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EMPLOYING COGNITIVE BIAS IN KNOWLEDGE RISK MANAGEMENT: AN ANALYTICAL STUDY OF THE OPINIONS OF A SAMPLE OF WORKERS IN AL-DIWANIYAH GENERAL HOSPITAL

Prof. Dr. Firas Adnan Abbas Al-Tabtabae
Al-Qadisiyah University / College of Administration and Economics,
Email: Firas.a.abbas@qu.edu.iq
Hana Jasim Mohammed
Al-Qadisiyah University / College of Administration and Economics,
Email: hana.muhammed@qu.edu.iq

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Abstract:

The purpose of this research is to explore the relationship between cognitive bias in its various dimensions (jumping on conclusions, inflexibility of thinking, external attribution, attention to threats, social cognitive problems, subjective cognitive problems, safe behaviors) and managing knowledge risks(KRM) represented by its dimensions (human risks, technological risks, operational risk). Much has been written about knowledge risk management and the analytical methods that can be measured. The need for accurate and timely risk mitigation has accelerated with the pace of new and replacement programmes. And part of the process that needs to be updated is that risk has to be seen as a feature of the systems, just like cost, schedule, technical compliance and so on. It is imperative that knowledge systems engineers in contemporary organizations develop and follow a knowledge risk management plan in the early stages of any project. It is also important to know the impact of cognitive bias on the knowledge risk management process. This research confirms that most knowledge risk management programs fail to be as effective as they can be due to a number of motives that are often overlooked, such as cognitive bias with the scarcity of addressing the issue of cognitive bias. When asked, most knowledge theorists claim that they have no bias. They insist that they only use logic, reasoning and mathematics to make decisions. Data were collected and reviewed for this research. The health sector workers in Employees in the upper and middle management in Al-Diwaniyah General Hospital were selected as a community for this research, amounting to (200) workers. The questionnaire was used as a tool for collecting data from the surveyed sample, and a set of statistical methods were used in data analysis and statistical programs such as (SPSS V.27) and a program (AMOS V.26). The results of the analysis showed that cognitive biases have an impact on knowledge risk management. Knowing these biases and their potential impact on the project will lead to better risk management. It also came out with a set of practical recommendations that are beneficial to the research community.

Keywords: cognitive bias, knowledge risk management, jumping on conclusions, external attribution, operational risk

INTRODUCTION.

SECTION ONE: RESEARCH METHODOLOGY

First, the research problem:

The research problem is summarized in the following question: How can the knowledge gap between cognitive bias and knowledge risk management be bridged? Several important questions arise from this problem:

- What is the level of cognitive bias in the organization in question?
- What is the level of awareness of the organization in question to the importance of knowledge risk management?
- Does cognitive bias affect knowledge risk management?

Second: the importance of research:

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1. The research presents an attempt to see the knowledge bases that contributed to the success of business organizations, in contrast to local organizations.
2. The research provides an explanation of the concept of important variables in the management science literature (cognitive bias, knowledge risk management).
3. The importance of the research emerges from choosing the topic of knowledge risk management, which is a requirement for all organizations aiming to achieve proactivity and sustainability in success in the knowledge economy system.

Third: Research Objectives:
1. Knowing the level of cognitive bias in the organization in question.
2. To reveal the level of knowledge risk management of the organization in question.
3. Determining the impact of cognitive bias dimensions on knowledge risk management for the organization in question.

Fourth: The hypothesis of the research:

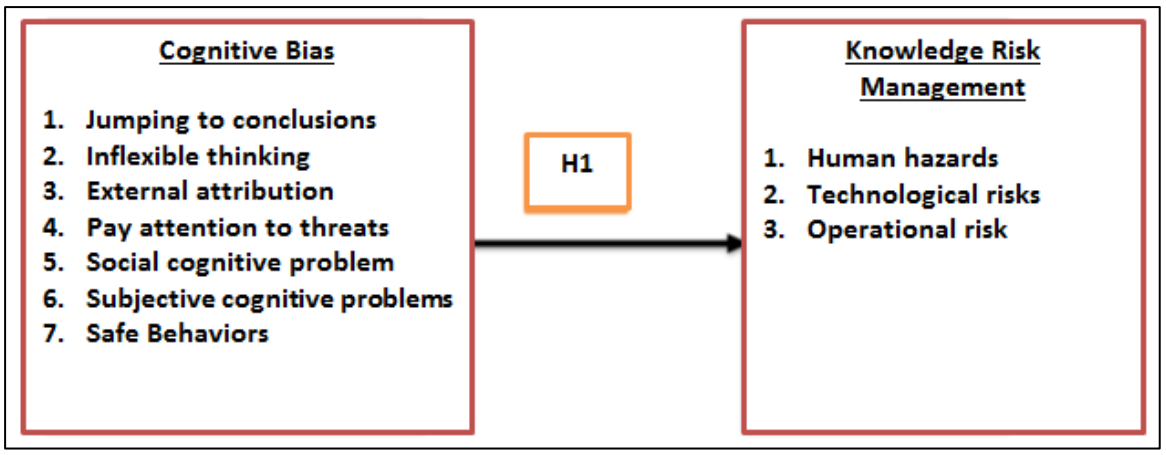

Figure (1)
Research hypothesis

Fifth: Research hypotheses:
The research stems from a main hypothesis: the existence of a statistically significant effect relationship for the cognitive bias variable in the knowledge risk management variable.

Several sub-hypotheses are derived from this main hypothesis:
- The first sub-hypothesis: There is a statistically significant effect relationship to the dimension (jumping to conclusions) in knowledge risk management.

The second sub-hypothesis: There is a statistically significant effect relationship to the dimension (inflexibility of thinking) in managing knowledge risks.

The third sub-hypothesis: There is a statistically significant effect relationship to the dimension (external attribution) in knowledge risk management.
- Fourth sub-hypothesis: There is a statistically significant effect relationship to the dimension (attention to threats) in knowledge risk management.
- Fifth sub-hypothesis: There is a statistically significant effect relationship to the dimension (social cognitive problems) in knowledge risk management.
- Sixth sub-hypothesis: There is a statistically significant effect relationship to the dimension (subjective cognitive problems) in knowledge risk management.
- Seventh sub-hypothesis: There is a statistically significant effect relationship to the dimension (safe behaviors) in knowledge risk management.

Sixth: Research community and sample:
The employees in the upper and middle management of Al-Diwaniyah General Hospital were selected as a research community, whose number was (200), and a random sample was selected from this community. A questionnaire was distributed to the research sample, which numbered(150) forms, and(134) forms were retrieved, and the valid forms for analysis reached(123) forms, and the damaged(11) forms.

Seventh: Research Measurement Tool:
The research relied on the questionnaire tool to measure and test the research variables, and Table (1) illustrates this:

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Table (1)
Search measurement tool

No	Variables	Dimensions	Items	Sources
1	Cognitive bias	1. Jumping to conclusions. 2. Inflexible thinking 3. External attribution 4. Pay attention to threats 5. Social cognitive problems 6. Subjective cognitive problems 7. Safe Behaviors	6 6 6 6 6 6 6	Van der Gaag,2013
2	Knowledge Risk Management	1. Human hazards 2. Technological risks 3. Operational risk	7 7 7	Durst,2019 Abdul Rauf et al.,2020

Source: Prepared by researchers.

The second section: Theoretical framework:

First: the cognitive bias:

1. Concept:

Researchers have defined cognitive bias with several different definitions, depending on the viewpoint adopted by the researcher. It was defined (Taylor & Brown,1988:194) as the tendency of individuals to overestimate their positive qualities and underestimate their shortcomings. As (Haselton & Andrews,2005:726)showed, cognitive bias is the evolution of the human brain into more adaptive thinking that would result in a lower total cost of cognitive errors rather than fewer cognitive errors in uncertain situations. Whereas (Kanheman,2011:772) has defined cognitive bias as the self-reinforcing process of collective belief formation through which the expressed perception leads to a chain reaction that gives a perception of increased acceptance. Whereas (Matthewes,2015:66) showed that cognitive bias represents the tendency to value third-party advice as objective, assertive and without motivation. However (Ramos,2019:10) says that cognitive bias expresses the high predictive value of the repetitive behavior that should be followed.

In light of what was mentioned, researchers believe that individuals during their practical journey are exposed to many problems and difficult situations, and they may be able to deal with them in direct consensual ways, and at other times they are unable to do so, so they resort to using invisible selective treatment mechanisms, to avoid suffering, and liberation from the state of conflict Cognitive biases come at the forefront of the mechanisms that individuals employ in order to harmonize their personal characteristics with their own circumstances. Cognitive biases are one of the strategies that individuals adopt in their lives to conform to various human natures and societal customs and traditions.

2. Importance:

To reduce the chance of bias affecting research findings, researchers need to recognize the significance of this bias by recognizing the many advantages of cognitive bias and agency (Watkins, 2019:26):

A- Grouping or dividing similar concepts into new units of information that can be mentally processed as a single category

B - The cognitive store of individuals enables them to deal with what surrounds them in the environment and leads to the collection of certain biases mentally in a random or conscious way.

c- Identify bias through a well-designed classification system that will facilitate the formation of a more useful mental hierarchy and help reduce cognitive bias.

d- Determining cognitive bias that would guide the formation of checklists used to identify risks of bias by recalling memory in a meaningful way to improve the quality of scientific research.

C - Classification of cognitive bias that creates ease in communication and understanding among others.

H. Cognitive biases help mitigate feelings of uncertainty and reinforce a sense of self-esteem and social status.

3. Causes of cognitive bias:

(Kilp,2011:62) has identified the main causes of cognitive biases as follows:

A- To reduce the feeling of uncertainty: At certain stages of life, everyone experiences uncertainty and chaos. Uncertainty may be related to moral or cultural values, ethnic identity, or social and economic status. Humans are social creatures that tend by nature to build a social world that replaces uncertainty with predictability, and chaos with order.

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B- To enhance self-esteem: the individual evaluates himself through his positive and negative relationships with other individuals and groups. different
c- To confirm the existential meaning: Human existence and existential experiences do not have objective and rational meanings. If we try to deduce things rationally, our existence has no specific meaning. We can reasonably conclude that wealth, fame, youth, and health disappear; Even good things like love and pleasure and instead ask: "What is the meaning of my life?" Life must have meaning. We will need to attach positive and negative meanings to ourselves, our experiences, and our relationships.
4. Dimensions:
After a thorough review of the concept of cognitive bias and reviewing the literature related to the topic of the research, the researchers found that there is a comprehensive agreement by a large number of researchers and writers on the (Davos) scale of (Van Der Gaag,2013), which has seven dimensions to measure cognitive bias in the field of business Which are:
A- Jumping to conclusions: Jumping to conclusions is effective if the conclusions are likely to be correct and the costs of accidental error are acceptable, and if jumping to saves a lot of time and effort, jumping to conclusions is risky when the situation is unfamiliar The stakes are high, and there is no time to gather more information. In those circumstances where axiomatic errors are possible, which can be prevented by intentional intervention from (System 2) in the event of uncertainty, (System 1) bets on the answer, bets are directed by experience and that recent events and current context have the greatest weight in the Define the interpretation. When no new event has occurred to anyone's mind, remote memories rule the situation. System 1 rejects the fact that there are alternatives, and that conscious doubt is not a requirement(System 1), Conversely, System 2 requires mental effort into uncertainty, conscious skepticism, and retention of incompatible explanations (Kahneman,2016:99). They usually use probabilistic reasoning tasks based on a probabilistic inference model and they will have a jump to conclusions because they made a final decision using little information with high confidence in their choices (Cafferkey,2014:206).
B - Inflexibility of thinking: Cognitive inflexibility is associated with increased confidence in decision-making and shows an analysis of cognitive tasks, distinctly from aspects of cognition, and is described as a cognitive precedent for extremist positions. One of the characteristics of race-centered thinking is rigidity, inflexibility of thinking and intolerance as sources The initialization of certain phenomena in the bias region (Hartley,1946). This hypothesis stems from the idea that extremist group identities and ideologies are often characterized by a tendency to categorize individuals in an inflexible and intrinsic manner. Thus, individuals with a more rigid and inflexible way of thinking may tend to adhere to ideologies in a more strict or extreme manner and that bias is closely related to rigidity and intolerance. with ambiguity (Fredman et al.,2017:882). Cognitive flexibility was objectively assessed using cognitive and validation tasks that take advantage of implicit cognitive tendencies to categorize information and rules in a flexible versus more rigorous manner, the ease with which individuals adapt to changes in newly acquired rules, the reward of contingencies, the ability of individuals to switch between categories, and the ability of individuals to create Semantic links between distant concepts (Zmigrod et al.,2019:9). Resilient people are described as more optimistic, cognitively resilient, and deal with problems more positively (Hoorelbeke et al.,2016:96). Certain cognitive biases increase risk and less resilient individuals often result in a negative cognitive bias in which they selectively focus on negative stimuli in the environment and interpret neutral or ambiguous stimuli in a negative way (Albert et al.,2017:49).
T- External attribution: External attribution bias occurs when individuals come to conclusions about the traits and personalities of others even when there are reasonable reasons for their behavior. Extrinsic attribution is closely related to the illusion of asymmetric insight, which occurs when individuals believe that they know others more than others (Jackson,2014:170). It requires realizing the power of external influence on one's own biases, avoiding rational judgment, and moving towards enhancing cognitive behavior while maintaining rational judgment (Howard, 2019:197).
d- Attention to the threats: Experimental tasks are better able to target specific processes such as working memory, spatial attention, task switching and divided attention on tasks that measure complex executive function, shift assignment, and response inhibition so many tasks exhibit highly operational processes Cognitively resource-intensive level of high-level cognitive processes (Mifflin et al.,2016:609). Differences in experience and development are not the only factors that can stimulate attention but rather homogeneous emotions exhibit biases in processing relevant information that can re- the individual into a state of equilibrium (Schoth & Liossi,2016:955).
C- Social cognitive problems: Mental shortcuts enable one to engage in self-protection in the face of real danger and play a role in situations in which the individual must be more objective. Although they realize that others may have flaws in judgment, they nonetheless assume that they are immune to these

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flaws, exacerbating the problem as part of social cognition that measures reality with adaptive behaviors to deal with an information-saturated world. Essentially, cognition schemas help all individuals and entities to make a complex world more manageable (Cynthia,2014:22). The problems of social cognition are strongly related to the social reference, and the problems increase more for misunderstanding the thoughts, feelings and motives of the opposite person (Keefe,2006:2033).

h- subjective cognitive problems: they are also of interest, apart from objective and neuropsychiatric deficiencies, subjective complaints in the absence of objective deficits may lead to an underestimation of one's own cognitive abilities and contribute to social defeat and social withdrawal, which can be addressed using cognitive therapy Behavioral (Grant et al, 2012:121). If the individual is unaware of the deficiencies, education and compensatory techniques are necessary to compensate for the impact of cognitive deficiencies on practical daily life (Velligan et al.,2009:890).

G- Safe Behaviors: Safety means the individual's practice of behaviors to avoid potential danger and does not only require critical thinking about the degree of risk, but also about how to deal with and share this information in a purposeful and constructive manner. And they are two things that depend on the personality(Calman,1966). And that risk communication requires facing uncertainties, and good communication benefits accepting risks with training in the use of aids to make the right decision. There is often more than one option and the choice should lead to an opportunity to play a more effective role in managing the risk through obtaining and sharing better information. In the decision-making process to reach positive outcomes (Thornton,2003). Therefore, it is more effective in persuading individuals to agree to accept the proposed safe behavior when compared to other risk categories (Sadarmin,2016:56).

Second, knowledge risk management(KRM)

1. Concept:

As defined (Perrott,2007) knowledge risk as the possibility of any loss resulting from the identification, storage or protection of knowledge that may reduce the operational or strategic benefit of the organization. (Ilina & Vargab,2015:241) has referred to risk management as a practical, multidisciplinary approach from management science to solve other intractable problems in relation to traditional views on risk management. In another direction, KRM is a strategic process in which an organization addresses the risks associated with its activities. Systematically with the aim of achieving sustainable benefit within each activity and across the portfolio of all activities (Durst et al.,2016:19) Knowledge risk can be defined as "a measure of the likelihood and severity of negative impacts of any activities linked in some way to knowledge that could affect the work of the organization and when Any level" (Durst & Zieba,2019:2). KRM is described as the process of identifying, analyzing and controlling risks related to the acquisition, storage, exchange & use of knowledge and information (Durst & Zieba,2019:5). While some researchers consider (KRM) A subset of the field of risk management (Durst & Zieba,2020:4) Similar to its extended academic nature, KRM is also a transversal competence in any organization as the different actors and teams within the knowledge organization are influenced by one another(Temel & Durst,2020:22).

2. Importance:

Knowledge risk management is a new approach concerned with managing the various risks related to knowledge that can be faced by organizations, knowledge risk management can be defined as a systematic activity dedicated to applying a variety of tools and techniques required to discover, examine and respond to risks related to the production, use and retention of knowledge (Durst et al,2016:23) This entry has not been widely discussed in the literature for a while due to the fact that knowledge has been viewed primarily as a valuable organizational asset(Hurmelinna-Laukkanen,2015:18) rather than as a threat to organizations. However, at present there is a tendency to consider knowledge as a source of many risks (Bratianu,2018:593) that can disrupt the operations and performance of organizations (Martins et al,2019:489). The control of knowledge management risks is one of the tasks of business organizations, where managers and researchers focus on how to assess risks effectively when conducting a risk assessment as a type of knowledge assessment, and presenting the risks associated with knowledge in a way that enables risk managers to assess them in a way presents a special challenge (Yang & Gao,2016:8). Knowledge management that includes risk management can help business organizations better understand knowledge and its quality and deal with knowledge from a neutral point of view, that is, as something valuable, an asset and risky. Business organizations face the risk of knowledge depletion due to the voluntary and involuntary turnover to calculate the "knowledge at risk" measure represented by human capital, structural capital, relational capital, and capital. Better understanding and management of organization-specific knowledge risks reduces the downside of performance volatility, while at the same time achieving defined organizational goals (Salavati et al., 2016: 420). KRM addresses weaknesses in the traditional probabilistic normative decision tree model of risk management and it is It focuses on expert knowledge, by providing a structured process for

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understanding and using expert expertise, as well as the risks it poses if such knowledge is lost (Massingham,2010:466).

3. Dimensions:

According to a study (Durst,2019;Abdul Rauf et al.,2020), the dimensions of KRM consist of the following dimensions:

A- Human risks: human risk: Recent studies from different fields of knowledge risk have focused on their relationship to the human dimension. Recent literature has taken two positions towards the human dimension (Ilvonen et al.,2019:309): The first position: is that some studies tend to include the dimension The human dimension in the technological and operational dimensions of knowledge risk management(Durst & Zieba,2018:51)and discussed studies on the technological dimension of the human trait in emerging technologies, for example, social networks (Christina et al,2016:4031). As for the second position: it focuses on some of the features of the human dimension, represented in the turnover rate of employees or reducing their size, as this leads to a decrease in knowledge assets as organizations face a problem when individuals leave the organization and this problem worsens when knowledgeable individuals join competitors(Chatterjee et al. al.,2015 :58). The risks of the human dimension are more difficult and confusing than other risks because individuals may temporarily disregard controls for protecting knowledge in favor of personal incentives (Tan et al.,2016:636). Human risk is a combination of personal and social contexts that refer to an individual's self-efficacy, personality traits, behavior, attitude, cognitive abilities, motives, experiences (personal context) as well as group capabilities, social norms, co-worker influence and boss influence(social context). However, these competencies influence decision-making and critical safeguard processes such as risk assessment (Serna et al.,2017:8). Organizations, regardless of type and size, are exposed to a number of risks related to relevant knowledge. The relevance to human resources includes relational risks, risks related to decision-making that reformulate new strategies, markets and products, risks related to knowledge gaps or risks related to outsourcing business functions (Durst et al,2019:2).

B - Technological risks: The technological infrastructure, shared technology, system integration, and technological services across and outside the organization (the technological environment) are factors that enable the exchange and creation of knowledge. Although technical capabilities facilitate the conditions for the accumulation of knowledge, they can also pose a challenge to the protection of knowledge due to the excessive reliance on technical controls to protect organizational knowledge assets, and knowledge can be lost through dynamic interactions in the technological environment, which makes the risk of knowledge loss also dynamic(Serna et al.,2017:5). The problem of knowledge loss is exacerbated when organizations allow their members to use risk management techniques and at the same time do not provide the necessary training and awareness practices, which leads to reckless behavior that breaches the security of knowledge (Altukruni,2019:10).

C- Operational risks: Operational risks refer to potential losses from business, which is a general term for risks arising during the course of daily business operations, and may include all risks faced by business organizations, including system failure related to technology or clerical errors for employees and can be determined by the risks of direct or indirect loss resulting from inadequate or failed internal processes, people, systems, or external events (Lee,2021:11). Among the risk factors for organizational knowledge are the presence of different operational processes, organizational rules and limits in the interactions between organizations, which increases the possibility of risks associated with knowledge, and the differences in the methods and mechanisms of controlling knowledge in each organization can expose it to the risks of its valuable knowledge. Also, control tasks, risks, and workflows can be an important factor in the loss of organizational knowledge and the spread of knowledge to another organization; This leads to the misuse of organizational knowledge in the interactions between organizations and the risks of divergence between operational processes are among the knowledge risks that show inter-organizational relationships(Farina et al.,2021:52).

The third section: the practical aspect of the research:

First: a description of the research sample and a description of the measurement tool items

The research sample was represented by a group of workers in the upper and middle management in Al-Diwaniyah General Hospital, who numbered (200) workers, as (150) questionnaires were distributed, and (134) questionnaires were retrieved from them. , to show the number of valid forms for analysis of (123) questionnaire forms, equivalent to (82%) response rate, and this paves the way for describing the research variables with a set of symbols, to overcome the difficulties in front of the researcher to understand the level of interpretation and analysis in the aspect of research variables, in addition to building awareness Extensive attention to the importance of cognitive bias, and knowledge risk management, and table (2) shows the notation of the measurement tool.

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Table (2)
Measuring tool encoding

Variables	Dimensions	Items	Code	
Cognitive Bias	1. jump to conclusions	6	PKJ	PKB
	2. inflexibility of thinking	6	PKT	
	3. Attention to threats	6	PKA	
	4. external attribution	6	PKE	
	5. social cognitive problems	6	PKK	
	6. subjective cognitive problems	6	PKP	
	7. Safe behaviors	6	PKS	
knowledge Risk Management	8. human risk	7	KRH	KRM
	9. Technological risks	7	KRT	
	10.Operational risk	7	KRO	

Second: Test the moderation of the measuring instrument

The results of the table below indicate that the data withdrawn from the research community follows the normal distribution at a level greater than (0.05), which means that the data entered for the analysis are subject to the test of the normal distribution, in addition to the rejection of the alternative hypothesis that imposes that (the data withdrawn from the studied population do not follow The normal distribution is at a level of significance less than 0.05, while the null hypothesis is accepted, which imposes that (the data withdrawn from the studied population follows the normal distribution at a level of significance greater than (0.05), and Figure (2) shows the moderation of the research variables.

Table (3)
Moderation check of measuring instrument

	Kol-Smi			
	Statistic		df	P
PKJ	0.115	0.099	123	0.200
PKT	0.101		123	
PKA	0.094		123	
PKE	0.113		123	
PKK	0.133		123	
PKP	0.110		123	
PKS	0.159		123	
KRH	0.087	0.131	123	0.200
KRT	0.132		123	
KRO	0.092		123	

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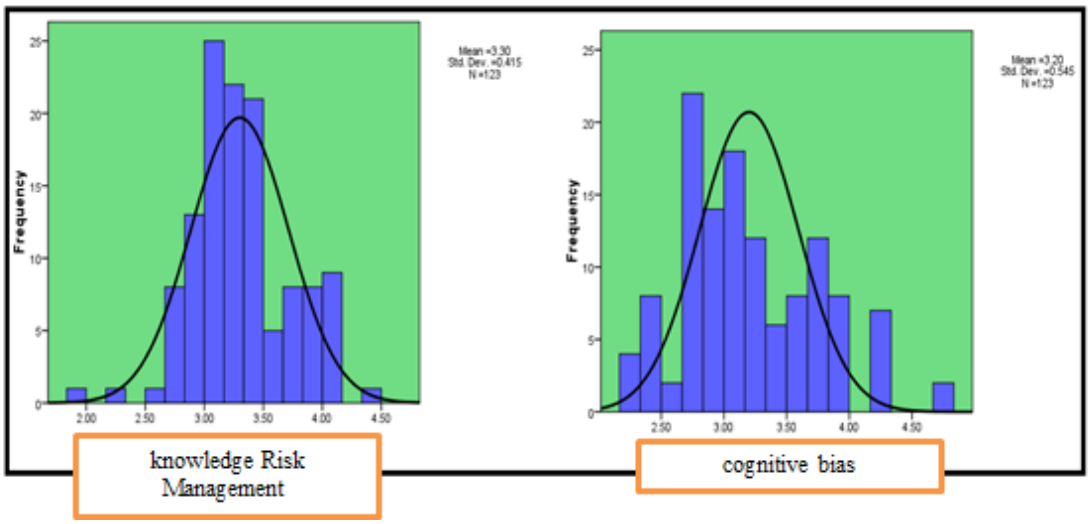

Figure (2)
Equilibrium of the measuring instrument variables

Third: the stability of the measuring instrument

The dimensions of the measurement tool obtained good stability as shown in Table (4) for Cronbach's alpha coefficients, as all results ranged between(0.751-0.850), which are statistically acceptable values in administrative and behavioral research because their value is greater than the required standard, which means that the stability criterion The measurement tool refers to the variables that contributed to the interpretation of the issues that govern the researched hospital, as bias contributed to positive knowledge, and knowledge risk management with (0.830, 0.771), respectively, to indicate the consistency of the paragraphs of the measurement tool with the sample surveyed.

Variables		Cronbach's Alpha coefficients		
		Dimensions	Items	
Cognitive Bias	0.830	jump to conclusions	6	0.756
		inflexibility of thinking	6	0.805
		Attention to threats	6	0.835
		external attribution	6	0.783
		social cognitive problems	6	0.850
		subjective cognitive problems	6	0.807
		Safe behaviors	6	0.822
Knowledge Risk Management	0.771	human risk	7	0.751
		Technological risks	7	0.762
		Operational risk	7	0.826

Fourth: Statistical description of the dimensions and variables of the research

The items, dimensions and variables of the measuring tool with their variables obtained varying arithmetic averages and standard deviations, as in the following table:

A- Description of the independent variable (cognitive bias): The dimensions of cognitive bias (jumping to conclusions, inflexibility of thinking, attention to threats, external attribution, social cognitive problems, self-cognitive problems, and safe behaviors) got different arithmetic circles that amounted to (3.16, 3.08, , 3.13, 3.25, 3.31, 3.15, 3.32) respectively, and with standard deviations of (0.65, 0.66, 0.68, 0.57, 0.63, 0.66, 0.69), and with a relative interest that ranged between (62%) for the dimension of inflexibility of thinking to (66%). For the dimension of social cognitive problems, and safe behaviors, which means that all standard deviations show consistency and consistency with the responses of the researched sample about cognitive bias.

From the above, the results showed that the general arithmetic mean of the cognitive bias variable was (3.2), with a standard deviation of (0.55), with a

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relative interest equal to (64%), and with a somewhat low coefficient of variation of (17%), and this shows that the dimensions of this variable show the consistency of its paragraphs. And the agreement of the response of the research sample about realizing the importance of cognitive bias, and Figure (3) shows the distribution of descriptive statistics for the dimensions of cognitive bias.

Table (5)
Outcomes of describing paragraphs and dimensions of Cognitive Bias

Items	Arithmetic mean	standard deviation	Relative importance	Variation coefficient	Items	Arithmetic mean	standard deviation	Relative importance	Variation coefficient
PKJ1	3.07	1.04	61%	34%	PKE5	3.36	0.92	67%	27%
PKJ2	3.01	1.03	60%	34%	PKE6	3.27	0.77	65%	24%
PKJ3	3.32	0.82	66%	25%	external attribution	3.25	0.57	65%	18%
PKJ4	3.26	1.05	65%	32%	PKK1	3.47	0.84	69%	24%
PKJ5	2.92	1.02	58%	35%	PKK2	3.33	0.81	67%	24%
PKJ6	3.37	0.86	67%	26%	PKK3	3.37	0.97	67%	29%
jump to conclusions	3.16	0.65	63%	21%	PKK4	3.33	0.89	67%	27%
PKT1	3.2	0.89	64%	28%	PKK5	3.23	0.85	65%	26%
PKT2	2.9	0.92	58%	32%	PKK6	3.11	0.92	62%	30%
PKT3	3.17	0.98	63%	31%	social cognitive problems	3.31	0.63	66%	19%
PKT4	2.96	0.84	59%	28%	PKP1	2.99	0.95	60%	32%
PKT5	3.14	0.92	63%	29%	PKP2	3.24	0.99	65%	31%
PKT6	3.1	0.98	62%	32%	PKP3	2.97	0.75	59%	25%
inflexibility of thinking	3.08	0.66	62%	21%	PKP4	3.32	0.8	66%	24%
PKA1	2.89	0.89	58%	31%	PKP5	3.2	1.04	64%	33%
PKA2	3.15	0.85	63%	27%	PKP6	3.2	1	64%	31%
PKA3	3.15	0.94	63%	30%	subjective cognitive problems	3.15	0.66	63%	21%
PKA4	3.09	0.9	62%	29%	PKS1	3.54	0.96	71%	27%
PKA5	3.1	1.03	62%	33%	PKS2	3.31	0.91	66%	27%
PKA6	3.41	0.9	68%	26%	PKS3	3.51	0.94	70%	27%
Attention to threats	3.13	0.68	63%	22%	PKS4	3.07	0.98	61%	32%
PKE1	3.25	0.81	65%	25%	PKS5	3.13	0.92	63%	29%
PKE2	3.42	0.82	68%	24%	PKS6	3.38	0.96	68%	28%
PKE3	3.23	0.96	65%	30%	Safe behaviors	3.32	0.69	66%	21%
PKE4	3	0.9	60%	30%	Cognitive bias	3.2	0.55	64%	17%

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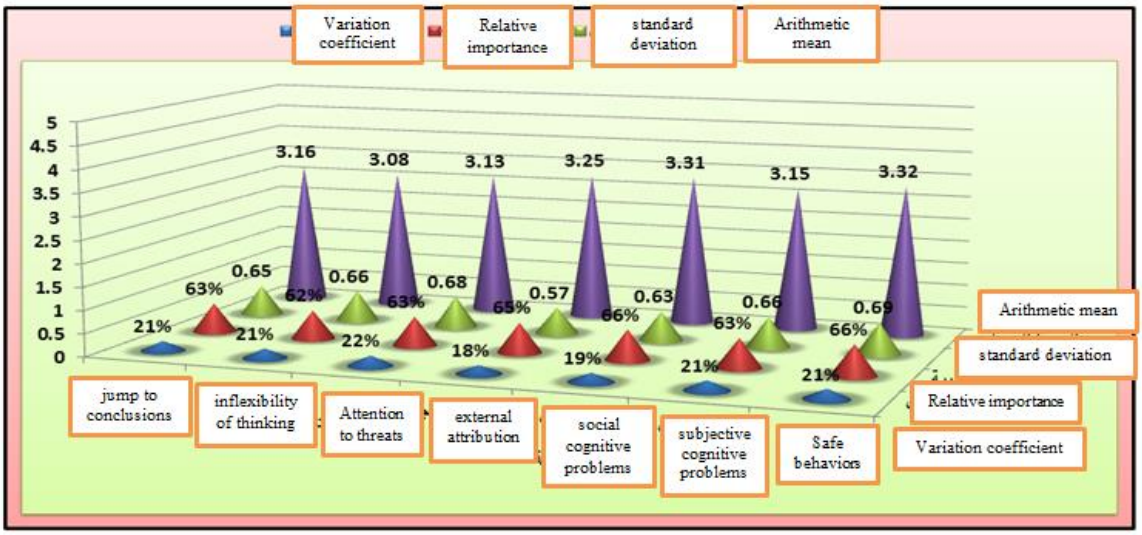

Figure (3)
Distribution of descriptive statistics for the dimensions of cognitive bias

B- Description of the dependent variable (knowledge risk management): The dimensions of knowledge risk management (human risks, technological risks, and operational risks) obtained varying arithmetic means that amounted to (3.34, 3.47, 3.09), respectively, with standard deviations of (0.65, 0.42, 0.63), which means that all standard deviations show consistency and consistency with the responses of the researched sample about knowledge risk management.

From the above, the results showed that the general arithmetic mean of the knowledge risk management variable amounted to (3.3) and with a standard deviation (0.42), and this shows that the dimensions of this variable show the consistency of its paragraphs and the agreement of the response of the research sample about realizing the importance of knowledge risk management.

Table (6)
Outputs describing paragraphs and dimensions of Knowledge Risk Management

Items	Arithmetic mean	standard deviation	Relative importance	Variation coefficient	Items	Arithmetic mean	standard deviation	Relative importance	Variation coefficient
KRH1	3.24	0.88	65%	27%	KRT6	3.47	0.81	69%	23%
KRH2	3.2	0.95	64%	30%	KRT7	3.07	1.04	61%	34%
KRH3	3.19	0.99	64%	31%	Technological risks	3.47	0.42	69%	12%
KRH4	3.76	0.78	75%	21%	KRO1	3.11	0.95	62%	31%
KRH5	3.27	0.96	65%	29%	KRO2	3.09	0.89	62%	29%
KRH6	3.33	0.88	67%	26%	KRO3	3.19	1.03	64%	32%
KRH7	3.41	0.82	68%	24%	KRO4	2.93	0.92	59%	31%
human risk	3.34	0.65	67%	19%	KRO5	3.25	0.87	65%	27%
KRT1	3.6	0.83	72%	23%	KRO6	3.14	0.97	63%	31%
KRT2	3.08	0.89	62%	29%	KRO7	2.91	0.92	58%	32%
KRT3	3.72	0.73	74%	20%	Operational risk	3.09	0.63	62%	20%
KRT4	3.94	0.65	79%	16%	knowledge risk management	3.3	0.42	66%	13%
KRT5	3.43	0.86	69%	25%					

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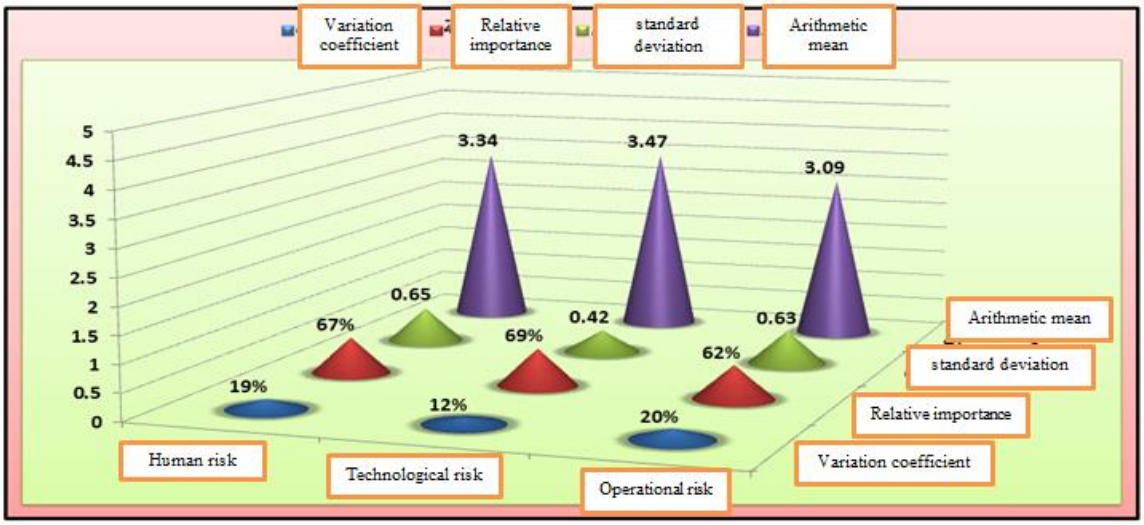

Figure (4)
Distribution of descriptive statistics for the dimensions of cognitive bias

Fifth: Testing the research hypotheses

This paragraph is concerned with measuring the nature and type of the correlation and influence between cognitive bias, and knowledge risk management through the simple correlation coefficient (Pearson).

A- The correlation hypothesis

This paragraph tests the relationship between cognitive bias, knowledge risk management and the dimensions of each of them, as it is noted that there is a statistically significant correlation of (0.739) and a significant level of (0.01), i.e. with a reliability level equal to (0.99), while the strength of the correlation ranged between the lowest relationship It was represented between the dimension of social cognitive problems (PKK), and the dimension of operational risks (KRO) with a rate of (0.210) to the highest correlation of (0.744) between the dimension of safe behaviors (PKS) and the dimension of human risks (KRH), which means the hospital under study realized the importance of the relationship between Cognitive bias, and knowledge risk management by improving cognitive compatibility and mental abilities among workers in order to generate the ability to address solutions as much as possible.

Table (7)
correlation matrix

	PKJ	PKT	PKA	PKE	PKK	PKP	PKS	PKB	KRH	KRT	KRO	KRM
PKJ	1	.738**	.731**	.608**	.417**	.561**	.582**	.790**	.501**	.375**	.335**	.556**
PKT		1	.849**	.768**	.548**	.586**	.663**	.876**	.525**	.359**	.535**	.664**
PKA			1	.753**	.529**	.610**	.683**	.878**	.557**	.272**	.400**	.584**
PKE				1	.607**	.600**	.650**	.841**	.557**	.358**	.377**	.601**
PKK					1	.732**	.765**	.780**	.600**	.506**	.210*	.589**
PKP						1	.816**	.836**	.744**	.450**	.215*	.648**
PKS							1	.880**	.730**	.562**	.261**	.702**
PKB								1	.718**	.491**	.396**	.739**
KRH									1	.494**	.193*	.785**
KRT										1	.253**	.723**
KRO											1	.689**
KRM												1

**. Correlation is significant at the 0.01 level (2-tailed). Sig.=0.000
*. Correlation is significant at the 0.05 level (2-tailed).

b- Testing the hypotheses of the effect

Figure (5) shows that there is a significant effect of cognitive bias in its dimensions on knowledge risk management in

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its dimensions, which means that the surveyed hospital's awareness of the importance of cognitive bias by one standard deviation leads to an improvement in its ability to manage knowledge risks (human risks, technological risks, and operational risks) by (0.954) and with a standard error of (0.047), which means the hospital in question is aware of making the best decisions in order to predict risks, which encourages it to build behavioral relationships with the rest of the sectors in the same department in order to coordinate ideas and come up with the best innovations in order to manage knowledge risks. It is also noted that the cognitive bias in its dimensions contributed to the explanation of (0.546) of the rate of variation in knowledge risk management, while the remaining value is outside the limits of the research.

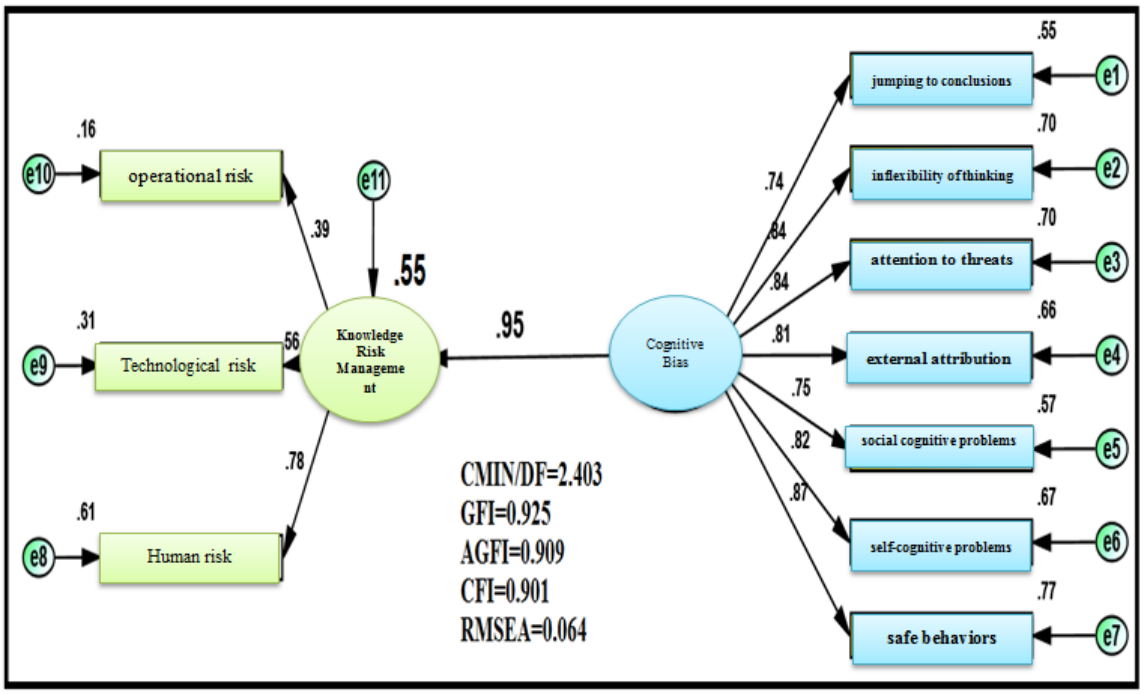

Figure (5)
The structural model of the impact of cognitive bias in its dimensions in managing knowledge risks with all its dimensions

Table (8)
Outputs of the impact of cognitive bias in its dimensions in managing knowledge risks in all its dimensions

Path			Standard Weight	standard error	critical value	coefficient of determination R^2	P-value
Cognitive Bias	---->	Knowledge Risk Management	0,954	0,047	20,298	0,546	0,001

From the second main hypothesis, several sub-hypotheses emerge:

The first sub-hypothesis: There is a statistically significant effect relationship to the dimension (jumping to conclusions) in knowledge risk management.

The results of Table (8) show that there is a significant effect of statistical significance for the dimension of jumping on conclusions in managing the risks of knowledge in its dimensions, which means that the surveyed hospital's awareness of the importance of jumping on conclusions by the amount of one standard deviation leads to an improvement in its ability to manage knowledge risks (human risks, risks technological, and operational risks) by (0.353) and standard error (0.048).

The second sub-hypothesis: There is a statistically significant effect relationship to the dimension (inflexibility of thinking) in knowledge risk management.

The results of Table (8) showed a significant effect of statistical significance for the dimension of inflexibility

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of thinking in managing the risks of knowledge in its dimensions, which means that the surveyed hospital's awareness of the importance of the inflexibility of thinking by the amount of one standard deviation leads to an improvement in its ability to manage knowledge risks (human risks, risks technological, and operational risks) by (0.420) and standard error (0.043).

The third sub-hypothesis: There is a statistically significant effect relationship to the dimension(external attribution) in knowledge risk management.

The results of Table (8) indicate that there is a significant effect of the external attribution dimension in the knowledge risk management with its dimensions, which means that the surveyed hospital's awareness of the importance of external attribution by one standard deviation leads to an improvement in its ability to manage knowledge risks (human risks, technological risks, and operational risks) by (0.356) and standard error (0.045).

Fourth sub-hypothesis: There is a statistically significant effect relationship to the dimension (attention to threats) in knowledge risk management.

The results of Table (9) show that there is a significant effect with a statistically significant significance of the dimension of attention to threats in knowledge risk management with its dimensions, which means that the surveyed hospital's awareness of the importance of paying attention to threats by one standard deviation leads to improving its ability to manage knowledge risks (human risks, technological risks, and operational risks) by (0.439) and standard error (0.053).

The fifth sub-hypothesis: There is a significant statistically significant effect relationship to the dimension (social cognitive problems) in knowledge risk management.

The results of Table (9) show that there is a significant effect with a statistical significance for the dimension of social cognitive problems in the management of knowledge risks with its dimensions, which means that the surveyed hospital's awareness of the importance of social cognitive problems by the amount of one standard deviation leads to an improvement in its ability to manage knowledge risks (human risks, risks technological, and operational risks) by (0.390) and standard error (0.049).

Sixth sub-hypothesis: There is a statistically significant effect relationship to the dimension (self-cognitive problems) in knowledge risk management.

The results of Table (9) show that there is a significant effect with a statistical significance for the dimension of subjective cognitive problems in managing the risks of knowledge in its dimensions, which means that the awareness of the investigated hospital of the importance of subjective cognitive problems by the amount of one standard deviation leads to an improvement in its ability to manage knowledge risks (human risks, risks technological, and operational risks) by (0.406) and standard error (0.043).

Seventh sub-hypothesis: There is a statistically significant effect relationship to the dimension (safe behaviors) in knowledge risk management.

The results of Table (9) revealed a significant effect with a statistically significant significance of the dimension of safe behaviors in managing the risks of knowledge in its dimensions, which means that the awareness of the investigated hospital of the importance of safe behaviors by one standard deviation leads to an improvement in its ability to manage knowledge risks (human risks, technological risks, and operational risks) by (0.424) and standard error (0.039). It is also noted that the dimensions of cognitive bias contributed to the interpretation of (0.585) of the rate of variation occurring in knowledge risk management, while the remaining value is outside the limits of the research.

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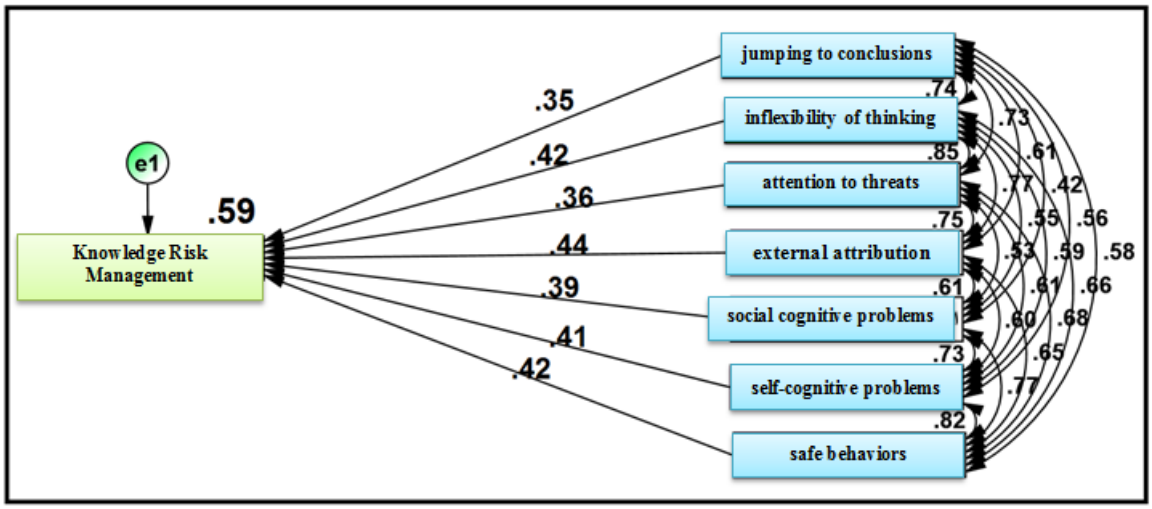

Figure (6)
The structural model of the effect of the dimensions of cognitive bias in managing the risks of knowledge with its combined dimensions

Table (9)
Outputs of the effect of the dimensions of cognitive bias in managing knowledge risks with all its dimensions

Path			Standard Weight	standard error	critical value	coefficient of determination R^2	P-value
jump to conclusions	---->	knowledge risk management	0.353	0.048	7.354	0.585	0.001
inflexibility of thinking	---->	knowledge risk management	0.420	0.043	9.767		0.001
Attention to threats	---->	knowledge risk management	0.356	0.045	7.911		0.001
external attribution	---->	knowledge risk management	0.439	0.0.53	8.283		0.001
social cognitive problems	---->	knowledge risk management	0.390	0.0.49	7.959		0.001
subjective cognitive problems	---->	knowledge risk management	0.406	0.043	9.442		0.001
Safe behaviors	---->	knowledge risk management	0.424	0.039	10.87		0.001

Fourth topic: conclusions and recommendations
First: the conclusions
1. The practical side of the research proved the existence of a significant effect relationship between cognitive bias and knowledge risk management, which refers to the hospital administration's awareness of developing its capabilities by using cognitive bias criteria in order to manage human, technological and operational knowledge risks.
2. Through the results of the field side of the research, it appeared that there is a perception among the hospital administration of the importance of developing and developing appropriate strategies in order to build the awareness of workers in the upper and middle management towards taking full responsibility for carrying out their mission to the fullest.
3. The results of the research showed that the hospital administration is aware of the provision of modern mechanisms and techniques in order to ensure the provision of personal protection methods to all employees and those dealing with the hospital

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administration in order to manage the risks of knowledge

4. The hospital administration's awareness of the importance of its interest in motivating employees in order to set appropriate standards for managing the risks of knowledge and the continuity of its work.

5. The practical aspect of the research shows that the hospital management has a perception of improving the standards of cognitive bias by encouraging its employees (high and middle) to build their capabilities and impressions towards predicting the risks of knowledge that may affect the hospital.

Second: Recommendations

1. The hospital administration should be keen to encourage employees in the upper and middle management to present ideas capable of managing the various risks of knowledge, which requires restructuring its plans and objectives in order to provide ideas and future plans capable of addressing the current situation in its work environment.

2. The hospital administration should bear full responsibility for preventing disease in the workplace and providing a healthy and safe work environment.

3. The need for the hospital administration to develop new methods and possibilities for obtaining information that ensures building the health and safety of workers in order to put in place appropriate procedures and activities to protect them.

4. The hospital administration should keep pace with modern developments and encourage employees in the upper and middle management to develop their knowledge and technical capabilities.

5. The hospital administration should be keen on serving patients by providing the capabilities and services to serve the customer's comfort and enhance the possibility of his recovery in the shortest possible time.

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