakar et al. (2019) maintained that one of the most crucial elements in ensuring the success of the decision making process is the availability of standardized information when needed, when a problem has multiple answers, or at least two, decision making must be made. To effectively practice their profession, managers at all levels of an institution must decide on the nature of the issue and the internal and external environments that surround the institution. As a result, the decision is linked to a variety of problem related changes, and administrative decisions are unique in that they are dependent on the decision making quality of management. Its significance to the business is primarily demonstrated by the fact that the effectiveness and outcomes of these processes have a profound effect on the productivity. Broggi (1999) claimed that for the decision maker to be able to make logical and justified decisions, he must have at least a basic understanding of the phenomenon.

Figer (2.5) shows the relationship between knowledge management and decision making, where we find that knowledge management processes are necessary at all stages of decision making because of their impact on making correct decisions and acquiring and using this knowledge in making effective decisions, as knowledge management encourages employees to contribute ideas, suggestions and lessons learned, which creates a collaborative environment. This exchange of knowledge fosters creative thinking, problem solving, and the creation of new ideas (Hrubizna, 2015).

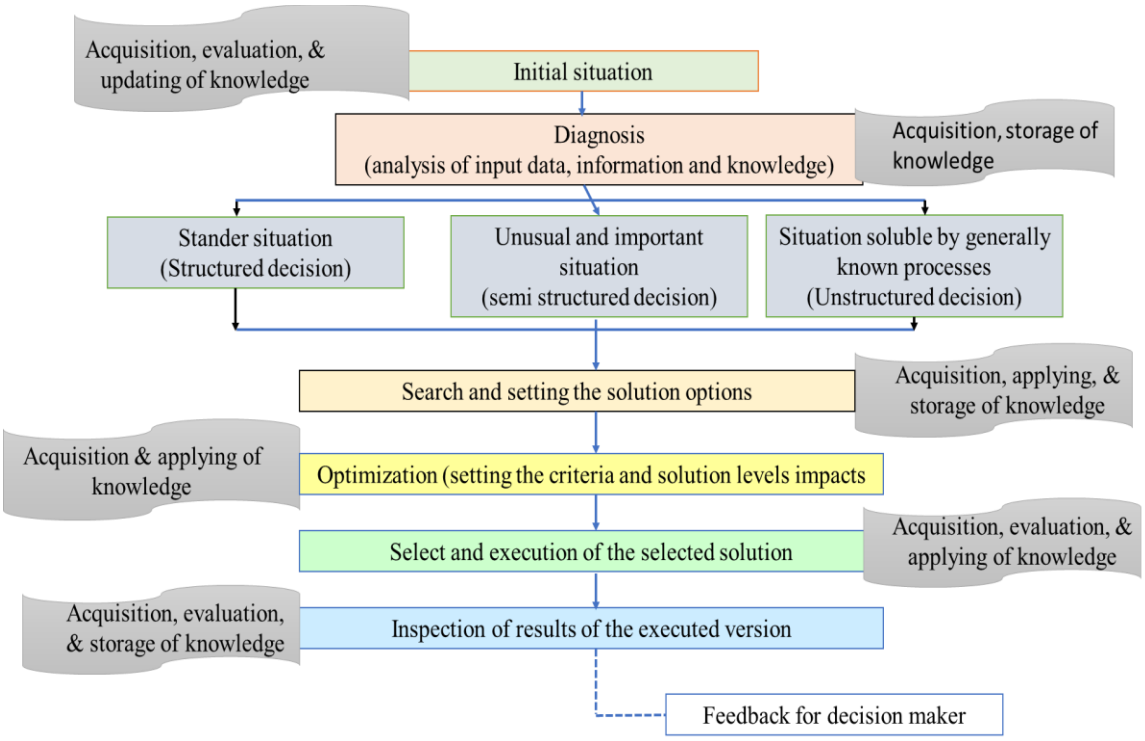

Figure (2.5) Relation between knowledge management and decision making (Hrubizna, 2015)

2.4. Ministry of Higher Education and Scientific Research:

2.4.1. Introduction:

The Ministry of Higher Education and Scientific Research oversees overseeing higher education institutions in Palestine. The Ministry is the official institution in charge of

overseeing and directly managing scientific research and higher education to manage, regulate, and grow the educational sector. It is also in charge of creating and enforcing laws and regulations, as well as supporting and partially funding higher education institutions run by the government and non-government institutions (Higher Education Law, 2018). In accordance with the Sustainable Development Goals, the Ministry headed the national strategic planning process for the higher education sector for the 2020–2024 period. The Ministry has taken on the duty of advancing and developing education by involving interested parties and encouraging them to contribute to these advancements. It has become essential for all stakeholders to concentrate their efforts on reorienting the educational system and working towards a renewed system to keep up with changes in the global context and modern teaching methods. By producing a generation with knowledge, skills, and morality, a generation that is adaptable and capable of overcoming the many challenges it encounters in life and makes contributions to scientific advancements and research (Ministry of Higher Education and Scientific Research, 2022; Sectoral Strategy for Higher Education and Scientific, 2023)

Higher education refers to any academic or vocational study undertaken at an officially recognized institution of higher education, with a duration of no less than one complete academic year or two semesters, following the attainment of a high school diploma or its equivalent (Higher Education Law,2018).

2.4.2. Ministry's vision:

“World-class higher education and scientific research that keeps pace with global development and its impact is reflected in the development of the State of Palestine” (Sectoral Strategy for Higher Education and Scientific, 2023).

2.4.3. Ministry's mission:

"Supporting and empowering all institutions of higher education and scientific research to carry out their duties and consistent with competitive higher education policies and strategies, to establish standards of integrity and promote the principles of accountability, justice, and transparency. In addition to adopting excellence and creativity, especially in the fields of scientific research based on creative and analytical thinking and problem solving. This is to adapt to the requirements of progress and technology in this era, ensure education for all, and provide a balanced and sound environment that qualifies students to defend national rights and constants" (Sectoral Strategy for Higher Education and Scientific, 2023).

2.4.4. Strategic objectives of the Ministry of Higher Education and Scientific Research:

Before addressing the strategic objectives of the Ministry, it is necessary to address the active role of the Ministry in supporting higher education institutions to upgrade the research and technical fields, which contributes to transforming the educational, research and technical tracks into paths that keep pace with modern changes and meet the requirements of society and the local, regional, and international market. All of this has been formulated in 5 strategic objectives adopted by the Ministry during the period 2021-2023 (Sectoral Strategy for Higher Education and Scientific, 2023), which are as follows:

First Objective: Improving the quality and quality of higher education outputs.

Second Objective: Provide safe, inclusive, and equitable access.

Third Objective: Upgrading the level of scientific research and ensuring its effectiveness in sustainable development.

Fourth Objective: Upgrading technical education in quantity and quality.

Fifth Objective: Developing administrative procedures, financial sustainability and enhancing governance principles.

To achieve these objectives, the strategic has implemented several clear and specific interventions that have been applied and their specific indicators measured during the implementation period of the plan 2020-2024 in application of the strategic results framework.

2.4.5. Tasks and powers of the Ministry of Higher Education and Scientific Research:

The Ministry shall exercise the following functions and powers (Higher Education, 2018):

- Implementing higher education policies in all fields in accordance with the provisions of the Higher Education Law No. 6 of 2018.
- Concluding agreements related to higher education and scientific research, and cultural exchange programs with a national dimension, and follow up its implementation with all local, Arab, regional, and international bodies.
- Representing the State of Palestine in international and regional conferences in the field of higher education and scientific research.
- Follow-up of the institution, its academic programs and systems, the services it provides, and the quality of its performance and outputs.
- Consideration of applications for licensing higher education institutions submitted by the Commission.
- Recognition of non-Palestinian institutions of higher education.
- Organizing the work of student services offices and following up on their affairs.
- Implement the policies of scholarships, grants, and study aid at home and abroad.
- Issuing data and statistics related to the institution.

- Provide the necessary sources of funds within the framework of the general budget of the State Completion of the coverage of special expenses in the institution and scientific research and disbursed in accordance with the policies determined by the Council of Higher Education.
- Equivalence of certificates issued by the higher education institution and non-Palestinian high school certificate and believe it.
- Certify the certificates granted by the institution in accordance with the instructions issued under the provisions of this Decision by law.
- Supervise career guidance and counselling programs for students to choose majors in the institution.
- Coordinate with the relevant ministries and authorities to develop licensing regulations to practice professions that require Education.
- Follow up on the affairs of Palestinian students studying abroad and coming to the country.
- Forming committees to help resolve disputes between universities and employees or students.
- Coordination between the institution and public education institutions to ensure integration between them.

2.5. Literature Review

2.5.1. Previous studies on knowledge management

Demir et al., (2023) investigate how knowledge management practices affect an organization's viability in study titled with “Links between knowledge management and organizational sustainability: does the ISO 9001 certification have an effect?”. The study

looked at performance differences between certified and non-ISO 9001 certified companies. The study employed a descriptive-analytical methodology, and data were collected from 156 employees working in various private institution in the Kurdistan Region of Iraq. The results showed the importance of knowledge storage in the creation, sharing, and application of knowledge. The importance of creating and sharing knowledge in the application of knowledge by companies. In addition to how knowledge management significantly affects the viability of an organization. also explained that institution in the Kurdistan Region of Iraq are unable to produce management knowledge due to their insufficient capacity to store documents, the study recommended that institutions should create systems that allow them to store their experiences before creating and disseminating knowledge to achieve sustainable development.

While Anshari et al., (2023) purposed to find out how much machine learning software is utilized in knowledge management software in their study titled with “Optimizations of knowledge management (KM) with machine learning (ML) enabled”. To collect data for this study, a literature review and analysis of recent studies on the subject were used. The researchers concluded that knowledge management is critical for an institution to be able to provide employees with the necessary information and easy access. Therefore, the availability of knowledge management within the institution helps in strategy development, reduces problem solving times, and helps institution maintain their competitiveness over time. The study also showed that through machine learning and knowledge management, appropriate applications can be developed for use in decision making.

Whereas, Santhose and Lawrence (2023) examined the enabling factors and barriers to knowledge management and sharing within institutions in their study titled with

“Understanding the implementations and limitations in knowledge management and knowledge sharing using a systematic literature review”. 57 research publications from 2000 to 2020, which addressed the ideas of knowledge management and knowledge sharing, were selected to review the methodological literature for this study. The results suggest that trust, institutional culture, and individual traits are some of the elements that underpin knowledge management and sharing in companies. The results also indicate that several factors hinder the knowledge management and sharing of knowledge in the organization, such as the poor of communication, the employee's inability to understand knowledge levels, lack of trust, behavioral changes, time constraints, unstructured institutional performance, employee attitude, heavy workloads, resource constraints, and technological advancements, all this is the barriers to knowledge management on the organization. Finally, the results indicate that the best processes that can be used within an institution to enhance knowledge management include knowledge acquisition as well as sharing and use.

Bloem and Salimi (2023) in study titled with “Role of knowledge management processes within different stages of technological innovation: evidence from biotechnology SMEs” aimed to better understand the role of four knowledge management processes at different stages of the technological innovation process within small and medium-sized biotech companies. The study adopted a qualitative and exploratory research design through interviews with 15 institutions operating in the biotechnology field in the Netherlands. The researchers found that the four processes of knowledge management (acquisition, sharing, application, and protection knowledge) have a key, complementary or supporting role. knowledge management processes are used to channel resources more efficiently, distribute human resources in the institution more effectively, and stimulate technological innovation in general. The researchers also found that knowledge sharing plays a

relatively supportive role compared to other knowledge management processes, and the application knowledge plays a key role in the development and implementation phase.

Limsangpetch et al., (2022) examined the relationship between knowledge management, institutional innovation, and business performance in their study titled with “Modelling knowledge management on business performance through mediating role of organizational innovation among IT staff in Bangkok, Thailand”. The descriptive analytical methodology was employed by electronically gathering data from 200 employees working in Information Technology company in Bangkok. The results show a positive correlation between knowledge management, organizational innovation, and business performance. The findings support the idea that knowledge management, with its components of knowledge acquisition, knowledge storage, knowledge sharing, and knowledge application, is linked to business performance through a mediating role for organizational innovation. An organization can improve knowledge acquisition by encouraging employees to analyze errors to enrich their knowledge, improve knowledge storage by granting restricted access to confidential and sensitive information, and develop knowledge sharing by fostering a work environment that encourages employees to share knowledge. The organization can also improve the application of knowledge by encouraging the practical application of knowledge and experience learned from previous projects in the following projects.

In order to study the vision of the Federal Ministry of Health in Ethiopia for knowledge management and study the impact of the determinants of knowledge management in this ministry, Sime et al., (2020) do their study which titled with “Determinant factors of knowledge management practice: the case of ministry of health, Ethiopia”. Descriptive and exploratory methodologies were utilized. Descriptive data were collected through a questionnaire distributed to 340 employees in the ministry. Exploratory data were

gathered through interviews with 7 managers from 7 public departments. To measure the Ministry's level of perception of knowledge management, they applied the general perception model of knowledge management, which is based on people, processes, and areas of important technical operations. According to the study, the ministry was seeking knowledge management to manage its operations but lacked the necessary skills. The knowledge management practice in the Ministry has been shown to have a moral and positive linear relationship with institutional culture, human resources, information technology, and knowledge management processes.

Heisig and Kannan (2020) reviewed the research literature related to the role of gender in the creation, sharing and use of knowledge in organization in their study which titled "Knowledge management: does gender matter? A systematic review of literature". These researchers analyzed 41 articles published in peer reviewed journals, the results showed that knowledge sharing is gender induced. Based on analysis and synthesis, the relationship between knowledge sharing and gender is stronger for females compared to males. Moreover. Gender has a greater impact on the use of knowledge, with males using a knowledge management system more statistically significant than females.

Sahibzada et al., (2023) looked at how trust, organizational climate, knowledge management processes, and organizational performance relate to each other. and how creative organizational learning acts as a mediator in the relationship between knowledge management processes and organizational performance, in their study titled with "Refueling knowledge management processes towards organizational performance: mediating role of creative organizational learning". A sample frame of 536 academics and administrators from Chinese higher education institutions was used. The results showed that the organizational climate and trust significantly affect knowledge management

processes. The results also demonstrated that knowledge management processes have a direct and material impact on organizational performance.

In order to promote sustainability in institution's operations, López-Torres et al., (2019) in their study titled with “Knowledge management for sustainability in operations”, looked at how knowledge management can be used as a platform to support sustainable operations. The conceptual framework is based on the notion that knowledge management enables organizations to achieve more efficient processes. Data gathered from 345 SMEs in Mexico. According to the study, knowledge management is a viable strategy for sustainability. The findings suggest that knowledge management is a useful tool for managers to understand the potential negative impacts of unsustainable activities on the global community. The implementation of knowledge management is a critical step towards embracing sustainability.

Al Yami and Ajmal (2019) seek to understand the relationship between knowledge management processes, operational effectiveness, and sustainable development in the public sector in the UAE in their study titled with “Pursuing sustainable development with knowledge management in public sector”. Data was collected through a questionnaire distributed to 383 employees from the public sector in the UAE. The results showed that knowledge management processes have a direct, positive, and significant impact on both sustainable development and operational efficiency and sustainability. Moreover, operational efficiency has proven to play an important mediating role in the relationship between sustainable development and knowledge management actions.

Dzenopoljac et al., (2018) examined the relationship between business performance in Kuwaiti organizations and knowledge management processes in their study titled with “Impact of knowledge management processes on business performance: evidence from

Kuwait". Data was collected through a survey distributed to 500 employees in 139 government and private organization in the State of Kuwait. The results showed that business performance is positively and significantly affected by each of the four knowledge management processes examined: knowledge production and development, coding and storage, transfer and sharing, use and evaluation knowledge. In addition, they discovered that knowledge production and development is the most important element in organization's creative success, while knowledge storage is the least important, and studies have revealed that knowledge management processes have an increasing impact on innovation performance.

2.5.2. Previous studies on decision making:

Muchtarom (2023) in their study titled with "Basic concepts of considerations and decision-making strategies in educational leadership", aimed to research the basic concepts of strategies that should be used by an educational leader in making decisions. The study used a qualitative approach through a literature review. The results concluded that the manager must understand the steps of decision making and pay attention to the implementation of the decision, the leader must consider intuition, facts, authority and justification when making a decision, and the results also found that an effective leader is a leader who can make decisions and develop relevant policies, and he must think about the consequences before making a decision.

Alduais et al. (2023) aimed to study the impact of information sharing on the quality of decision making in private hospitals in Jordan from the point of view of employees in their study titled with "The impact of information sharing on the quality of decision-making: From the point of view of employees in Jordanian private hospitals". The descriptive analytical methodology was employed, and the questionnaire was distributed to a random sample consisting of 342 healthcare employees in private hospitals in Jordan.

Results indicate that sharing information significantly positively affects teams' decision making ability and facilitates decision making. The results also indicated that the characteristics of participants do not affect the quality of decision making, that decision making teams are important in information management, and that information sharing encourages flexibility and openness in institutional relationships, and helps decision makers, managers, and regulators in decision making.

Siebert et al., (2021) test the impact of decision making training on two aspects of proactive decision making on decision satisfaction in their study titled with “Effects of decision training on employees decision making proactivity”. Based on three distinct decision making cycles and two control groups, data on 1013 decision makers/analysts with different levels of experience were analyzed through an online distributed questionnaire. The results showed a positive effect of training in proactive cognitive skills and decision making satisfaction, but no effect on proactive personality. The findings also point to the practical importance of decision making training as a means of promoting effective decision making by even the most experienced decision makers.

Where Bruine, Parker, and Fischhoff (2020) aimed to verify metrics of individual differences in decision making efficiency as well as the process by which they are created under carefully controlled experimental settings, in their study titled with “Decision-making competence: more than intelligence”. The results suggested that effective decision making may benefit people's intelligence as well as their ability to motivate, organize, and experience.

While Alsmairat, and Alhawamdeh (2019) in their study titled with “Strategic decision making and organization performance: a literature review”, aimed to present and discuss strategic decision making and institutional performance through a review of relevant literature, which has shown that a large number of previous studies have attempted to

focus on the importance of strategic decision making, in addition to its impact on institutional performance. This research contributes to the comprehension of factors shaping managers' decisions and performance, encompassing environmental factors, leadership behavior, institutional justice, decision making approaches, and processes. The findings underscore the pivotal role of the strategic decision making process in ensuring effective institutional performance. Studies further reveal that both internal and external environmental factors exert influence on managers' performance in formulating strategic decisions. Moreover, the utilization of decision support systems aids decision makers in accessing timely information, thereby contributing to the improvement of strategic decision performance, and directly impacting institutional effectiveness.

Munjuri (2018) aimed to determine whether human capital has an impact on the performance of businesses in the country of Kenya through the mediating variable of decision quality, in their study titled with “Human capital, quality of decisions and performance of commercial banks and insurance firms in Kenya”. The study adopted a descriptive methodology through a survey distributed to 54 banks and insurance organizations in Kenya. The results revealed a positive relationship between human capital and decision quality, indicating that the quality of decisions has a positive effect on the organizations performance level. Additionally, the study showed that decision quality improves based on the cognitive background, skills, and competency of decision makers through the provision of alternatives, balanced evaluation, and understanding of the surrounding environment.

Negulescu and Doval (2014) aimed to investigate the opinions of Romanian managers and employees about the quality of decision making in different areas in relation to objectives, and to select the main drivers that contribute to the approach of managers to focus their decisions on the effectiveness of organizations, in their study titled with “The quality of

decision making process related to organizations' effectiveness". This study employed qualitative analysis of managers' behavior through a survey distributed to 207 organizations operating in various economic and social sectors in 42 different countries. Researchers have discovered that managers consider the strategic objectives of an organization when making decisions. The managers believe that the decision quality is impacted by the volume of available information, and the influence of subordinates can enhance both the quality and the impact of decision implementation. While many decisions are routine and predetermined, some are influenced by external factors. Nevertheless, the research findings indicate that managers sometimes make decisions that are self-evident due to a lack of information or funding. Additionally, many managers successfully utilize alternatives in decision making, even in situations with insufficient information, by selecting the best alternative based on risk assessment and expected outcomes.

Lizárraga, Baquedano, and Cardelle-Elawar (2007) aimed to study the impact of gender and age on decision making from a natural perspective in their study titled with "Factors that affect decision making: gender and age differences". For this purpose, the decision making questionnaire was carried out on a sample of 589 participants (294 men and 295 women) in the age groups of 18 to 80 years. The results showed significant differences due to both gender and age that determine their decision making processes. Women attached more importance than men to uncertainty, time constraints, and consequences of a decision, on the other hand, men scored higher than women in information, goals, motivation, and work pressure, and no differences in knowledge were shown. The results also showed significant differences between adults and adults, when young people were viewed jointly, regarding decision consequences, motivation, knowledge, self-regulation,

and decision making factor, and between young men and retired persons, when viewed jointly, compared to adults in work pressure.

2.5.3. Previous studies linking between knowledge management and decision making.

Litvaj et al., (2022) examined the relationship between knowledge management, decision making and quality, and find out the degree of awareness in Slovak organizations about knowledge management, how it is used and its benefits in increasing competitiveness in their study which titled with “Decision-Making Procedures and Their Relation to Knowledge Management and Quality Management”. The researchers found that the biggest obstacle to the use of knowledge management in Slovak organization is the reluctance of employees to share knowledge, followed by the organization's unwillingness to manage knowledge, especially technical, then problems in evaluating employee knowledge by management and finally companies focus on tangible benefits rather than knowledge. The researchers also found that knowledge management (knowledge acquisition, knowledge creation, knowledge investment, knowledge evaluation and update, knowledge storage) has a positive impact at all stages of decision making, and that the use of effective knowledge management improves decision making, and its effectiveness. Collaboration and learning have a positive impact on knowledge creation and organizational performance. In addition, the use of knowledge management processes is a very important advantage for organizations in a highly competitive environment.

Younas et al., (2022) propose to provide a framework that can be used to extract the necessary data for use in decision making with the aim of increasing knowledge sharing and collaboration in higher education institutions in Saudi Arabia. This study was titled “Cloud-Based knowledge management framework for decision making in Higher Education institutions”. The framework was designed to address all questions for use in

administrative contexts and decision making. The study employed both descriptive and exploratory methodologies, and data were collected through interviews, document reviews, and discussions with 28 academic staff members at Jazan University. The study concluded that knowledge management is a critical element in managing the university to make wise choices. Because accurate and quality information is readily available, it helps senior management make wise decisions. This framework provides and collects the necessary data in statistical form for the management decision making process at the top level. It reduces the amount of time required to extract data, ensuring that knowledge is available and updated on demand. It also facilitated the tasks of knowledge sharing between and within institutions and helped different institutions make better and more accurate decisions.

Al-Aboudi (2021) studied the impact of knowledge management in its dimensions (diagnosing and acquiring knowledge, storing knowledge, distributing knowledge, and applying knowledge) on the dimensions of strategic decision quality (identifying the problem, presenting alternatives, choosing the best alternative, implementing the decision, and monitoring the results of the decision) for a sample of leaders in the Ministry's Agency for Intelligence Affairs in the city of Iraq. This research is titled “Knowledge management and its impact on the quality of strategic decisions”. The study utilized a descriptive analytical methodology, and the questionnaire was distributed to a sample of 90 employees holding administrative titles, including general managers, directorate managers, department managers, and section managers. The study found a positive correlation and a positive impact relationship between knowledge management processes and the dimensions of strategic decision quality. The study recommended that employees should adopt knowledge management processes to enhance strategic decision making.

While Alhamali, Abuabdullah, and Muhammad, (2021) aimed to determine the impact of knowledge management in the process of strategic decision making, a case study at the Ministry of Culture in the Libyan state in the study which titled with "The impact of knowledge management on making strategic decisions". The study employed a descriptive analytical methodology, and data were collected through a questionnaire distributed to 276 employees within the Libyan Ministry of Culture. The study found a statistically significant relationship between knowledge management and the decision making process in the institution under study, resulting in a statistically significant impact of knowledge management in decision making, the study also found a high level of knowledge diagnosis, identifying available alternatives, choosing the appropriate alternative and total decision making, the study also reached a set of recommendations, the most important of which is care. Use old experiences through workshops and teams to ensure new knowledge.

Bin Rahmoun and Muzahidiya (2020) seeking to study the impact of the dimensions of knowledge management in decision making in the Enterprise Drug Distribution / Algeria. This was addressed in the study titled "The impact of knowledge management on decision making: field study at the medicines retail distribution enterprise – Biskra". The study adopted a descriptive analytical methodology, and data were collected through a questionnaire distributed to 25 employees in a pharmaceutical distribution enterprise in Algeria, holding various job titles such as managers, department heads, and executive staff. The study found that there is a statistically significant effect between the processes of transferring and storing knowledge in decision making in the studied enterprise, and there was no impact of generating and applying knowledge in decision making.

Al-Shanti and Saada, (2020) sought in their study which titled with "The role of knowledge management processes on enhancing the quality of decision taking in

Palestinian military medical services" to identify the role of knowledge management processes in improving the quality of decision making in the General Directorate of Palestinian Military Medical Services, the descriptive approach was used, a questionnaire was used, distributed to 293 employees in the General Directorate of Palestinian Military Medical Services. The results indicate that the level of practice of knowledge management processes in general was medium (59%), while the relative weight of decision making was (58%). The distribution and application of knowledge significantly affects the quality of decision making and explained the variation (84.5%) in the quality of decision making. Abubakar et al., (2019) aimed to study the relationship between knowledge management, decision making style, and institutional performance, and to identify the relationship between the process of knowledge creation and institutional performance. The researchers concluded that information technology and collaboration had a significant impact on the creation of knowledge and the efficiency of the work of institutions, and that the creation of knowledge leads to the improvement of the work of institutions. Ultimately, rational, and intuitive choices complement each other.

Yu et al., (2019) aimed to explore the mechanism by which knowledge management helps improve organization's performance, and then examine the mediating role of decision quality in the Chinese context in their study which titled with "The mediating effect of decision quality on knowledge management and firm performance for Chinese entrepreneurs: an empirical study". A descriptive approach was used. A questionnaire was utilized, distributed to 213 Chinese entrepreneurs. Study concluded that knowledge accumulation, internal participation and external sharing of knowledge have a positive impact on decision quality, while decision quality in turn leads to high organization performance. Thus, the quality of the decision mediates the relationship between knowledge management and the performance of the organization in China.

Giampaoli and Ciambotti (2017) demonstrated the impact of knowledge management practices on institutional decision making and how this in turn affects organization performance in their study which titled with “Does Knowledge Management enhance Decision-Making Speed?”. A questionnaire was utilized and distributed to 113 large organization in Italy. The results indicate that some knowledge management practices significantly affect an organization 's ability to make quick and effective decisions and its performance. The results also show that organizations operating in a volatile environment can rely on knowledge management practices to make quick decisions rather than relying on the intuition of managers.

Alrahahleh et al,. (2016) discuss knowledge management factors to improve the quality of strategic decisions. He highlighted the relationship between knowledge management factors (information system, technology, awareness) and appropriate decision making of high quality in this study titled with “Knowledge Management and Decision Making” The study adopted a qualitative methodology based on relevant literature. The results showed that the knowledge management system enhance the quality of decision making, knowledge management technology provides a huge advantage in the field of institutional structure development by enhancing administrative activities due to the fact that technology is a platform for implementing a knowledge management system, and the results also showed that depending on the knowledge management system, quality decisions are made by choosing the appropriate alternative at the right time, and flexibility in using and modifying the chosen alternative.

Al-Dujaili (2012) aimed to investigate the issues and factors that influence the use of knowledge management as a tool for effective decision making. By investigating decision models and decision support systems that promote the effective use of knowledge management. This study is titled “An empirical investigation into the role of knowledge

management in effective corporate decision-making". Data was collected through personal interviews with managers and knowledge employees in institution in Iraq and the United States, in addition to using a questionnaire distributed within these companies. The results showed a strong correlation (80%) between knowledge management processes and effective decision making, in addition to that through the analysis of the regression coefficient, a positive impact of knowledge management was observed in the decision making process and the performance of the organization. The study also indicates that decision making based on knowledge management takes advantage of multiple technologies (for example, expert systems, implementation support systems) will provide an effective solution for decision making and e-business management, because it will create a base for building many processes such as knowledge inference sessions, knowledge base, and database, for the purpose of forming a knowledge base, using facts in the database to develop appropriate solutions, through the exchange of ideas and brainstorming between employees to reach a state of creativity that complements decision making. The study recommended the need to increase processes and exchange ideas among employees and their participation in the decision making process to ensure better participation in the performance of the organization.

Mohsen, Ali, and Jalal (2011) in their study was titled with "The significance of knowledge management systems at financial decision making process", emphasized the potential implementation of a knowledge-based system and the anticipated advantages of employing such a system to enhance the effectiveness of decision making. It underscores the necessity for an automated tool to bolster decision making processes. The study investigates the impact of four key factors associated with the utilization of a Knowledge Management (knowledge management) system on decision outcomes. These factors

encompass the availability of requisite technologies, the competencies of employees, inter departmental coordination, and the acceptance and trust of decision makers. Employing a descriptive methodology, the research distributed 70 questionnaires across three banks in Bahrain. The findings indicate a significant correlation between effective decision making and the availability of required technologies, individual capabilities, and coordination between departments. However, no discernible relationship has been identified between effective decision making and the acceptance and trust of decision makers within Bahraini banks.

Comment on previous studies

knowledge management has a significant impact on decision making in all institutions, which has an impact on the success of institutions. It is the duty of management to guide its institutions towards success. In addition to diversity and experience, this requires adequate knowledge management and superior decision making. Knowledge managers need a level of decision making ability to achieve their goals. institutions need to make immediate decisions, to achieve results on time, knowledge managers must be able to analyze, prioritize, interpret, and use available information. To make an effective decision that benefits the institution, as required in knowledge management processes, step-by-step procedures must be followed when deciding. The institution must be able to manage knowledge so that employees can easily access it and help them increase competitiveness. knowledge management procedures help decision makers at every level of the process, and the use of effective knowledge management enhances decision making. The success level of any institution largely depends on how well its leadership can make decisions.

The researcher has benefited in the preparation and implementation of the research by reviewing previous studies as follows:

- Knowing the research and theoretical aspects that have been studied previously, and identifying the aspects that need more research efforts as an attempt to cover them in this research.
- Contribute to obtaining various research references to support this research.
- Identify the concept of knowledge management and the requirements for its application, and the researcher's attempt to link knowledge management and its relationship to decision making in Palestinian ministries.
- Identify the most appropriate methodology and study tools that can be applied to the current study.

What distinguishes the current study:

- Highlighting the knowledge management in the Ministry of Higher Education and Scientific Research because of its great impact in facilitating operations and making decisions characterized by high quality and transparency.
- Linking knowledge management to effective decision making, as previous studies that linked these two variables are very few, as far as the researcher knows.
- The current study is characterized by the study community represented by the employees of the Ministry of Higher Education and Scientific Research, due to the importance of this ministry in terms of its supervision of all higher education institutions in Palestine, which is the main tributary of the labor market.
- The current study is complementary to previous studies and therefore the recommendations we will reach can be applied to the rest of the government ministries and thus benefit them.

Chapter Three:

Methodological Framework of the Study

3.1. Introduction

In this chapter, the researcher deals with the procedures she followed, to clarify all the steps and stages that have been prepared and implemented by following the steps of scientific research in order for the study to achieve its basic objectives, so the steps followed in the study will be presented, starting with the method used, the sources of data collection, determining the study population, the mechanism for selecting its sample, the tools used in data collection, the arbitration process, and ensuring its truthfulness and consistency of its dimensions, and the chapter ends with the statistical treatments that were used in analyzing data and drawing conclusions.

3.2. Research type

To achieve the objectives of the study, the researcher used the descriptive analytical approach that works to describe the variables of the study, analyze its data, and study the relationship between its components, as this approach is appropriate for the subject and objectives of the study.

The main output of this research is the findings and recommendations on the impact of knowledge management on effective decision making at the Ministry of Higher Education and Scientific Research.

Figure (3.1) shown the structure for this research:

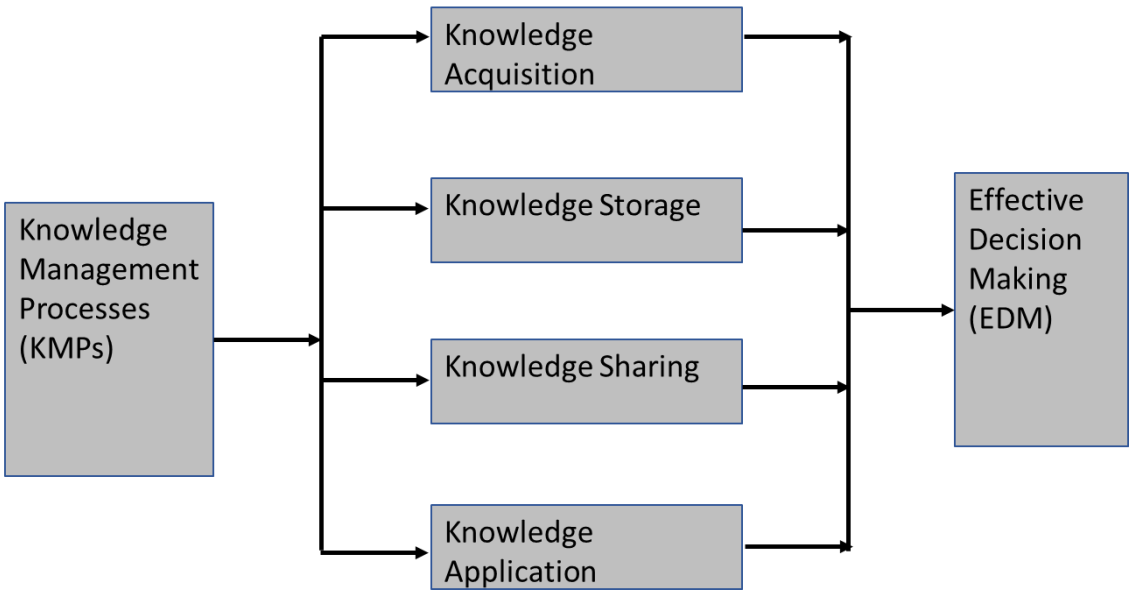

Figure (3.1): the structure for this research

3.3. Limits of the study

- Objective limit: This study examined the impact of knowledge management processes (acquisition, storage, sharing, and knowledge application) on effective decision making, without studying other independent variables or other processes within the dimensions of knowledge management.
- Human limit: Employees of the Ministry of Higher Education and Scientific Research in the West Bank who are on the job until the date of preparation of the study within the administrative levels (general director, director, department head, administrative employee).
- Spatial limit: This study was applied to the Ministry of Higher Education and Scientific Research in the West Bank.
- Time limit: The study was completed during the academic year 2023/2024.

3.4. Study population

Based on the problem of the study and its objectives, the study population consists of employees in the Ministry of Higher Education and Scientific Research within the administrative levels, general director, director, head of department, and administrative employee, and based on information from the HR department in the ministry, the number of study population reached 111 employees.

3.5. Study sample

A comprehensive survey was conducted within the previously mentioned administrative levels. 111 questionnaires were distributed in paper and electronic form, 100 of them responded, 9 invalid questionnaires were excluded, and thus the study sample reached (91) employees.

3.5.1. Demographic characteristics of the study sample:

Table (3.1): Demographic characteristics of the study sample:

Variables		# of respondents	Percentage
Gender	Male	36	39.6%
	Female	55	60.4%
Age	Less than 30 years	9	9.9%
	30- Less than 40 years	38	41.8%
	40- Less than 50 years	36	39.6%
	More than 50 years	8	8.8%
Qualification	Intermediate diploma	5	5.5%
	Bachelor's	50	54.9%
	Master's	31	34.1%
	Ph.D	5	5.5%
Experience inside Ministry	Less than 5 years	19	20.9%
	5- Less than 10 years	16	17.6%
	10- Less than 15 years	14	15.4%
	More than 15 years	42	46.2%
Experience outside Ministry	No experience	28	30.8%
	Less than 5 years	35	38.5%
	5- Less than 10 years	10	11%
	10- Less than 15 years	8	8.8%
	More than 15 years	10	11%
Job Title	Administrative Employee	17	18.7%
	Head Department	42	46.2%

	Director	23	25.3%
	General Director	9	9.9%

3.5.2. Study tool

According to (Mohammadi et al., 2023; Bloem & Salimi, 2023; Limsangpetch, Phayaphrom, and Siripipatthanakul, 2022; Almansoori et al., 2021), the researcher constructed a questionnaire on "The Impact of knowledge management on effective decision making in the Ministry of Higher Education and Scientific Research." The questionnaire comprised three main sections:

Section 1: Personal Information about Participants (Gender, Age, Educational Qualification, Years of Experience inside the Ministry, Years of Service outside the Ministry, and Job Title).

Section 2: knowledge management Consisting of 30 items distributed across four dimensions:

Knowledge Acquisition (8 items).

Knowledge Storage (8 items).

Knowledge Sharing (9 items).

Knowledge Application (5 items).

Section 3: effective decision making Consisting of 12 items.

The questionnaire was distributed in both paper and electronic formats to the study sample. A Likert scale with 5 points was used to respond to the study's dimensions, with ratings distributed as follows (refer to Table 3.2).

Table (3.2): the length and range for five intervals

Likert scale	Strongly agree	Agree	Neutral	Disagree	Strongly disagree

	5	4	3	2	1
Arithmetic mean values	5-4.21	4.20- 3.41	3.40- 2.61	2.60-1.81	1.80- 1
degree of estimate	Very high	high	Medium	low	Very low

3.6. Steps in building the questionnaire:

The researcher prepared the study tool to investigate "The Impact of knowledge management on effective decision making in the Ministry of Higher Education and Scientific Research." The development of the questionnaire involved the following steps:

1. **Reviewing Relevant Literature:** The researcher examined existing literature related to the study's topic and utilized it to construct the questionnaire and formulate its statements.
2. **Initial Design of the Questionnaire:** The questionnaire was designed in its preliminary form.
3. **Review and Revision by Supervisor:** The questionnaire underwent review and revision by the supervisor.
4. **Evaluation by Five Reviewers:** The questionnaire was presented to five reviewers, faculty members from the Arab American University, Al-Quds University, and Al-Quds Open University. It was also evaluated by the Ministry of Higher Education and Scientific Research.
5. **Adjustments Based on Feedback:** Considering the reviewers' feedback, certain items in the questionnaire were modified, including deletions, additions, and adjustments, resulting in the final version of the questionnaire.

3.7. Questionnaire validity:

The validity of the study tool was tested to ensure that it measures what it was designed to measure, using two types of validity:

3.7.1. Firstly: Face Validity:

To assess the content validity of the study tool and ensure its alignment with the study's objectives, the appropriateness of each item's content, the adequacy of the questionnaire in terms of the number of items, inclusiveness, content diversity, and the enhancement of linguistic formulation, the questionnaire in its initial form was presented to a group of experienced and specialized reviewers, as illustrated in Appendix (2). The researcher considered the feedback from the reviewers and made necessary deletions and modifications based on their suggestions. Consequently, the questionnaire reached its final form.

3.7.2. Secondly: Internal Consistency Reliability: Internal consistency reliability refers to the strength of the relationship between the scores of each item in the questionnaire and the total score of the corresponding dimension. The internal consistency reliability of the questionnaire was verified by administering it to a sample of 20 employees from the research population within the Ministry of Higher Education and Scientific Research. The Pearson correlation coefficient was calculated for each item in the questionnaire with the total score of its respective dimension using the statistical software SPSS, the result is shown in table (3.3) below:

Table (3.3): Results of the Correlation Coefficient between Each Dimension

#	dimension	correlation coefficient	sig
Knowledge Acquisition			
1	The employee gains knowledge by experts	50%	.00

2	The Ministry benefits from the successful experiences of employees to acquire knowledge	77%	.00
3	The accumulated knowledge of the employee contributes to achieving the objectives of the Ministry	55%	.00
4	The Ministry adopts development initiatives by the employee	78%	.00
5	Dialogue between employees contributes to the acquisition of knowledge	62%	.00
6	The Ministry engages employees in the preparation of the action plan for knowledge acquisition	84%	.00
7	The Ministry provides training programs for employees to acquire knowledge	70%	.00
8	The Ministry motivates employees to acquire new knowledge	78%	.00
Knowledge storage			
9	The Ministry uses a database to store knowledge	78%	.00
10	The database is secure	72%	.00
11	The database is privacy	70%	.00
12	The Ministry documents innovative new ideas	80%	.00
13	The Ministry classifies the knowledge available to it.	85%	.00
14	Organizing the ministry defined according to the problems it faces	80%	.00
15	The quality of stored knowledge is constantly evaluated	75%	.00
16	Stored knowledge is constantly challenged	85%	.00
Knowledge sharing			
17	The Ministry shares knowledge among its employees through a database	81%	.00
18	Ministry uses meetings to share knowledge among employees	79%	.00
19	Ministry uses workshops to share knowledge among employees	79%	.00
20	The Ministry provides an internal information network for knowledge sharing	82%	.00
21	The Ministry uses paper correspondence to share knowledge (circulars, laws, regulations)	80%	.00
22	Employees exchange information between them	69%	.00
23	The Ministry issues periodic bulletins with the aim of delivering information to those who need it	67%	.00
24	The Ministry updates the website periodically	59%	.00
25	Reports are crafted to help share knowledge	76%	.00
Knowledge Application			
26	Experts are hired to use knowledge	76%	.00
27	Knowledge is used to solve problems in the ministry	82%	.00
28	The Ministry has technological means that help in the use of knowledge	79%	.00
29	The use of knowledge is considered when evaluating the performance of employees	84%	.00
30	The Ministry uses knowledge in all its activities	89%	.00

Effective decision making			
31	The Ministry determines the problems it faces accurately	83%	.00
32	The Ministry collects the necessary information before making a decision	78%	.00
33	The Ministry develops possible alternatives for decision-making	83%	.00
34	The Ministry uses the expertise of others when identifying alternatives	72%	.00
35	The Ministry exchanges views to choose the best alternatives offered	87%	.00
36	Internal environmental factors are studied when making a decision	88%	.00
37	The Ministry pays attention to individual initiatives when making decisions	78%	.00
38	The Ministry takes its decisions after careful scientific study	89%	.00
39	Decisions are made in the ministry based on clear objectives	84%	.00
40	There are clear indicators to determine the nature of the decision to be taken	82%	.00
41	The decision is inclusive when made	82%	.00
42	The Ministry is carefully studying the implications of its decisions.	89%	.00

The above table illustrates the correlation coefficient between the items of the dimension and its total score, indicating that all the items are significant, with a correlation at a significance level of $\alpha < 0.01$.

3.8. Questionnaire Reliability:

Questionnaire reliability means that the questionnaire provides consistent results when applied multiple times consecutively. In other words, to what extent the scale yields similar readings each time it is used or how consistent, coherent, and enduring it is when used repeatedly at different times.

The reliability of the questionnaire was verified through the Cronbach's Alpha coefficient, as illustrated in the table below:

Table (3.4): Cronbach's Alpha Coefficient for Measuring Questionnaire Reliability for All Dimensions:

#	dimension	Num. of paragraph	Cronbach's Alpha Coefficient
1	knowledge Acquisition	8	84.9%
2	knowledge Storage	8	90.9%
3	knowledge Sharing	9	89.9%
4	knowledge Application	5	87.6%
5	effective decision making	12	95.8%

The table above indicates that Cronbach's Alpha values are high for all study dimensions, ranging from 84.9% to 95.8%. This means that the reliability coefficient is high significant, and can be relied upon in the field application of the study, according to the Nunnally scale, which sets 70% as the minimum threshold for reliability (Hair Jnr et al., 2010). Thus, the questionnaire in its final form, as presented in Appendix (1), has met the conditions of validity and reliability. This makes it confidently deemed as a valid and reliable tool for analyzing results, answering study questions, and testing its hypotheses.

3.9. Statistical Processing

Statistical Tests Used: To conduct the practical framework of the study, the researcher utilized the Statistical Package for the Social Sciences (SPSS).

1. **Measurement of Tool Validity using Factor Analysis:**
    - The researcher employed Factor Analysis as a statistical test to assess the validity of the tool.
2. **Cronbach's Alpha Test for Reliability Coefficients:**
    - Cronbach's Alpha was utilized to measure the reliability coefficients of the study tool.
3. **Descriptive Statistics:**
    - Mean, percentages, and standard deviations were calculated to answer the study's questions, determine the overall score, and assess each dimension and item of the knowledge management and effective decision making questionnaire.

4. **Pearson Correlation Coefficient Test:**
    - The Pearson correlation coefficient test was employed to study the relationship between knowledge management processes and effective decision making.
5. **Multicollinearity Test:**
    - A multicollinearity test was conducted to ensure no high correlation existed among independent variables. This was assessed through the Variance Inflation Factor (VIF) and Tolerance for each independent variable.
6. **Skewness Test:**
    - The Skewness test was used to confirm that the data followed a normal distribution.
7. **Levene's Test:**
    - Levene's test was employed to examine the homogeneity of variances between each process of knowledge management and effective decision making.
8. **Simple Linear Regression Test:**

- A simple linear regression test was conducted to determine the impact of each knowledge management process on effective decision making.

9. **Multiple Linear Regression Test:**

- The multiple linear regression test was employed to identify the impact of the four knowledge management processes on effective decision making.

10. **Independent Samples T-Test:**

- Independent Samples T-Test was used to analyze the responses of the sample employees and identify statistically significant differences in the study dimensions based on the independent variable: gender (male, female).

11. **One-Way Analysis of Variance (ANOVA):**

- One-Way ANOVA was conducted to reveal statistically significant differences in the study dimensions based on independent variables (age, educational qualification, years of experience inside the ministry, years of experience outside the ministry, job title).

12. **Post Hoc Comparisons: Tukey Test:**

- Post Hoc comparisons, specifically the Tukey Test, were performed to identify differences and comparisons between each pair or group of independent study variables after rejecting the null hypothesis.

Chapter Four:

Study Results and Discussion

In this chapter, the researcher first extracted the means, standard deviations, and percentages for all knowledge management processes (knowledge acquisition, knowledge storage, knowledge sharing, and knowledge application) and effective decision making. This was done to understand the reality of knowledge management and effective decision making in the Ministry of Higher Education and Scientific Research. Subsequently, the researcher examined the relationship between knowledge management processes and effective decision making in the ministry. Following that, the impact of knowledge management processes on effective decision making within the ministry was calculated.

Answering the question 1.3.1

What is the reality of knowledge management at the Ministry of Higher Education and Scientific Research?

The reality of knowledge acquisition process:

Table (4.1): Means, Standard Deviations, and Percentages for the Knowledge Acquisition Process Based on Sample Participants' Responses, Ranked in Descending Order.

Rank	#	knowledge acquisition	Mean	Std. deviation	Percentage	Degree
1	5	Dialogue between employees contributes to the acquisition of knowledge	4. 14	.676	82.8%	high
2	3	The accumulated knowledge of the employee contributes to achieving the objectives of the Ministry	4.02	.789	80.4%	high
3	1	The employee gains knowledge by experts	3.92	.792	78.4%	high
4	2	The Ministry benefits from the successful experiences of employees to acquire knowledge	3.51	1.05	70.2%	high

5	6	The Ministry engages employees in the preparation of the action plan for knowledge acquisition	3.42	.99	68.4%	high
5	7	The Ministry provides training programs for employees to acquire knowledge	3.42	.978	68.4%	high
6	4	The Ministry adopts development initiatives by the employee	3.21	.995	64.2%	Medium
7	8	The Ministry motivates employees to acquire new knowledge	3.10	1.012	62.0%	Medium
		Total degree for knowledge acquisition	3.59	.641	71.8%	high

The results of Table (4.1) indicated that the mean for the knowledge acquisition process was (3.59), reflecting a high level of estimation. Additionally, Table (4.1) revealed that the highest mean was associated with the statement "Dialogue among employees contributes to knowledge acquisition," with a mean of (4.14) and a high level of estimation. The researcher attributes this to the study sample, consisting of employees in the ministry, emphasizing the significance of informal dialogue among them for acquiring new knowledge. Dialogue provides an opportunity for employees to exchange opinions and experiences, engage in discussions, stimulate critical thinking, analyze previous mistakes, and contribute to transferring knowledge from one person to another. This enriches their knowledge, equips them with new insights, and fosters a comfortable work environment where employees trust each other, creating an excellent institutional climate that leads the ministry to excel in its work.

Also, as Table (4.1) shown, the paragraph stating "The ministry motivates employees to acquire new knowledge" also showed the lowest mean, with a value of (3.10) and a medium level of estimation. The researcher attributes this to the absence of a system in the ministry to incentivize employees to acquire new knowledge, whether these incentives

are material or moral (such as appreciation letters, promotions, etc.). Therefore, it received a medium rating.

The results for the knowledge acquisition process aligns with study (Al-Aboudi, 2021), where the mean for the knowledge acquisition process was (3.80), reflecting a high level of estimation. It also corresponds with study (Bin Rahmoun & Muzahidiya, 2020), where the process of generation and acquisition of knowledge had a mean of (4.20) with a high level of estimation. However, it differed from studies (Al-Shanti and Saada, 2020; Alhamali et al., 2021), where the mean estimations for the knowledge acquisition process were medium.

Based on the responses of the employees in the Ministry of Higher Education and Scientific Research, the researcher observes that they possess a high level of understanding of the knowledge acquisition process. They utilize various methods to enhance their knowledge, including dialogue among themselves, implicit knowledge among employees, seeking expertise, and even learning from the successful experiences of their colleagues. The employees affirm that the ministry engages them in preparing action plans to acquire new knowledge. The ministry also offers various training programs. However, the researcher, based on the responses of the employees, notes that the ministry does not adopt developmental initiatives proposed by the employees, nor does it incentivize them to acquire new knowledge.

Therefore, the ministry must consciously and thoughtfully adopt developmental initiatives for its employees, considering the significant positive impact they have on achieving numerous benefits for the ministry. This enables the ministry to acquire new knowledge, organize and manage its existing knowledge, and formulate new facts and insights. Through this approach, the ministry can effectively address problems and provide solutions. This aligns with the findings of study (Schiuma et al., 2022). Furthermore, study

(Dzenopoljac et al., 2018) emphasized that the acquisition and development of knowledge significantly influences the creative success of an institution, while study (Sahibzada et al., 2023) stated that knowledge acquisition directly impacts institutional performance. Study (De Felice et al., 2023) affirmed that dialogue among employees enriches them with new knowledge. The researcher also observes, based on the responses of the employees in the ministry, that the ministry does not significantly incentivize employees to acquire new knowledge. This is attributed to employees adhering to civil service regulations, inflexible salary scales, limited financial resources, and the occupation's control over financial resources. Therefore, the researcher believes that incentives should be either material or moral in accordance with the laws applicable in the ministry. Job satisfaction also motivates employees towards creativity, innovation, and commitment to their work, as affirmed by numerous studies (Al-hashimi et al., 2022; Jabeen & Al Dari, 2023; Igbinovia & Ikenwe, 2017;Ipreece, 2016).

The reality of knowledge storage process:

Table (4.2): Means, Standard Deviations, and Percentages for the Knowledge storage Process Based on Sample Participants' Responses, Ranked in Descending Order.

Rank	#	knowledge storage	Mean	Std. deviation	Percentage	Degree
1	2	The database is secure	3.55	.793	71.0%	high
2	3	The database is privacy	3.53	.835	70.6%	high
3	1	The Ministry uses a database to store knowledge	3.46	.923	69.2%	high
4	5	The Ministry classifies the knowledge available to it.	3.14	.824	62.8%	medium
5	8	Stored knowledge is constantly challenged	3.12	.841	62.4%	medium
6	6	Organizing the ministry defined according to the problems it faces	3.11	.875	62.2%	medium
7	4	The Ministry documents innovative new ideas	3.00	1.043	60.0%	medium

8	7	The quality of stored knowledge is constantly evaluated	2.98	.843	59.6%	medium
		Total degree for knowledge storage	3.23	.683	64.6%	medium

The above table indicates that the knowledge storage process yielded a mean of (3.23) with a medium level of assessment. The paragraph stating "The database is characterized by security" obtained the highest mean at (3.55) with a high level of appraisal. The researcher observes that employees working in various job positions within the ministry unanimously agree that the ministry's database is secure. This is crucial to the core operations of the Information Technology department in the ministry, where maintaining the security and privacy of data is of utmost importance. It involves safeguarding data from breaches, which is particularly critical given the highly sensitive nature of the ministry's files, such as laws and regulations. Additionally, there is a database containing essential information about students and certificate equivalency, statistical data related to all higher education institutions, their disciplines, academic programs, scholarships, and certificate equivalency. While each employee has a unique username and password, which is periodically required to be changed to enhance computer security, employees can store various useful knowledge on their accounts. The Ministry's Information Technology Department conducts regular backups on the main servers using a specific system on a daily, weekly, and monthly basis, depending on the importance of the data. Additionally, a copy of the database is stored outside the ministry to preserve and prevent its loss, following an organized and systematic process.

The paragraph "The quality of stored knowledge is continually assessed" yielded a lower mean of (2.98) with a medium level of appraisal. Evaluating the quality of stored knowledge depends on several criteria, including the extent of knowledge utilization, the

anticipated benefits of this knowledge, and the accuracy of the stored knowledge. Assessing knowledge quality necessitates regular reviews, policy, and procedure updates, and providing guidance to employees by director and general director within the ministry. Since many respondents were department heads, the evaluation of knowledge quality was rated as medium, as they may not be fully aware of the mechanisms involved in knowledge assessment and updating.

These results align with study (Alhamali et al., 2021), where the mean for the knowledge storage process was (3.13) with a medium level of appraisal. The assessment of the means for knowledge storage in study (Al-Shanti and Saada, 2020) was also medium, consistent with our current study. However, the current study differs from both studies (Al-Aboudi, 2021; Bin Rahmoun and Muzahidiya, 2020), where the knowledge storage process had means of (3.78) and (3.95) respectively, indicating a high level of appraisal.

The researcher observes that the Ministry of Higher Education and Scientific Research employs a database for knowledge storage, and the ministry's database is distinguished by its security and privacy. The government's general orientation toward electronic archiving has contributed to preserving knowledge, whether implicit within the minds of employees or in official paper documents and circulars. Additionally, the requirement for employees to use government email, the prohibition of personal email for official correspondences within the ministry, and the restriction on the use of social media platforms such as Facebook and WhatsApp on ministry computers have also contributed to increasing the level of security and safeguarding the stored knowledge on employees' computers from potential breaches and cyberattacks. Effective knowledge storage contributes to easy reference and facilitates administrative and financial decision making based on well-documented official and legal documents. Consequently, this supports planning and decision making processes to achieve the ministry's overall goals. This aligns with the

findings of study (Ode & Ayavoo, 2020), which affirmed that stored knowledge significantly influences institutional performance. Study (Sun & Hao, 2006) also emphasized that electronic information systems work to protect and preserve information in various forms and media of institutional data. Suitable indexing systems must be available for access and retrieval. Mentioned in study (Demir et al., 2023) is the benefit of knowledge storage, namely saving time and effort in extracting and providing information, reports, and statistics to management with ease. This corresponds with the findings of study (Arfi et al., 2018), which stated that problem-solving is influenced by the ability to store, transform, and use information.

The researcher also observes that the ministry does not place significant emphasis on documenting and categorizing new and innovative ideas. Knowledge is not organized according to the problems facing the ministry. Therefore, it is essential to adopt effective methods to ensure the documentation and classification of new ideas in a manner that facilitates easy access and utilization by employees to address the problems they encounter. Organizing knowledge based on problems will enable employees to make informed decisions when faced with similar issues, thereby avoiding the waste of time in finding solutions and alternatives that have been previously addressed. This aligns with the findings of study (Alduais et al., 2023), which emphasized that effective decisions stem from the availability of accurate and quality information at the right time. Additionally, studies (Hemming et al., 2022; Guo, 2020) affirmed that failure to identify the problem leads to making incorrect decisions. Therefore, it is necessary to classify knowledge according to the problems faced by the ministry.

The reality of knowledge sharing process:

Table (4.3): Means, Standard Deviations, and Percentages for the Knowledge sharing Process Based on Sample Participants' Responses, Ranked in Descending Order.

Rank	#	knowledge sharing	Mean	Std. deviation	Percentage	Degree
1	8	The Ministry updates the website periodically	3.51	.947	70.2%	high
2	5	The Ministry uses paper correspondence to share knowledge (circulars, laws, regulations)	3.42	.844	68.4%	high
3	6	Employees exchange knowledge between them	3.40	.953	68.0%	medium
4	9	Reports are crafted to help share knowledge	3.37	.825	67.4%	medium
5	2	Ministry uses meetings to share knowledge among employees	3.24	1.015	64.8%	medium
6	7	The Ministry issues periodic bulletins with the aim of delivering information to those who need it	3.18	.961	63.6%	medium
6	3	Ministry uses workshops to share knowledge among employees	3.18	1.050	63.6%	medium
7	4	The Ministry provides an internal information network for knowledge sharing	3.11	1.038	62.2%	medium
8	1	The Ministry shares knowledge among its employees through a database	2.93	1.041	58.6%	medium
		Total degree for knowledge sharing	3.25	.719	65.0%	medium

The table above reveals that the mean for the knowledge sharing process is (3.25) with a medium level of appraisal. The paragraph stating "The ministry regularly updates the website" obtained the highest mean at (3.51) with a high level of appraisal. In 2018, the ministry took the initiative to establish the official website in a modern way that aligns with technological advancements and facilitates easy access to information for users without significant effort in knowledge and information retrieval. The website contains a wealth of valuable information for all visitors, and the Information Technology

department continually updates it to ensure the delivery of information to the ministry's service beneficiaries.

The paragraph stating "The ministry shares knowledge among its employees through a database" has the lowest mean at (2.93) with a medium level of appraisal. This medium rating is attributed to the fact that the ministry's database is categorized based on the work of its respective departments. Consequently, information and knowledge are shared only within each department, and not all employees can access this data to maintain the confidentiality of the information contained in the database. For instance, the ministry stores student loan files in a database specific to the lending department, limiting access to only those within the relevant department. Therefore, employees perceive that knowledge sharing through the database in the ministry is of average effectiveness.

This result is consistent with studies (Al-Shanti and Saada, 2020; Alhamali et al., 2021), where the mean for the knowledge sharing process was rated as medium. However, the current study differs from studies (Al-Aboudi, 2021; Bin Rahmoun & Muzahidiya, 2020), where the mean for the knowledge sharing process was (3.80) and (3.79) respectively, both with a medium level of appraisal.

The researcher perceives that the ministry recognizes the importance of knowledge sharing among its employees using various means, including the official ministry website, internal internet networks, periodic newsletters, reports, workshops, meetings, and paper correspondence. The objective is to disseminate laws, regulations, and circulars to inform all administrative levels and staff. This aims to generalize knowledge, achieve harmony, and foster mutual understanding, facilitating its interpretation and application among all employees for effective decision making. However, to maintain the confidentiality and security of knowledge and data, the ministry selectively shares knowledge databases among employees working within each general department based on their respective

expertise. This aligns with study (Abubakar et al., 2019), which emphasized that information technology significantly influences knowledge management processes . Additionally, study (Alduais et al., 2023) mentioned that knowledge sharing encourages flexibility, openness, institutional relationships, and aids decision makers in making appropriate decisions. Furthermore, study (Joywin & Sang, 2015) stated that transforming knowledge from individual to shared knowledge among employees offers numerous benefits to the institution . Study (Barto and Srivastava, 2002) confirmed that knowledge sharing enhances the competitive capability of the institution. Moreover, study (Ipreece, 2016) highlighted that encouraging employees to share knowledge among themselves is crucial for all knowledge management processes. On the other hand, study (Litvaj et al., 2022) underscored that one of the hindrances to knowledge management usage is employees' reluctance to share knowledge among themselves.

The reality of knowledge application process:

Table (4.4): Means, Standard Deviations, and Percentages for the Knowledge application Process Based on Sample Participants' Responses, Ranked in Descending Order.

Rank	#	knowledge application	Mean	Std. deviation	Percentage	Degree
1	3	The Ministry has technological means that help in the use of knowledge	3.54	.847	70.8%	high
2	2	Knowledge is used to solve problems in the ministry	3.41	.906	68.2%	high
3	3	Experts are hired to use knowledge	3.35	.835	67.0%	high
4	5	The Ministry uses knowledge in all its activities	3.16	1.025	63.2%	medium
5	4	The use of knowledge is considered when evaluating the performance of employees	3.09	1.050	61.8%	medium
		Total degree for knowledge application	3.30	.766	66.0%	medium

The table above indicates that the overall score for the knowledge application process is a mean of (3.30) with a medium rating. The paragraph stating "The ministry possesses technological means that facilitate knowledge utilization" achieved the highest mean (3.54) with a high rating. The ministry is committed to continuous updates of computer devices for employees and providing them with modern computers and photocopying machines to enhance their efficiency in performing tasks.

The paragraph "Knowledge utilization is taken into consideration when evaluating employee performance" has the lowest mean (3.09) with a medium rating. Performance evaluation models are adopted by the General Personnel Council based on job categories for all employees in government institutions. These models are inflexible and do not significantly consider assessing employee performance based on knowledge. The researcher believes that this is the reason for the medium rating in adopting performance evaluation based on knowledge.

This result is consistent with studies (Al-Shanti and Saada, 2020; Alhamali et al., 2021), where the rating for the knowledge application process was medium. However, it differs from studies (Al-Aboudi, 2021; Bin Rahmoun &

Muzahidiya, 2020), where the rating for the knowledge application process was high, with mean (3.82) and (4.51), respectively.

The researcher believes that the ministry possesses various technological means enabling the application of knowledge, with information technology playing a crucial role in knowledge application among the ministry's employees. This was affirmed by study (Ayatollahi & Zeraatkar, 2020), and study (Nicolas, 2004) emphasized the necessity of investing in information technology to enhance knowledge application in institutions . Study (Davenport & Prusak, 1998) also highlighted that information technology plays a

vital role in all knowledge management processes. Study (Sime et al., 2020) indicated a linear relationship between knowledge management processes and information technology. However, employees in the ministry perceive that knowledge application does not significantly impact their performance evaluation, possibly due to the absence of motivational or material incentives. Obtaining excellent evaluations is considered one of the motivational incentives for knowledge application, as affirmed by studies (Ode and Ayavoo, 2020; Hannola et al., 2018). Additionally, study (Ipreece, 2016) mentioned that tangible and intangible rewards encourage employees to use knowledge management. On the other hand, study (Litvaj et al., 2022) stated that one obstacle to knowledge management is the lack of employee knowledge evaluation by the management.

The reality of knowledge management processes:

To assess the reality of knowledge management at the Ministry of Higher Education and Scientific Research, means, standard deviations, and percentages were calculated for knowledge management processes.

Table (4.5): Means, Standard Deviations, and Percentages for the knowledge management processes Based on Sample Participants' Responses, Ranked in Descending Order.

Rank	#	dimension	Mean	Std. deviation	percentage	Degree
1	1	knowledge acquisition	3.59	.641	71.8%	high
2	4	knowledge application	3.30	.766	66%	medium
3	3	knowledge Sharing	3.25	.719	65%	medium
4	2	knowledge Storage	3.23	.683	64.6%	medium
Total degree for knowledge management processes			3.34	.066	66.8%	medium

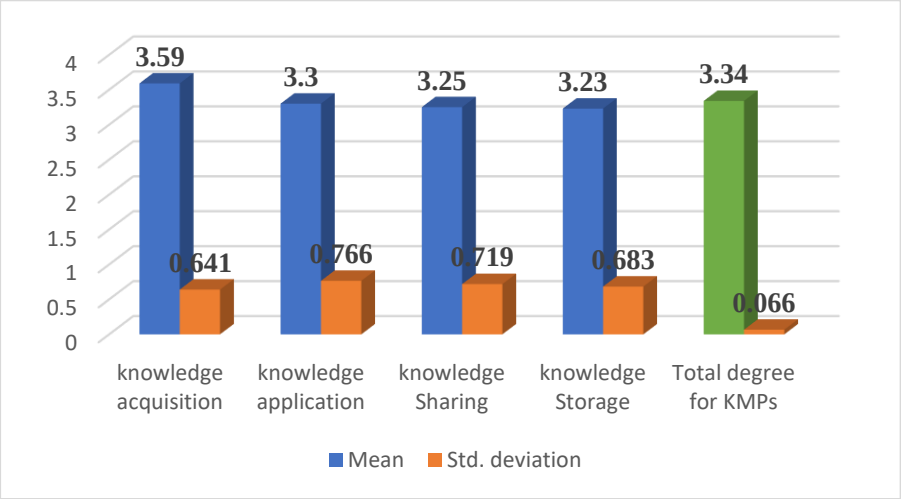

Figure (4.1) illustrates mean and standard deviation for knowledge management processes.

Table (4.5) reveals that the mean for knowledge management among employees of the Ministry of Higher Education and Scientific Research was (3.34) with a medium rating. The knowledge acquisition process demonstrated the highest mean (3.59) with a high rating, followed by the knowledge application process with mean (3.30) and a medium rating. Subsequently, the knowledge sharing process had a mean (3.25) with a medium rating, while the knowledge storage process came last with a mean (3.23) and a medium rating. The standard deviation for these four knowledge management processes ranged from (0.641-0.766), indicating that there is no significant dispersion or divergence in respondents' answers. On the contrary, it suggests that their responses to all items tend to converge toward the mean.

These results align with study (Alhamali et al., 2021), where the mean for knowledge management processes was (3.16) with a medium rating. The findings also agree with study (Al-Shanti and Saada, 2020), where the mean for knowledge management processes was medium. They also align with study (Bin Rahmoun & Muzahidiya, 2020), where the mean for knowledge management processes was (4.20) with a medium rating.

However, the current study differs from study (Al-Aboudi, 2021), where the mean for knowledge management processes was (3.82) with a high rating.

The researcher sees that the knowledge management processes within the ministry were, on the whole, of medium rating. However, the process of acquiring knowledge had the highest meaning, rated as high. This emphasizes the interest of both the ministry and the employees in acquiring new knowledge, whether through formal means such as books, official documents, or databases, or through informal means such as dialogue among them, providing an opportunity for employees to exchange knowledge and increase their knowledge base. Following this, in terms of medium scores, were the processes of applying knowledge, sharing knowledge, and finally storing knowledge. These three processes were rated as medium, with a slight difference in means (3.30-3.25).

Here, the researcher emphasizes that it is natural for the knowledge acquisition process to be rated high while the rest of the processes are rated as medium. The ministry primarily focused on providing employees with knowledge, continuously qualifying them to enable them to engage in the other knowledge management processes. These processes require continuous development, training, and increasing employees' awareness of the importance of collaboration, teamwork, continuous learning, building trust among employees, institutional performance, promoting a knowledge culture, and strategic leadership that supports the use of knowledge management processes.

Moreover, there is a need for an advanced technological environment that facilitates the storage, sharing, and applying of acquired knowledge among employees, thereby increasing the knowledge base used by employees in performing their tasks. It is essential to provide employees with clear mechanisms for storing knowledge in an indexed manner, allowing them easy access to knowledge at the right time. All these factors contribute to enhancing the implementation of knowledge management processes within the ministry.

This is confirmed by study (Abubakar et al., 2019), which stated that both technological tools and collaboration have a significant impact on knowledge management processes . Study (Dzenopoljac et al., 2018) mentioned that knowledge management positively affects institutional success and innovation. Study (Sahibzada et al., 2023) pointed out that knowledge management processes have a direct impact on institutional performance and trust building among employees. Additionally, studies (López-Torres et al., 2019; Al Yami & Ajmal, 2019) emphasized that knowledge management processes play a crucial role in achieving sustainability and operational efficiency for institutions . Study (Demir et al., 2023) affirmed that knowledge management processes have a significant impact on the continuity of institutions . Study (Anshari et al., 2023) highlighted the importance of knowledge management processes in providing employees with information accessibility, aiding in strategy development and reducing problem solving time. Study (Bloem & Salimi, 2023) clarified that knowledge management significantly influences more efficient resource allocation, effective distribution of human resources, and the stimulation of technological innovation. Study (Ode & Ayavoo, 2020) pointed out that leveraging employees' knowledge and experiences enhances the growth and development rates of the institution. Study (Limsangpetch et al., 2022) highlighted a positive correlation between knowledge management and business performance.

The answer to the question 1.3.1.

What is the reality of decision making in the Ministry of Higher Education and Scientific Research?

To understand the reality of decision making, means, standard deviations, and percentages was calculated.

Table (4.6): Means, Standard Deviations, and Percentages for the decision making Based on Sample Participants' Responses, Ranked in Descending Order.

Rank	#	decision making	Mean	Std. deviation	Percentage	Degree
1	2	The Ministry collects the necessary information before making a decision	3.36	.961	67.2%	medium
1	10	There are clear indicators to determine the nature of the decision to be taken	3.36	.876	67.2%	medium
2	4	The Ministry uses the expertise of others when identifying alternatives	3.30	.837	66.0%	medium
3	3	The Ministry develops possible alternatives for decision-making	3.25	.838	65.0%	medium
4	9	Decisions are made in the ministry based on clear objectives	3.24	.911	64.8%	medium
5	1	The Ministry determines the problems it faces accurately	3.23	.967	64.6%	medium
5	5	The Ministry exchanges views to choose the best alternatives offered	3.23	.883	64.6%	medium
6	6	Internal environmental factors are studied when making a decision	3.20	.934	64.0%	medium
7	8	The Ministry takes its decisions after careful scientific study	3.12	.953	62.4%	medium
8	12	The Ministry is carefully studying the implications of its decisions.	3.08	.969	61.6%	medium
9	11	The decision is inclusive when made	3.07	.964	61.4%	medium
10	7	The Ministry pays attention to individual initiatives when making decisions	3.03	1.038	60.6%	medium
		Total degree for decision making	3.20	.767	64.0%	medium

The table above indicates that the overall rating for the decision making process in the Ministry of Higher Education and Scientific Research was medium, with mean (3.20).

This aligns with studies (Al-Shanti and Saada, 2020; Alhamali et al., 2021), where the rating for the decision making process was medium. However, this study differs from studies (Al-Aboudi, 2021; Bin Rahmoun & Muzahidiya, 2020), where the rating for the decision making process was high, with mean (3.80) and (4.58), respectively.

From the above table, we observe that the two paragraphs stating, "The ministry gathers necessary information before making a decision" and "There are clear indicators to determine the nature of the decision to be made" obtained the highest mean (3.36) with a medium rating. The decisions made by the ministry are characterized by integrity, transparency, and clarity, following systems, instructions, and laws that assist the ministry in making sound decisions. Employees collect the necessary information before making decisions, relying on clear indicators to determine the nature of the decision to be made, helping them obtain the accurate knowledge they need at the right time.

While the paragraph "The ministry values individual initiatives when making decisions" received a lower meaning (3.03) with a medium rating. Individual initiatives of employees in decision making mean that employees take effective and self-directed steps to achieve specific goals or solve problems within the ministry without explicit instructions. This includes problem analysis and the use of individual and professional skills, reflecting the employee's desire to make effective contributions, improving personal and institutional performance overall. These initiatives play a crucial role in enhancing efficiency, increasing employee productivity, and achieving the ministry's goals. Accordingly, employees in the ministry perceive that decisions are made by senior management without significant consideration for individual employee initiatives.

Regarding the paragraph stating, "Decisions are characterized by inclusivity when made" it obtained a mean (3.07) with a medium rating. This emphasizes the importance of involving all employees in the ministry at various managerial levels in decision making

stages to ensure that decisions are inclusive. This inclusivity is crucial for the decisions to effectively achieve the ministry's goals with efficiency and effectiveness.

The researcher, through analysis of the decision making reality in the Ministry of Higher Education and Scientific Research, observes that decision making in the ministry is conducted partially. The decision making process begins with the ministry gathering the necessary information and clear indicators for decision making, relying on expertise to achieve defined objectives. This is followed by presenting alternatives and selecting the best alternative among the options. However, the ministry gives less attention to studying the internal environment, lacks precision in problem identification, and neglects individual initiatives. This results in non-inclusive decisions, thus impeding employees' ability to make effective decisions. Based on the stages of decision making, it is essential to initiate the decision making process by accurately identifying the problem, considering the internal environment. This contributes to testing precise alternatives, thereby obtaining effective and accurate decisions.

Here, the researcher emphasizes that the study sample, who are employees in the ministry, possess a medium level of awareness and perception regarding the role played by the ministry in the decision making process. The ministry should prioritize and involve all employees at various levels in the activities and programs it executes to achieve specific objectives. This ensures that its decisions are inclusive, avoiding hasty and ill-considered decision making. The ministry should rely on the knowledge and information of employees at various managerial levels to support sound decision making, making the decisions practical, monitorable, and aligned with the overall interests of the ministry and its workforce.

This is affirmed by study (Munjuri, 2018), which establishes a positive relationship between human capital and decision making. decision making positively impacts

institutional performance. also elucidates that decision quality improves based on the cognitive background, skills, and competence of the decision maker by providing alternatives, evaluating them, and understanding the surrounding environment. Additionally, study (Negulescu & Doval, 2014) emphasizes that having more information available during decision making positively influences decision making. The same study also affirms that involving employees in the decision making process makes them more accepting of and more enthusiastic about implementing decisions. Study (Bruine de Bruin et al., 2020) confirms that decision making benefits from employees' intelligence, capabilities, and experiences. Study (Siebert et al., 2021) indicates that employees' cognitive skills positively influence satisfaction with decision making. Study (Alsmairat et al., 2019) explains that the strategic decision making process plays a crucial role in the effective performance of the institution, and internal and external environmental factors influence managers in making strategic decisions.

Establishing the relationship between knowledge management processes and decision making in the Ministry of Higher Education and Scientific Research.

The Pearson correlation coefficient was calculated to measure the strength of the relationship between knowledge management processes and decision making in the Ministry of Higher Education and Scientific Research, according to the following table:

Table (4.7) Pearson Correlation Test to determine the relationship between knowledge management processes (Acquisition, Storage, Sharing, and Application of knowledge) and decision making, based on respondents' answers.

variables	knowledge acquisition	knowledge Storage	knowledge Sharing	Knowledge Application	knowledge management

decision making	Pearson correlation	.749	.739	.782	.789	.854
	Sig	.00	.00	.00	.00	.00
	The degree	strong	strong	strong	strong	very strong

The above test indicates that the Pearson correlation coefficient at a significance level of 1% shows a significant relationship between knowledge management processes and decision making. The calculated significance level is less than 1%, indicating a strong positive correlation between knowledge management and decision making, with a correlation coefficient value of (0.854). The results also reveal that the strongest positive correlation is observed between the application of knowledge and decision making, with a correlation coefficient of (0.789). On the other hand, the weakest strong positive correlation exists between knowledge storage and decision making, with a correlation coefficient of (0.739).

The current study partially aligns with Study (Al-Aboudi, 2021), which revealed a strong positive relationship between knowledge management and decision making, with a correlation coefficient of (0.788). The correlation coefficients for the knowledge management processes (acquisition, storage, distribution, application) varied, ranging from medium to strong.

The study also partially concurs with study (Al-Shanti and Saada, 2020), indicating a very strong positive correlation between overall knowledge management processes and decision making, with a correlation coefficient of (0.905). The correlation coefficients for individual knowledge management processes (acquisition, storage, distribution, application) were all very strong.

The current study is consistent with study (Al-Dujaili, 2012), showing very strong positive correlation results between knowledge management processes and decision making.

Based on the strength of the relationship between knowledge management and decision making, the researcher believes that knowledge management is crucial in enhancing employees' productivity and their ability to make effective decisions. Here, the researcher emphasizes that the ministry has endeavored to equip its employees with new knowledge through various methods, recognizing the importance of the knowledge acquisition process. Also, the ministry has provided means to facilitate knowledge storage, ensuring optimal utilization without wasting time searching for the required knowledge. The ministry has employed various methods to encourage knowledge sharing among its employees, including the internal network, the official ministry website, official publications, periodicals, reports…etc. Furthermore, the ministry has also sought to apply knowledge among its employees to improve performance and reduce errors during decision making.

Previous studies have highlighted the significance of knowledge management processes and decision making in institutions. Study (Sahibzada et al., 2023) affirmed that knowledge management processes have a direct impact on institutional performance. Additionally, study (Dzenopoljac et al., 2018) emphasized the importance of knowledge management processes , as they significantly influence innovation in the work environment. Study (Anshari et al., 2023) confirmed that knowledge management processes help in reducing problem solving time. Furthermore, study (Younas et al., 2022) asserted that knowledge management assists institutions in making better and more accurate decisions, emphasizing that knowledge management processes are a crucial element in making wise decisions. Study (Schiuma et al. 2022) highlighted that

knowledge aids in goal setting, alternative formulation, and optimal option selection for decision makers, thereby reducing uncertainty and enhancing decision making outcomes. This aligns with the strong relationship between knowledge management and decision making strength found in this study.

Study (Munjuri 2018) indicated that cognitive background, skills, and competence in decision makers improve the quality of decisions by providing alternatives, evaluating them, and understanding the surrounding environment. Study (Jarrahi et al., 2023) clarified that knowledge sharing and utilization in problem solving contribute to effective decision making and performance improvement.

Testing the study question and hypotheses and their discussion

Answering the primary research question and examining the first research hypothesis:

What is the impact of knowledge management on the effective decision making at the Ministry of Higher Education and Scientific Research?

Before applying the multiple linear regression analysis to test the first primary hypothesis, certain tests must be conducted to ensure the suitability of the data for the assumptions of multiple regression analysis. These tests include the following:

1. Checking for a linear relationship between the dependent variable and independent variables using the Pearson Correlation test. (Already examined in Table 4.7).
2. Performing a multicollinearity test to ensure there is no high correlation among independent variables, using the Variance Inflation Factor (VIF) and Tolerance tests for each independent variable.
3. Conducting a Skewness test to confirm that the data follows a normal distribution.

Table (4.8) Multicollinearity Test to Ensure the Absence of High Correlation Among Independent Variables and Normal Distribution of Data.

variable	Tolerance	VIF	Skewness
knowledge acquisition	0.423	2.36	-0.450
knowledge Storage	0.329	3.02	-0.132
knowledge Sharing	0.296	3.13	-0.207
Applying knowledge	0.299	3.2	-0.211

The table reveals that the Variance Inflation Factor (VIF) for each knowledge management processes is less than 5, and the Tolerance value is greater than 5%, indicating no high correlation among the variables. As for the skewness values, they are less than 1.96, confirming that the data follows a normal distribution. Therefore, with the fulfilment of these conditions, we can apply multiple linear regression analysis to examine the main question in the study and the null hypothesis associated with the question: There is no significant impact of knowledge management on effective decision making in Ministry of Higher Education and Scientific Research at ($\alpha \leq 0.05$).

Table (4.9) Multiple Linear Regression to find the impact of knowledge management on effective decision making.

dependent variable	independent variable	R	R^2	F	Sig (F)	beta	T	Sig (T)
effective decision making	knowledge acquisition	0.857	0.734	59.229	.00	0.318	3.102	.003
	knowledge Storage					0.251	2.390	.016
	knowledge Sharing					0.284	2.600	.011
	Applying knowledge					0.289	2.832	.006

To assess the impact of knowledge management on effective decision making, a multiple linear regression model was employed (Table 4.9). The regression results indicate that the regression model is statistically significant, as evidenced by the F-value (59.229) and its significance (0.00), which is less than the significance level (0.05). Therefore, the null

hypothesis is rejected and accepted as the alternative hypothesis, signifying a statistically significant effect at the ($\alpha \leq 0.05$) of knowledge management on effective decision making in the Ministry of Higher Education and Scientific Research. The results suggest that knowledge management can explain for 73% of the variability in effective decision making in the Ministry of Higher Education and Scientific Research, as indicated by the R^2 value. The remaining 27% of the variance in effective decision making can be attributed to other variables. The Beta value for knowledge acquisition is (0.318), which is statistically significant, indicating that an improvement in knowledge acquisition by one unit results in an enhancement of effective decision making by (0.318) units. Similarly, the Beta value for knowledge storage is (0.251), and it is statistically significant. This suggests that an improvement in knowledge storage by one unit leads to an improvement in effective decision making by (0.251) units. The Beta value for knowledge sharing is (0.284), and it is statistically significant. This implies that an improvement in knowledge sharing by one unit improves the process of effective decision making by (0.284) units. Lastly, the Beta value for knowledge application is (0.289), and it is statistically significant. This indicates that an enhancement in knowledge application by one unit results in an improvement in effective decision making by (0.289) units.

Therefore, there is a significant impact of knowledge management on effective decision making in the Ministry of Higher Education and Scientific Research, as the calculated significance level is less than 5%.

Therefore, the multiple regression equation is as follows:

effective decision making= -0.305 + 0.318* knowledge acquisition + 0.251* knowledge storage + 0.284* knowledge sharing + 0.289* knowledge application + error term

The researcher believes that knowledge management contributes to improving effective decision making in the ministry by 73%. This high percentage is a logical outcome due to

the crucial role played by the ministry in utilizing knowledge management and leveraging all available resources, expertise, skills, and information in its internal and external environment. This utilization aims to enhance the decision making process at various levels, ultimately achieving operational and strategic objectives within the ministry. This aligns with Study (Al-Dujaili, 2012), which demonstrated that knowledge management explain 80% of the variance in decision making. Therefore, there is a statistically significant impact of knowledge management on decision making.

The current study aligns with study (Al-Shanti and Saada, 2020), confirming that knowledge management can explain 84.5% of the variance in decision making. There is a statistically significant impact of knowledge management on decision making.

Similarly, the present study concurs with study (Al-Aboudi, 2021), which demonstrated a statistically significant impact of knowledge management on decision making. knowledge management explained 62% of the variance in strategic decisions.

Furthermore, the current study aligns with study (Alhamali et al., 2021), indicating a statistically significant impact of knowledge management on decision making. knowledge management explained 70% of the variance in decision making.

The researcher believes that there must be a greater focus on knowledge management in effective decision making within the ministry. knowledge management alone can explain 73% of the variance in decisions. Concentrating on knowledge management has an impact on improving the ministry's work, accomplishing tasks quickly and proficiently, and avoiding errors in decision making. This is corroborated by Study (Anshari et al., 2023), which emphasized that utilizing knowledge management helps reduce problem solving time. Study (Litvaj et al., 2022) mentioned that knowledge management has a positive impact on all decision stages. Also, study (Younas et al., 2022) highlighted that knowledge

management is a crucial element in making wise decisions, and it also asserted that knowledge management assists institutions in making better and more accurate decisions. Study (Oliveira et al., 2017) stated that knowledge management reduces decision making risks, improves time management, increases employee productivity, saves costs, enhances security during decision making, facilitates rapid and accurate information exchange, and provides high quality customer service. Study (Munjuri, 2018) indicated that decision quality improves due to the knowledge background of the decision maker. Study (Alrahahleh et al., 2016) clarified that knowledge management enhances decision quality.

Answering the question 1.3.1.3. and testing the associated hypothesis:

What is the impact of knowledge acquisition on effective decision making in the Ministry of Higher Education and Scientific Research?

To address this question, I will examine the null hypothesis 1.5.1. There is no significant impact of knowledge acquisition on effective decision making in the Ministry of Higher Education and Scientific Research at ($\alpha \leq 0.05$).

Table (4.10) Simple Linear Regression to find the impact of knowledge acquisition on effective decision making.

dependent variable	independent variable	R	R^2	F	Sig (F)	beta	T	Sig (T)
effective decision making	knowledge acquisition	.749	.561	113.91	.00	0.897	10.673	.00

To examine the impact of effective decision making and knowledge acquisition, a simple linear regression model was employed (Table No. 4.10). Regression results showed that the regression model is significant with a value of (113.91) at a significant level of (0.00), which is less than (0.05). Therefore, we reject the null hypothesis and accept the alternative hypothesis. Thus, there is a statistically significant impact at a significance

level ($\alpha \leq 0.05$) between knowledge acquisition and effective decision making in the Ministry of Higher Education and Scientific Research.

The results indicate that the process of knowledge acquisition can explain 56% of the variations in making effective decisions in the Ministry of Higher Education and Scientific Research, as indicated by the R^2 value. The remaining 44% of the variance in effective decision making in the Ministry of Higher Education and Scientific Research can be attributed to other variables. The Beta value, indicating the impact of acquiring knowledge on effective decision making, is (0.897)and is statistically significant. This can be inferred through the T-value and the associated significance, hence establishing **a significant impact of knowledge acquisition on effective decision making in the Ministry of Higher Education and Scientific Research. The calculated significance level is less than 5%.**

This means that with each one-unit improvement in knowledge acquisition, effective decision making improves by 0.897 units. Therefore, the regression equation is as follows:

effective decision making= -0.015 + 0.897* acquiring knowledge+ error term

The current study aligns with the findings of study (Alhamali et al., 2021), indicating an impact of knowledge acquisition on decision making, with knowledge acquisition explaining 57.3% of the variance in decision making. Similarly, the present study agrees with study (Yu et al., 2019), which demonstrated a positive impact of accumulated knowledge on decision making, with accumulated knowledge explaining 56% of the variability in decision making. The current study also concurs with study (Al-Aboudi, 2021), showing an effect of knowledge acquisition processes on decision making, with knowledge acquisition explaining 30% of the variance in decisions.

However, the current study diverges from study (Bin Rahmoun & Muzahidiya, 2020), where the findings indicated no significant impact of knowledge creation on decision making.

The researcher considers these results logical due to the significant measures and practices undertaken by the ministry to acquire knowledge from diverse sources for utilization in all activities and operations. This contributes to supporting the decision making process within the ministry and achieving the specified objectives outlined in its diverse plans. The researcher also attributes the impact of knowledge acquisition on effective decision making in the Ministry of Higher Education to the provision of necessary information for better problem understanding. Analyzing available options becomes more connected to the available knowledge, examining possible alternatives and evaluating them based on knowledge. Moreover, knowledge reduces the risks associated with decision making by making employees aware of potential risks and how to deal with them, thereby minimizing the likelihood of undesirable outcomes. Knowledge acquisition also decreases the effort employees exert in finding solutions to specific problems or situations due to the availability of acquired knowledge in a timely manner. All these aspects enhance employee productivity, enabling more accurate and better decision making, ultimately contributing to achieving the ministry's goals, improving its efficiency, and enhancing the services it provides to the public. Employees employ various methods to acquire knowledge, including dialogue among themselves, consulting the systems and regulations applicable in the ministry, gaining insights from experts, utilizing the internet, attending meetings, conferences, workshops, reading books, and references. All these are means used for knowledge acquisition, a fact corroborated by study (De Felice et al., 2023). Study (Ode and Ayavoo, 2020) highlighted that knowledge acquisition enables institutions

to better understand their external environment in a rapidly changing technological landscape, thereby expanding and deepening accessible knowledge. It enhances the technical competence of the workforce, allowing them to adapt to surrounding conditions and align with contemporary requirements. These findings align with the results of the current study. Additionally, study (Yu et al., 2019) clarified that accumulated knowledge among employees influences the quality of decision making.

Answering the question 1.3.1.4. and testing the associated hypothesis

What is the impact of knowledge storage on effective decision making in the Ministry of Higher Education and Scientific Research?

To address this question, I will examine the null hypothesis 1.5.2. There is no significant impact of knowledge storage on effective decision making in the Ministry of Higher Education and Scientific Research at ($\alpha \leq 0.05$).

Table (4.11) Simple linear regression to find the impact of knowledge storage on effective decision making.

dependent variable	independent variable	R	R^2	F	Sig (F)	beta	T	Sig (T)
effective decision making	knowledge storage	.739	.546	107.18	.00	0.830	10.353	.00

To investigate the impact between effective decision making and knowledge storage, a simple linear regression model (Table 4.11) was used. The regression results indicate that the regression model is significant, with an F-value of (107.18) and a significance level of (0.00), which is smaller than Sig (0.05). Therefore, we reject the null hypothesis and accept the alternative hypothesis. Consequently, there is a statistically significant impact at the 0.05 significance level between knowledge storage and effective decision making in the Ministry of Higher Education and Scientific Research. The results explain that the

knowledge storage can explain for 54% of the variations in effective decision making in the Ministry of Higher Education and Scientific Research, as indicated by the R^2 value. Meanwhile, 46% of the variability in effective decision making in the Ministry of Higher Education and Scientific Research can be attributed to other variables. The Beta value, which indicates the impact of knowledge storage on effective decision making, is (0.830), and it is statistically significant. This can be inferred from the T-value and its associated significance. Consequently, **there is a significant impact of knowledge storage on effective decision making in the Ministry of Higher Education and Scientific Research, as the calculated significance level is less than 5%.**

This means that for every unit improvement in knowledge storage, effective decision making improves by 0.830 units. Therefore, the regression equation is as follows:

effective decision making=0.520 + 0.830* storing knowledge+ error term

The researcher believes that these results are consistent with the practices adopted by the ministry, primarily aimed at knowledge storage and retaining various means and procedures to facilitate access and retrieval at the appropriate time, ultimately achieving sustainability and expediting the decision making process within a clear and objective scientific methodology. This aligns with Study (Alhamali et al., 2021), which demonstrated an impact between knowledge storage and decision making, where knowledge storage explained 60.8% of the variance in decision making. The current study also concurs with Study (Al-Aboudi, 2021), indicating an impact between knowledge storage process and decision making, with knowledge storage explaining 44% of the variance in decisions. However, there is a discrepancy with Study (Bin Rahmoun & Muzahidiya, 2020), which showed no impact of knowledge storage on decision making.

The ministry prioritizes the knowledge storage process, where the Information Technology Department in the ministry preserves multiple copies of the database to preserving it. This is affirmed by Study (Demir et al., 2023), emphasizing the importance of knowledge storage in creating, exchanging, and applying knowledge. The study also underscores the significance of knowledge storage by retaining information within the institution, ensuring easy and quick access, and using it in effective decision making. Study (Soto-Acosta et al. 2018) confirms that stored and utilized knowledge has a significant impact on the institutional performance. Additionally, Study (Ode and Ayavoo, 2020) emphasizes that knowledge storage is a valuable source for innovation.

Answering the question 1.3.1.5. and testing the associated hypothesis

What is the impact of knowledge sharing on effective decision making in the Ministry of Higher Education and Scientific Research?

To answer this sub question in the study, we will examine null hypothesis 1.5.3. There is no significant impact of knowledge sharing on effective decision making in the Ministry of Higher Education and Scientific Research at ($\alpha \leq 0.05$).

Table (4.12): Simple linear regression to find the impact of knowledge sharing on effective decision making.

dependent variable	independent variable	R	R^2	F	Sig (F)	beta	T	Sig (T)
effective decision making	knowledge sharing	.782	.611	139.99	.00	0.834	11.832	.00

To assess the impact between effective decision making and knowledge sharing, a simple linear regression model (Table Number 4.12) was employed. The regression results indicated that the regression model is significant with a value of f (139.99) and a significance level (0.00), which is smaller than Sig (0.05). Consequently, we reject the

null hypothesis and accept the alternative hypothesis. Therefore, there is a statistically significant impact at the ($\alpha \leq 0.05$) level between knowledge sharing and effective decision making in the Ministry of Higher Education and Scientific Research. The results explain that the knowledge sharing can explain for 61% of the variations in effective decision making in the Ministry of Higher Education and Scientific Research, relying on the R^2 value. Additionally, 39% of the variances in effective decision making in the Ministry of Higher Education and Scientific Research can be attributed to other variables. The Beta value, indicating the impact of knowledge sharing on effective decision making, is (0.834), and it is statistically significant, as inferred from the T-value and its associated significance. Consequently, **there is a statistically significant impact between the knowledge sharing process and effective decision making in the Ministry of Higher Education and Scientific Research, where the calculated significance level is less than 5%.**

This implies that with each unit improvement in knowledge sharing, effective decision making improves by (0.834). Therefore, the regression equation is as follows:

effective decision making= 0.489+ 0.834* knowledge sharing + error term

The researcher sees that these results are consistent with the measures and activities carried out by the ministry, primarily aiming to share knowledge, information, data, skills, abilities, and ideas among employees. This is being done to establish a common understanding and language of dialogue among staff and decision makers, enabling them to quickly make decisions since all employees have homogeneous levels of knowledge. This allows them to make assigned decisions efficiently. The ministry's capability supports the achievement of its goals effectively. These results align with study (Yu et al., 2019), indicating an impact between knowledge sharing processes and decision making, where

knowledge sharing explained 53% of the variance in decision making. It also aligns with study (Alduais et al., 2023), confirming that knowledge sharing has a positive impact on decision making. The current study concurred with study (Al-Aboudi, 2021), indicating an impact between knowledge sharing processes and decision making, where knowledge sharing explained 37% of the variance in decisions. However, it diverged from study (Bin Rahmoun & Muzahidiya, 2020), which showed no impact of knowledge sharing on decision making.

The researcher attributes the presence of an impact between knowledge sharing and effective decision making in the ministry to the ministry's attention to the knowledge sharing process among its employees. The ministry utilizes various methods, including electronic and paper-based approaches, to disseminate knowledge among its staff. This fosters transparency in decision making, facilitates access to knowledge, enhances the efficiency and productivity of employees, and increases job satisfaction among the staff. This aligns with the findings of studies (Soto-Acosta et al., 2018; Kumar, 2018; Karyatun et al., 2023), which highlights that knowledge sharing increases job satisfaction and employee productivity. Additionally, study (Davenport & Volpel, 2001) mentioned that knowledge sharing is beneficial for an institution 's success. Study (Kiprotich et al., 2015) emphasized that the procedures and activities involved in assembling, improving, integrating, coordinating, disseminating, and restructuring knowledge enable knowledge exchange, transforming individual knowledge into institutional knowledge that benefits the institution . Study (Huarng & Mas-Tur, 2016) affirmed that knowledge exchange stimulates creative behavior.

Answering the question 1.3.1.6. and testing the associated hypothesis

What is the impact of knowledge application on effective decision making in the Ministry of Higher Education and Scientific Research?

To address this question, I will examine the null hypothesis 1.5.4. There is no significant impact of knowledge application on effective decision making in the Ministry of Higher Education and Scientific Research at ($\alpha \leq 0.05$).

Table (4.13): Simple linear regression to find the impact of knowledge application on effective decision making.

Dependent variable	independent variable	R	R^2	F	Sig (F)	beta	T	Sig (T)
effective decision making	Knowledge Application	.789	.622	146.41	.00	0.790	12.10	.00

To assess the impact between effective decision making and knowledge application, a simple linear regression model was employed (Table 4.13). The regression results indicated that the model was statistically significant, with an F-value of (146.41) and a significance level of (0.00), which is smaller than 0.05. Consequently, the null hypothesis is rejected, and the alternative hypothesis is accepted. Therefore, there is a statistically significant impact at a significant level of 0.05 between knowledge application and effective decision making in the Ministry of Higher Education and Scientific Research. The results suggest that the knowledge application process can explain for 62% of the variations in effective decision making within the ministry, as evidenced by the R^2 value. Additionally, 38% of the variations in effective decision making in the Ministry of Higher Education and Scientific Research can be explained by other variables. The Beta value, indicating the impact of knowledge application on effective decision making, is (0.790), and it is statistically significant. This can be inferred from the T-value and its associated

significance. Therefore, **there is a significant impact of the knowledge application process on effective decision making in the Ministry of Higher Education and Scientific Research, where the calculated significance level is less than 5%.**

This implies that for every one-unit improvement in knowledge application, there is a corresponding improvement of 0.79 units in effective decision making. Thus, the regression equation is as follows:

effective decision making =0.591 + 0.79* knowledge Application + error term

The researcher sees that these results are logical due to the activities and programs carried out by the ministry. These activities primarily aim to facilitate the application of knowledge by its employees at all administrative levels and within all programs conducted by the ministry. This is intended to support the decision making process within the ministry's operations efficiently and effectively. However, the results of this study differ from the findings of Study (Bin Rahmoun & Muzahidiya, 2020), which indicated no significant impact of knowledge application on decision making. On the other hand, the current study aligns with study (Al-Aboudi, 2021), demonstrating an impact between knowledge application processes and decision making, where knowledge application explained 20% of the variance in decisions. The current study also concurs with study (Al-Shanti and Saada, 2020), which stated that knowledge application influences and improves the quality of decisions.

The researcher also believes that the ministry has shown interest in applying knowledge in all activities. The application of knowledge makes decisions more aligned with the ministry's objectives. Since knowledge application relies on employees past experiences and expertise, it accelerates the decision making process and reduces errors. This aligns with the findings of study (Gürlek & Cemberci, 2020). Moreover, knowledge application

increases the efficiency and productivity of the ministry's employees, enabling them to benefit from both the successes and failures of previous experiences, thus making informed decisions. This is consistent with the results of study (Abbas et al., 2020).

The answer to the second main research question.

1.3.1. Are there significant differences at the level of significance ($\alpha \leq 0.05$) in the respondents' responses about the knowledge management with its four processes (knowledge acquisition, knowledge storage, knowledge sharing, knowledge application) and effective decision making due to the following demographic variables (gender, age, qualification, experience inside Ministry, experience outside Ministry, job title)?

Find the differences based on the gender variable:

To find the difference, I conducted an Independent Samples T-test. After checking the assumptions and conditions of the test (all variables follow a normal distribution and have homogeneous variances), the results were as follows:

Table (4.14): T-test results based on gender variable.

variables	Gender	# of respondent	Mean	Std. deviation	T	Sig	significance
knowledge Acquisition	Male	36	3.63	.588	0.520	0.604	Not significant
	Female	55	3.56	.677			
knowledge Storage	Male	36	3.08	.700	-1.705	0.092	Not significant
	Female	55	3.33	.660			
knowledge Sharing	Male	36	3.24	.661	-0.193	0.847	Not significant
	Female	55	3.27	.761			
knowledge Application	Male	36	3.11	.748	-1.978	0.06	Not significant
	Female	55	3.43	.757			
effective decision making	Male	36	3.13	.680	-0.696	0.488	Not significant
	Female	55	3.25	.822			
Total		91	3.30	.705			

The results of the T-test, at the significance level ($\alpha \leq 0.05$), indicate **no significant differences between males and females in the variables of knowledge acquisition, knowledge storage, knowledge sharing, knowledge application, and effective decision making, where the calculated significance level is greater than 5%.**

This result aligns with the findings of study (Al-Shanti and Saada, 2020), showing no statistically significant differences in knowledge management processes and decision making based on the gender variable. However, it differs from study (Heisig & Kannan, 2020), which reported differences in knowledge sharing favoring females and differences in knowledge use favoring males. Additionally, it contrasts with study (Bin Rahmoun & Muzahidiya, 2020), which suggested gender related differences in knowledge management.

The researcher attributes the absence of differences in knowledge management processes and effective decision making based on gender to the similarity of working conditions for both males and females. The study suggests that both genders operate under the same laws, rules, and regulations without discrimination, and they have equal opportunities for training.

Find the differences based on the age variable:

To find the difference, I conducted an Analysis of Variance (ANOVA), and after verifying the test assumptions and conditions (all variables follow a normal distribution, and the variances are homogeneous), the results were as follows:

Table (4.15): ANOVA test results based on the age variable.

variables	Age	# of respondent	Mean	Std. deviation	F	Sig	significance

knowledge Acquisition	Less than 30 years	9	3.54	.599	1.603	0.194	Not significant
	30- Less than 40 years	38	3.61	.596			
	40- Less than 50 years	36	3.67	.670			
	More than 50 years	8	3.14	.689			
knowledge Storage	Less than 30 years	9	3.66	.400	2.837	0.043	significant
	30- Less than 40 years	38	3.10	.653			
	40- Less than 50 years	36	3.34	.750			
	More than 50 years	8	2.87	.458			
knowledge Sharing	Less than 30 years	9	3.44	.524	2.505	0.06	Not significant
	30- Less than 40 years	38	3.36	.736			
	40- Less than 50 years	36	3.42	.689			
	More than 50 years	8	2.72	.734			
Knowledge Application	Less than 30 years	9	3.48	.480	2.689	0.04	significant
	30- Less than 40 years	38	3.23	.733			
	40- Less than 50 years	36	3.47	.824			
	More than 50 years	8	2.70	.632			

effective decision making	Less than 30 years	9	3.42	.543	3.062	0.032	significant
	30- Less than 40 years	38	3.19	.733			
	40- Less than 50 years	36	3.32	.826			
	More than 50 years	8	2.48	.510			
Total		91	3.24	.638			

After applying the Analysis of Variance (ANOVA), it was found that at the significance level ($\alpha \leq 0.05$), there are no significant differences between age groups in the processes of knowledge acquisition and knowledge sharing, where the calculated significance level is greater than 5%.

However, there are significant differences between age groups in the processes of knowledge storage, knowledge application, and effective decision making, where the calculated significance level is less than 5%.

The Tukey post hoc analysis to identify differences between age groups in this study revealed the following:

1. There are significant differences at the significance level ($\alpha \leq 0.05$) in the knowledge storage process between the age group (30- less than 40 years) and the age group (Less than 30 years), in favor of the age group (Less than 30 years) with the higher mean (3.66).
2. There are significant differences at the significance level ($\alpha \leq 0.05$) in the knowledge application process between the age group (Less than 30 years) and the

age group (More than 50 years), in favor of (Less than 30 years) with the higher mean (3.48).

3. There are significant differences at the significance level (α≤ 0.05) in the knowledge application process between the age group (40- Less than 50 years) and the age group (More than 50 years), in favor of (40- Less than 50 years) with the higher mean (3.47).

4. There are significant differences at the significance level (α≤ 0.05) in effective decision making between the age group (40- Less than 50 years) and the age group (More than 50 years), in favor of (40- Less than 50 years) with the higher mean (3.32).

5. Significant differences were found at the significance level (α≤ 0.05) in effective decision making between the age group (30- Less than 40 years) and the age group (More than 50 years), in favor of (30- Less than 40 years) with the higher mean (3.19).

6. There are significant differences at the significance level (α≤ 0.05) in effective decision making between the age group (Less than 30 years) and the age group (More than 50 years), in favor of (Less than 30 years) with the higher mean (3.42).

The result of this study differed from study (Bin Rahmoun & Muzahidiya, 2020), which stated that there are no differences in knowledge processes attributed to the age variable. It partially agreed with the same study, indicating differences in decision making attributed to the age variable, favoring those who are younger. The study results also aligned with study (Lizárraga, et al., 2007), which reported differences in decision making based on the age variable.

The researcher attributes the presence of differences in the processes of knowledge storage and application based on the age variable to the fact that those who are younger possess more technological skills than those who are older. Consequently, they have a good understanding of the value of knowledge storage and application, realizing the benefits they will gain from storing their knowledge and using previously stored knowledge in the practical application to solve the problems they encounter. The researcher also believes that those who are younger are more inclined to enroll in training courses to enhance their technological skills and increase their knowledge compared to those who are older. The researcher attributes the differences in effective decision making based on the age variable to the idea that decisions are not correlated with age as much as they are with continuously acquired and updated knowledge and the ability to adopt this knowledge. Additionally, the researcher associates these differences with the employees' capacity to analyse problems accurately, propose suitable alternatives, and, consequently, have a greater ability to make sound decisions. The researcher also suggests that younger employees are more motivated to seek promotion and prove themselves within the ministry, leading to a more comprehensive examination of issues and the making of informed decisions. Furthermore, younger employees are more willing to explore new methods and innovative thinking approaches, resulting in more precise and flexible decisions.

Find the differences based on the qualification variable:

To find the difference, I conducted an Analysis of Variance (ANOVA), and after verifying the test assumptions and conditions (all variables follow a normal distribution, and the variances are homogeneous), the results were as follows:

Table (4.16): ANOVA test results based on the qualification variable.

variables	Qualification	# of respondent	Mean	Std. deviation	F	Sig	significance
knowledge Acquisition	Intermediate diploma	5	3.62	.829	1.865	0.141	Not significant
	Bachelor's	50	3.57	.629			
	Master's	31	3.50	.643			
	Ph.D.	5	4.22	.240			
knowledge Storage	Intermediate diploma	5	3.47	.767	0.282	0.839	Not significant
	Bachelor's	50	3.23	.719			
	Master's	31	3.19	.660			
	Ph.D.	5	3.32	.455			
knowledge Sharing	Intermediate diploma	5	3.31	.910	0.198	0.897	Not significant
	Bachelor's	50	3.28	.741			
	Master's	31	3.19	.709			
	Ph.D.	5	3.42	.493			
knowledge Application	Intermediate diploma	5	3.48	.867	0.168	0.918	Not significant
	Bachelor's	50	3.32	.825			
	Master's	31	3.24	.690			
	Ph.D.	5	3.36	.669			
effective decision making	Intermediate diploma	5	3.25	.799	0.035	0.991	Not significant
	Bachelor's	50	3.20	.783			
	Master's	31	3.25	.727			
	Ph.D.	5	3.18	.767			
Total		91	3.38	.696			

After applying the Analysis of Variance (ANOVA) test, it was found that at a significance level ($\alpha \leq 0.05$), there are no significant differences between the categories of qualifications and the processes of knowledge management (acquisition, storage, sharing, and application of knowledge) and effective decision making, as the calculated significance level is greater than 5%.

The results of the current study are consistent with study (Bin Rahmoun & Muzahidiya, 2020), which stated that there are no differences in knowledge management processes and decision making based on the variable of qualifications.

However, the current study differs from study (Al-Shanti and Saada, 2020), which indicated the presence of differences in knowledge management processes and decision making based on the variable of qualifications in favor of employees in the first category (senior managers).

The researcher attributes the lack of statistically significant differences in knowledge management processes and effective decision making based on the variable of qualifications to the idea that employees, regardless of their qualifications, can participate in training on how to acquire, store, share, and apply knowledge, as well as courses on effective decision making. Consequently, employees acquire the same experiences and competencies regardless of their qualifications.

Find the differences based on years of experience inside the Ministry of Higher Education and Scientific Research:

To find the difference, I conducted an Analysis of Variance (ANOVA). After verifying the assumptions and conditions of the test (all variables follow a normal distribution, and homogeneity of variances), the results were as follows:

Table (4.17): ANOVA test results based on the variable of years of experience inside the Ministry of Higher Education and Scientific Research.

variables	Experience inside Ministry	# of respondent	Mean	Std. deviation	F	Sig	significance
knowledge Acquisition	Less than 5 years	19	3.46	.646	0.442	0.724	Not significant
	5- Less than 10 years	16	3.53	.592			
	10- Less than 15 years	14	3.65	.580			

	More than 15 years	42	3.65	.686			
knowledge Storage	Less than 5 years	19	3.41	.535	2.186	0.095	Not significant
	5- Less than 10 years	16	3.03	.682			
	10- Less than 15 years	14	2.92	.525			
	More than 15 years	42	3.33	.754			
knowledge Sharing	Less than 5 years	19	3.24	.620	1.188	0.319	Not significant
	5- Less than 10 years	16	3.09	.631			
	10- Less than 15 years	14	3.05	.750			
	More than 15 years	42	3.39	.774			
knowledge Application	Less than 5 years	19	3.22	.756	0.397	0.755	Not significant
	5- Less than 10 years	16	3.17	.711			
	10- Less than 15 years	14	3.35	.652			
	More than 15 years	42	3.38	.836			
effective decision making	Less than 5 years	19	3.33	.620	0.936	0.427	Not significant
	5- Less than 10 years	16	2.92	.718			
	10- Less than 15 years	14	3.20	.672			
	More than 15 years	42	3.25	.867			
Total		91	3.27	.680			

After applying the Analysis of Variance (ANOVA), it was found that at a significance level ($\alpha \leq 0.05$), there are no significant differences between the categories of years of

experience inside the Ministry of Higher Education and Scientific Research and the processes of knowledge management (acquisition, storage, sharing, and application of knowledge) and effective decision making, as the calculated significance level is greater than 5%.

The results of the current study partially agree with study (Bin Rahmoun & Muzahidiya, 2020), which stated that there are no differences in knowledge management processes based on the variable of years of experience. However, the current study disagrees with it as the same study mentioned differences in decision making based on the variable of years of experience. The current study agrees with study (Al-Shanti and Saada, 2020), which indicated no differences in decision making based on the variable of years of experience. However, it differs from the same study in stating that there are differences in knowledge management processes based on the variable of years of experience.

The researcher attributes the lack of statistically significant differences in knowledge management processes, and effective decision making based on the variable of years of experience within the ministry to the fact that approximately half of the study participants have more than 15 years of experience. Therefore, there are no differences among them in knowledge management processes and effective decision making.

Find the differences based on years of experience outside the Ministry of Higher Education and Scientific Research:

To find the difference, I conducted an Analysis of Variance (ANOVA). After verifying the assumptions and conditions of the test (all variables follow a normal distribution, and homogeneity of variances), the results were as follows:

Table (4.18): ANOVA test results based on the variable of years of experience outside the Ministry of Higher Education and Scientific Research.

variables	Experience inside Ministry	# of respondent	Mean	Std. deviation	F	Sig	significance
knowledge Acquisition	No experience	28	3.67	.608	0.691	0.600	Not significant
	Less than 5 years	35	3.65	.630			
	5- Less than 10 years	10	3.50	.833			
	10- Less than 15 years	8	3.45	.622			
	More than 15 years	10	3.35	.614			
knowledge Storage	No experience	28	3.34	.690	0.673	0.612	Not significant
	Less than 5 years	35	3.27	.696			
	5- Less than 10 years	10	3.17	.677			
	10- Less than 15 years	8	3.01	.642			
	More than 15 years	10	3.02	.696			
knowledge Sharing	No experience	28	3.20	.804	0.861	0.491	Not significant
	Less than 5 years	35	3.41	.721			
	5- Less than 10 years	10	3.16	.693			
	10- Less than 15 years	8	2.97	.549			
	More than 15 years	10	3.17	.599			
knowledge Application	No experience	28	3.32	.778	1.004	0.410	Not significant
	Less than 5 years	35	3.45	.705			

	5- Less than 10 years	10	3.20	.777			
	10- Less than 15 years	8	3.27	.913			
	More than 15 years	10	2.92	.812			
effective decision making	No experience	28	3.08	.762	0.916	0.458	Not significant
	Less than 5 years	35	3.37	.772			
	5- Less than 10 years	10	3.25	.697			
	10- Less than 15 years	8	2.89	.907			
	More than 15 years	10	3.15	.724			
Total		91	3.24	.716			

After applying the Analysis of Variance (ANOVA), it was found that at a significance level ($\alpha \leq 0.05$), there are no significant differences between the categories of years of experience outside the Ministry of Higher Education and Scientific Research and the processes of knowledge management (acquisition, storage, sharing, and application of knowledge) and effective decision making, as the calculated significance level is greater than 5%.

The results of the current study partially align with study (Bin Rahmoun & Muzahidiya, 2020), which stated that there are no differences in knowledge management processes based on the variable of years of experience. However, the current study disagrees with it, as the same study mentioned differences in decision making based on the variable of years of experience. The current study aligns with study (Al-Shanti and Saada, 2020), which indicated no differences in decision making

based on the variable of years of experience. However, it differs from the same study, stating that there are differences in knowledge management processes based on the variable of years of experience.

The researcher attributes the lack of statistically significant differences in knowledge management processes and effective decision making based on the variable of years of experience outside the ministry to the possibility that their external experience may not align with the nature of the work and tasks they perform within the ministry. Therefore, no differences were found based on the variable of years of experience outside the ministry.

Find the differences based on the job title variable:

To Find the differences, I conducted an Analysis of Variance (ANOVA). After confirming the test assumptions and conditions (all variables follow a normal distribution, and homogeneity of variances), the results were as follows:

Table (4.19): ANOVA test results based on the variable of job title.

variables	Job Title	# of respondent	Mean	Std. deviation	F	Sig	significance
knowledge Acquisition	administrative Employee	17	3.58	.631	0.811	0.491	Not significant
	Head Department	42	3.53	.653			
	Director	23	3.58	.673			
	General Director	9	3.90	.518			
knowledge Storage	administrative Employee	17	3.50	.628	1.361	0.260	Not significant
	Head Department	42	3.19	.677			
	Director	23	3.08	.673			

	General Director	9	3.29	.537			
knowledge Sharing	administrative Employee	17	3.40	.629	0.531	0.662	Not significant
	Head Department	42	3.16	.769			
	Director	23	3.27	.756			
	General Director	9	3.37	.571			
knowledge Application	administrative Employee	17	3.56	.711	0.832	0.480	Not significant
	Head Department	42	3.28	.747			
	Director	23	3.20	.855			
	General Director	9	3.20	.728			
effective decision making	administrative Employee	17	3.36	.734	1.128	0.342	Not significant
	Head Department	42	3.07	.791			
	Director	23	3.21	.802			
	General Director	9	3.50	.568			
Total		91	3.36	0.682			

After applying the Analysis of Variance (ANOVA), it was found that at a significance level ($\alpha \leq 0.05$), **there are no significant differences between job title categories and knowledge management processes (acquisition, storage, sharing, and application of knowledge) and effective decision making, as the calculated significance level is greater than 5%.**

The results of the current study differ from study (Al-Shanti and Saada, 2020), which stated that there are differences in knowledge management processes and effective decision making based on the job title variable. The current study also differs from study (Bin Rahmoun & Muzahidiya, 2020), which mentioned differences in

knowledge management processes and effective decision making based on the job title variable.

The researcher attributes the lack of statistically significant differences in knowledge management processes and effective decision making based on the job title variable to the notion that everyone can acquire knowledge, regardless of their job title. Knowledge acquisition is not restricted to specific job roles, allowing employees to share, apply, and use knowledge in decision making within the ministry. Therefore, no differences were found in knowledge management processes, and effective decision making based on job titles.

Study Results Summary

1. The mean for knowledge management among employees of the Ministry of Higher Education and Scientific Research was (3.34) with a medium rating. The knowledge acquisition process demonstrated the highest mean (3.59) with a high rating, followed by the knowledge application process with mean (3.30) and a medium rating. Subsequently, the knowledge sharing process had a mean (3.25) with a medium rating, while the knowledge storage process came last with a mean (3.23) and a medium rating. The standard deviation for these four knowledge management processes ranged from (0.641-0.766), indicating that there is no significant dispersion or divergence in respondents' answers. On the contrary, it suggests that their responses to all items tend to converge toward the mean.
2. The mean for decision making was (3.20), indicating a medium level of proficiency, with a standard deviation of (0.767).

   The following chart (4.2) illustrates the means and standard deviations for knowledge management and decision making.

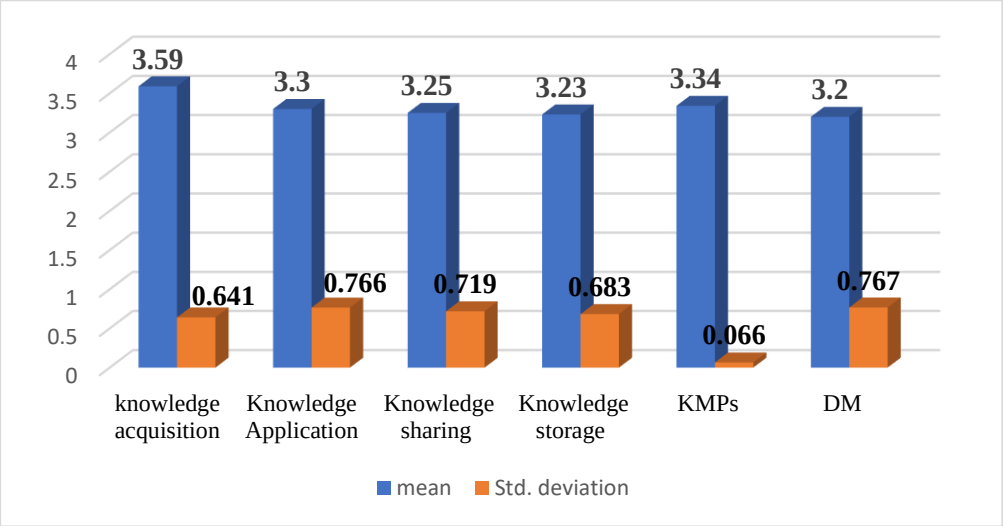

Figure (4.2) illustrates the means and standard deviations for knowledge management processes and effective decision making.

3. The results indicate a strong positive correlation between knowledge management processes and effective decision making, with a correlation coefficient value of (0.854). The results also show that the strongest positive correlation was between knowledge application and effective decision making, with a correlation coefficient of (0.789). The weakest strong positive correlation was observed between knowledge storage and effective decision making, with a correlation coefficient of (0.739).

The following chart illustrates the relationship between knowledge management processes and effective decision making in the Ministry of Higher Education and Scientific Research:

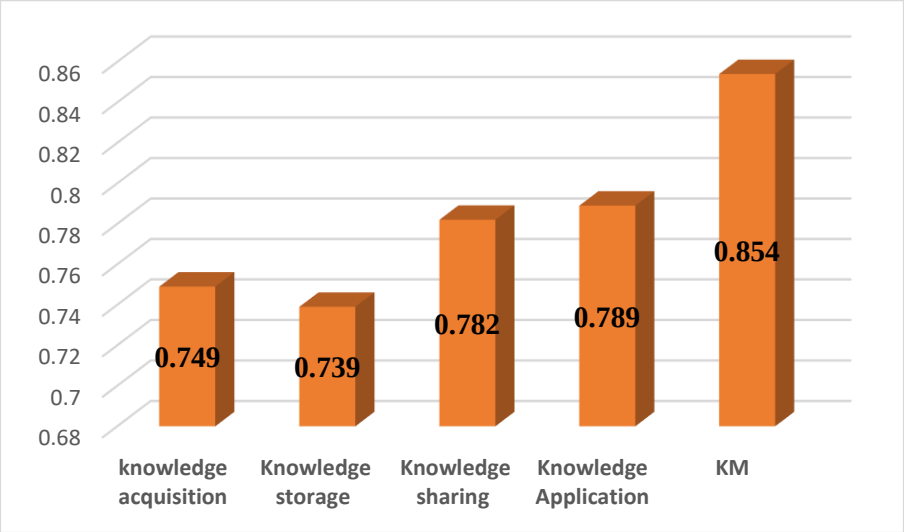

Figure (4.3) illustrates the Pearson correlation between knowledge management processes and effective decision making.

4. There is a statistically significant impact of knowledge management processes on effective decision making in the Ministry of Higher Education and Scientific Research, and knowledge management processes can explain for 73% of the variations in effective decision making in the Ministry.
5. There is a statistically significant impact of the knowledge acquisition process on effective decision making in the Ministry of Higher Education and Scientific Research, and the knowledge acquisition process can explain 56% of the variations in effective decision making in the Ministry.
6. There is a statistically significant impact of the knowledge storage process on effective decision making in the Ministry of Higher Education and Scientific Research, and the knowledge storage process can explain 54% of the variations in effective decision making in the Ministry.
7. There is a statistically significant impact of the knowledge sharing process on effective decision making in the Ministry of Higher Education and Scientific

Research, and the knowledge sharing process can explain 61% of the variations in effective decision making in the Ministry.

8. There is a statistically significant impact of the knowledge application process on effective decision making in the Ministry of Higher Education and Scientific Research, and the knowledge application process can explain 62% of the variations in effective decision making in the Ministry.

The following chart illustrates the percentage of knowledge management processes that contributed to explaining the variance in effective decision making in the Ministry of Higher Education and Scientific Research.

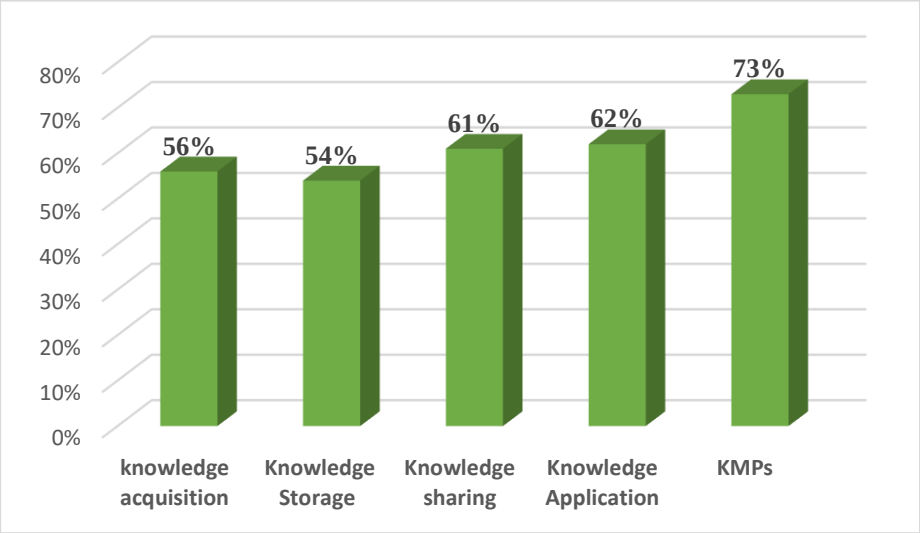

Figure (4.4) illustrates the variation in effective decision making according to knowledge management processes.

9. There are no significant differences in knowledge management through its four processes (knowledge acquisition, knowledge storage, knowledge sharing, knowledge application) and effective decision making based on variables (gender, qualification, years of experience inside the Ministry of Higher Education and

Scientific Research, years of experience outside the Ministry of Higher Education and Scientific Research, job title).

10. There are no significant differences in age groups concerning knowledge acquisition and knowledge sharing processes.
11. There are significant differences in the knowledge storage process, knowledge application, and effective decision making based on the age variable, as shown in the following table:

Table (4.20): Differences in respondents' answers based on the age variable.

dimension	Between age		Favor
Storing knowledge	Less than 30 years	30- Less than 40 years	Less than 30 years
Applying knowledge	Less than 30 years	More than 50 years	Less than 30 years
	40- Less than 50 years	More than 50 years	40- Less than 50 years
effective decision making	Less than 30 years	More than 50 years	Less than 30 years
	30- Less than 40 years	More than 50 years	30- Less than 40 years
	40- Less than 50 years	More than 50 years	40- Less than 50 years

Chapter Five:

Conclusions and Recommendations

5.1. Conclusions:

1. The importance of knowledge acquisition as one of the dimensions of knowledge management in the Ministry of Higher Education and Scientific Research is evident through the high awareness and comprehensive understanding possessed by the employees in the ministry. An increase in the level of knowledge acquisition contributes significantly to realizing significant benefits for the ministry. The process of knowledge acquisition aims to direct efforts towards acquiring new knowledge from various sources, such as records, databases, colleagues' experiences, and successful experiments. Additionally, the importance of direct communication with employees is highlighted, along with the continuous effort to convert tacit knowledge into explicit knowledge, promoting knowledge exchange among team members and contributing to the accumulation of expertise. This helps in achieving the ministry's goals efficiently and effectively. This result is clearly manifested through the respondents' answers, indicating that the knowledge acquisition process in the ministry was of a high mean.
2. The Ministry of Higher Education and Scientific Research adopts modern methods in the knowledge storage process to facilitate storage and retrieval operations, enabling effective access to information and data at suitable times and locations. The ministry also seeks to store knowledge through diverse means to ensure its preservation and maintenance, allowing for utilization in addressing challenges and problem solving effectively. However, employees in the Ministry of Higher Education and Scientific Research demonstrate a medium level of

awareness and understanding of the role of knowledge storage as one of the knowledge management processes. This is due to their lack of familiarity with the mechanisms of preserving and assessing the quality of stored knowledge.

3. The Ministry of Higher Education and Scientific Research's interest in the knowledge sharing process is evident with various methods such as the official ministry website, databases, email, internal information networks, administrative correspondence, periodic newsletters, reports, workshops, and meetings. This interest stems from the ministry's belief in the effective role of knowledge sharing in unifying concepts and ideas and clarifying the goals it seeks to achieve within its diverse plans. This is to ensure the support and endorsement of employees for its future directions and supporting administrative decisions for effective implementation, thereby reducing error rates. However, employees in the Ministry of Higher Education and Scientific Research demonstrate a medium level of awareness and understanding of the role of knowledge sharing as one of the knowledge management processes, especially considering that knowledge sharing among employees is of medium degree.
4. The Ministry of Higher Education and Scientific Research has prioritized the knowledge application process in all its activities and programs. It has provided modern technological means that have effectively contributed to applying knowledge. This has resulted in numerous benefits for the ministry, improving and developing its work, achieving its objectives, enhancing its capabilities to face challenges and problems, and making informed decisions based on prior knowledge. Consequently, this aids in reducing errors in decision making. However, employees in the Ministry of Higher Education and Scientific Research exhibit a medium level of awareness and understanding of the role of the

knowledge application process as one of the knowledge management processes. This is due to their reliance on experts to possess effective methods for applying knowledge, thereby enabling them to make efficient decisions and achieve the ministry's goals.

5. In recognition of the importance of knowledge management for the advancement of the Ministry and the achievement of its goals, the Ministry of Higher Education and Scientific Research has placed a significant focus on the knowledge acquisition process. This is due to its impact on acquiring knowledge through various methods, especially as the knowledge acquisition process is a crucial step in achieving other knowledge processes. Additionally, with the increase in the number of higher education institutions and the adoption of educational systems such as e-learning and dual mode education, the Ministry emphasizes knowledge acquisition. The separation of the Ministry of Higher Education from the Ministry of Education requires the enhancement of knowledge acquisition among employees. Meanwhile, the other knowledge management processes, including storage, sharing, and application of knowledge, have been rated at a medium level. The Ministry is continuously working to develop these processes towards effective use in decision making within the Ministry.
6. Employees in the ministry analyze information and indicators to make decisions that align with its objectives. However, it appears that there are some obstacles affecting the comprehensiveness of decision making. These include a limited study of the internal environment, inaccuracies in problem identification, and insufficient attention to individual initiatives by employees when making decisions. The ministry should enhance this process by accurately identifying

problems, considering the internal environment, and valuing individual initiatives to ensure effective and accurate decision making. Encouraging comprehensive participation from employees at all management levels within the ministry is crucial. This involves leveraging their experiences and knowledge and fostering coordination and collaboration across different departments and management levels to ensure the effective implementation and monitoring of decisions that serve the higher interests of the ministry and its employees.

7. knowledge management plays a crucial role in enhancing the efficiency and effectiveness of decision making processes in the ministry. It reduces ambiguity, doubt, and risks while increasing confidence and certainty, allowing for the analysis of decisions and the selection of the optimal alternative with a high degree of confidence. Effective decision making involves making sound decisions based on a thorough understanding of the subject, providing practical solutions grounded in the knowledge and experiences of decision makers. This emphasizes that the decision making process relies primarily on knowledge management to be comprehensive, accurate, and effective. The study's results confirm the presence of a strong positive correlation between knowledge management processes and effective decision making process in the ministry.
8. knowledge management processes provide an environment that encourages the exchange and storage of knowledge, playing a fundamental role in shaping the foundation of strategic thinking and effective decision making. As knowledge management processes explain 73% of the variance in decisions (as indicated by the study's results), it demonstrates the significant impact it has on making effective decisions. Investing in knowledge management processes is considered a strategic investment that benefits the ministry, enabling it to achieve its

strategic goals, respond effectively to increasing challenges, and achieve more inclusivity in decision making. This underscores the importance of activating knowledge management processes as an essential part of the ministry's vision and planning to achieve its goals more effectively. This aligns with the study's results, indicating a significant impact between knowledge management processes and effective decision making in the ministry. These findings serve as a strong confirmation of the importance of knowledge management processes in enhancing the effective decision making processes at the ministry.

9. Acquiring knowledge contributes to improving information analysis and better understanding of the current situation. employees with a high level of knowledge typically have a greater ability to proactively engage with challenges and opportunities, enabling them to make intelligent and effective decisions. Therefore, knowledge acquisition is considered a fundamental factor influencing the effectiveness of decision making in the ministry. This is significantly evident in the results of this study, indicating a significant impact between the process of knowledge acquisition and effective decision making in the Ministry of Higher Education and Scientific Research. Knowledge acquisition can explain 56% of the variance in decisions within the ministry.
10. When knowledge is stored structurally and is easily accessible, employees can retrieve relevant information at the time of decision making, reducing the likelihood of repeating mistakes. Storing knowledge enables employees to be aware of previous challenges and innovative solutions that have been implemented, enhancing the effectiveness of decision making. Therefore, effective knowledge storage has a significant impact on effective decision making, as the study indicates that the process of knowledge storage can explain

54% of the variance in decisions within the Ministry of Higher Education and Scientific Research.

11. Encouraging knowledge sharing is a vital factor in enhancing the effectiveness of decision making within the ministry. Through knowledge exchange, employees gain access to a wide range of information and experiences. This interaction promotes effective consultation and collaboration among team members, fostering analytical thinking and comprehensive understanding of problems. Additionally, this exchange contributes to building an institutional culture based on transparency, supporting continuous innovation and development. Moreover, knowledge sharing adds value to the ministry's ability to adapt to ongoing challenges in a changing environment, leading to more accuracy and effective decision making. This aligns with the positive impact of the knowledge sharing process on effective decision making within the Ministry of Higher Education and Scientific Research, where knowledge sharing can explain 61% of the variance in decisions.
12. Investing in the development of supportive policies to enhance knowledge application within the ministry is of paramount importance due to its crucial role in improving decision making effectiveness and efficiency. This, in turn, enhances the ministry's capacity to adapt to changes, foster innovation, and make knowledge-based decisions. The study confirms a positive impact of the knowledge application process on effective decision making within the Ministry of Higher Education and Scientific Research, with the knowledge application process capable of explaining 62% of the variance in decision making within the ministry.

13. Younger employees prefer using modern technology and digital platforms for knowledge storage and sharing. They also exhibit a greater readiness to interact with modern technologies and utilize social media. Additionally, younger employees demonstrate higher levels of interaction and innovation in applying knowledge. They may be more willing to experiment and explore new methods in these processes, contributing to their excellence in contemporary fields. This was evident from the differences found in the study, favoring those who are younger in knowledge storage and application.

5.2. Recommendations

1. Adopting knowledge management as an institutional culture within the Ministry of Higher Education and Scientific Research and utilizing research findings as a starting point for continuous improvement processes, where the results can be integrated into the context of employee development strategies.
2. Activating the electronic archiving system in place at the ministry and encouraging employees to use it, familiarizing them with the benefits of this system.
3. Establishing a comprehensive knowledge base that includes all employees' knowledge, personal experiences, and practical expertise, transforming it from implicit knowledge to explicit knowledge that all employees can benefit from. Ensuring the documentation of all procedures followed by the work team to accomplish their tasks.
4. Enhance knowledge management processes within the ministry and implement mechanisms for assessing knowledge quality through organizing training

courses and workshops for the employees of the Ministry of Higher Education and Scientific Research. These initiatives aim to boost skills in knowledge acquisition, knowledge storage methods, and effective strategies for knowledge application and sharing. Additionally, implement evaluation mechanisms for assessing the quality of knowledge.

5. Encourage and motivate employees to use knowledge management processes by implementing an incentive system within the Ministry of Higher Education and Scientific Research. This aims to boost employee motivation, whether through offering financial or non-financial rewards (such as appreciation letters, promotions, outstanding employee recognition, etc.). Foster dialogue, collaboration, and communication among employees to impact effective decision making.
6. Organize events for knowledge exchange and workshops to highlight best practices and promote continuous learning.
7. Present recommendations to the General Personnel Council to amend the employee performance evaluation model in the public sector, incorporating knowledge management processes more prominently.
8. Emphasize the need to involve employees at various job levels in the decision making process within the ministry.
9. Establish a periodic evaluation system for knowledge management processes, allowing the ministry's strategies to adapt based on feedback, technological advancements, and evolving employee needs. This ensures the ongoing effectiveness of knowledge management initiatives.

5.3. Future Research:

1. Enhance applied research to improve knowledge management and decision making processes specifically within the Ministry of Higher Education and Scientific Research.

2. Study the impact of knowledge management processes on the performance of employees in the Ministry of Education and Scientific Research.

3. Investigate the relationship between enabling factors for knowledge management and performance within the Ministry of Higher Education and Scientific Research.

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Appendix:

1. **Study Questionnaire**:

بسم الله الرحمن الرحيم

الجامعة العربية الأمريكية/ فرع الريحان

عمادة الدراسات العليا

كلية العلوم الإدارية والمالية

تخطيط استراتيجي وتجنيد أموال

استبانة الدراسة

الأخت الفاضلة/ الأخ الفاضل

السلام عليكم ورحمة الله وبركاته

وبعد،،،

تقوم الباحثة روان حنيحن بإعداد دراسة بهدف التعرف على "أثر إدارة المعرفة في اتخاذ القرار الفعال في وزارة التعليم العالي والبحث العلمي" ، و ذلك استكمالاً لمتطلبات الحصول على درجة الماجستير في "التخطيط الاستراتيجي وتجنيد الأموال"، حيث تقوم الباحثة باستطلاع آراء موظفي وزارة التعليم العالي والبحث العلمي، لذا أرجو من حضرتكم التكرم بالإجابة على فقرات الاستبانة مع تقدير جهودكم في خدمة البحث العلمي، علماً بأن كل ما تدلون به من آراء أو بيانات ستكون موضوع اهتمام الباحثة، ولن تستخدم إلا لأغراض البحث العلمي فقط.

وأخيراً، أشكركم على تخصيص جزءً من وقتكم الثمين لتعبئة هذه الاستبانة، راجيةً أن يتم الإجابة على فقرات الاستبانة بموضوعية.

مع الاحترام والتقدير

الباحثة

روان خليل حنيحن

القسم الأول: البيانات الشخصية

يُرجى وضع علامة (x) داخل المربع الذي يناسبك

1. الجنس

□ ذكر □ أنثى

2. العمر

□ أقل من 30 سنة □ 30 – أقل من 40 سنة □40- أقل من 50 سنة □ أكبر من 50 سنة

3. أعلى مؤهل علمي

□ دبلوم متوسط □ بكالوريوس □ دبلوم عالي □ ماجستير □ دكتوراه

4. سنوات الخبرة داخل الوزارة:

□ أقل من 5 سنوات □5 – أقل من 10 سنوات □10- أقل من 15 سنة

□أكثر من 15 سنة

5. سنوات الخبرة خارج الوزارة:

□ لا يوجد □ أقل من 5 سنوات □5 – أقل من 10 سنوات □10- أقل من 15 سنة

□أكثر من 15 سنة

6. المسمى الوظيفي/ الاشرافي

□ موظف إداري □ رئيس قسم □ مدير □ مدير عام

ثانيا: مجالات الدراسة

يُرجى وضع (x) في المربع الذي يناسب وجهة نظرك

القسم الثاني: إدارة المعرفة:

الرقم	الفقرة	أوافق بشدة 5	أوافق 4	محايد 3	لا أوافق 2	لا أوافق بشدة 1
أولا: محور اكتساب المعرفة						
1	يكتسب الموظف المعرفة من خلال الاستعانة بالخبراء					
2	تستفيد الوزارة من التجارب الناجحة للموظفين لاكتساب المعرفة					
3	تسهم المعرفة المكتسبة تراكمياً لدى الموظف في تحقيق أهداف الوزارة					
4	تتبنى الوزارة مبادرات التطوير من قبل الموظف					
5	يساهم الحوار بين الموظفين في اكتساب المعرفة					
6	تشرك الوزارة الموظفين في إعداد خطة العمل لاكتساب المعرفة					
7	توفر الوزارة برامج تدريبية للموظفين لإكسابهم المعرفة					
8	تحفز الوزارة الموظفين لامتلاك معارف جديدة					
ثانياً: محور تخزين المعرفة:						
9	تستخدم الوزارة قاعدة بيانات لتخزين المعرفة					
10	تتميز قاعدة البيانات بالأمان					
11	تتميز قاعدة البيانات بالخصوصية					
12	توثق الوزارة الأفكار الجديدة المبتكرة					
13	تصنف الوزارة المعرفة المتوفرة لديها.					
14	تنظيم الوزارة المعرفة تبعاً للمشكلات التي تواجهها					
15	يتم تقييم جودة المعرفة المخزنة باستمرار					
16	يتم تحديث المعرفة المخزنة باستمرار					

17	تقوم الوزارة بمشاركة المعرفة بين موظفيها من خلال قاعدة بيانات					
18	تستخدم الوزارة الاجتماعات لمشاركة المعرفة بين الموظفين					
19	تستخدم الوزارة ورش العمل لمشاركة المعرفة بين الموظفين					
20	توفر الوزارة شبكة معلومات داخلية لمشاركة المعرفة					
21	تستخدم الوزارة المراسلات الورقية لمشاركة المعرفة (تعاميم، قوانين، أنظمة)					
22	يتبادل الموظفون المعلومات بينهم					
23	تصدر الوزارة نشرات دورية بهدف توصيل المعلومات لمن يحتاجها					
24	تقوم الوزارة بتحديث الموقع الالكتروني بشكل دوري					
25	يتم صياغة التقارير لتساعد على مشاركة المعرفة					
رابعاً: محور استخدام المعرفة:						
26	يتم الاستعانة بخبراء لاستخدام المعرفة					
27	تستخدم المعرفة في حل المشكلات في الوزارة					
28	تمتلك الوزارة وسائل تكنولوجية تساعد في استخدام المعرفة					
29	تؤخذ استخدام المعرفة بعين الاعتبار عند تقييم الأداء للموظفين					
30	تستخدم الوزارة المعرفة في كافة أنشطتها					

القسم الثالث: اتخاذ القرار الفعال:

الرقم	الفقرة	أوافق بشدة	أوافق	محايد	لا أوافق	لا أوافق بشدة
31	تحدد الوزارة المشكلات التي تواجهها بدقة					
32	تجمع الوزارة المعلومات اللازمة قبل اتخاذ القرار					

33	تضع الوزارة البدائل المحتملة لاتخاذ القرار					
34	تستعين الوزارة بخبرات الآخرين عند تحديد البدائل					
35	تقوم الوزارة بتبادل الآراء لاختيار أفضل البدائل المطروحة					
36	يتم دراسة العوامل البيئية الداخلية عند اتخاذ القرار					
37	تهتم الوزارة بالمبادرات الفردية عند اتخاذ القرار					
38	تتخذ الوزارة قراراتها بعد دراسة علمية متأنية					
39	يتم اتخاذ القرارات في الوزارة بناءً على أهداف واضحة					
40	توجد مؤشرات واضحة لتحديد طبيعة القرار المراد اتخاذه					
41	يتميز القرار بالشمولية عند اتخاذه					
42	تدرس الوزارة الآثار المترتبة على قراراتها بعناية					

2. Names of the arbitrators of the questionnaire:

الاسم	مكان العمل
د. معمر اشتيوي	وزارة التعليم العالي والبحث العلمي
م. سامر موسى	وزارة التعليم العالي والبحث العلمي
د. رائد عريقات	الجامعة العربية الأمريكية
د. عمر الصليبي	جامعة القدس
د. فواز بدوي	جامعة القدس المفتوحة/ فرع نابلس

الملخص:

هدفت الدراسة إلى أيجاد أثر إدارة المعرفة على اتخاذ القرار الفعال في وزارة التعليم العالي والبحث العلمي الفلسطينية، وتكونت عينة الدراسة من العاملين في الوزارة (مدير عام، مدير، رئيس قسم، موظف إداري) والبالغ عددهم 111، استجاب منهم 91 موظف، واستخدمت الدراسة المنهج الوصفي التحليلي، في حين أن عمليات إدارة المعرفة المستخدمة في البحث هي اكتساب المعرفة، تخزين المعرفة، مشاركة المعرفة، بالإضافة إلى تطبيق المعرفة، بينت نتائج الدراسة وجود أثر ايجابي لاستخدام إدارة المعرفة في اتخاذ القرار الفعال في الوزارة، حيث أن إدارة المعرفة فسرت 73% من التباين في القرار في وزارة التعليم العالي والبحث العلمي. واستنتجت الدراسة أن الاستثمار في إدارة المعرفة يُعد استثمارًا استراتيجيًا يعود بالفائدة على الوزارة ويمكنها من تحقيق أهدافها الاستراتيجية والاستجابة بفعالية للتحديات المتزايدة وتحقيق شمولية أكثر في اتخاذ القرارات. وأوصت الدراسة بضرورة التركيز على عمليات إدارة المعرفة وتفعيلها بشكل أكبر في الوزارة للحصول على القرارات الفعالة، وبالتالي تلبي طلعات المستفيدين من خدمات الوزارة من طلبة وسوق عمل والمؤسسات التعليمية، كما أوصت الدراسة بضرورة تزويد الكوادر البشرية العاملة في الوزارة بالدورات التدريبية اللازمة لتمكينهم من استخدام عمليات إدارة المعرفة واتخاذ القرار الفعال في كافة أنشطة الوزارة، بالإضافة إلى اشراك جميع الموظفين على اختلاف مسمياتهم الوظيفية في عملية اتخاذ القرار لما له من أثر على تحسين عمليات الوزارة وصولاً إلى تحقيق أهدافها.

الكلمات المفتاحية: إدارة المعرفة، عمليات إدارة المعرفة، اتخاذ القرار، اتخاذ القرار الفعال.