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KNOWLEDGE MANAGEMENT SYSTEM IMPLEMENTATION AND THE PERFORMANCE OF HIGHER EDUCATION INSTITUTIONS IN THE DEVELOPING COUNTRIES: A CONCEPTUAL FRAMEWORK

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ABSTRACT

The major challenge that, the Higher Education Institutions (HEI)s are facing, at present time, is the unproductive management of information, therefor the implementation of Knowledge Management System (KMS) becomes a must to provide many profits to students and lecturers with updated information as well as documented records as an evidence that reflects the process of improving of the whole performance sooner or later. Instead of manually controlling the information process, the dynamic development of ICT has made it possible for HEIs to adapt their processes to be electronic-based. One system that gives this issue a lot of thought is KMS, but because users have refused to use it, it hasn't been widely embraced. This paper will shade lights on the effective factors of the decision adaptation-rejection of KMS. This study is a collective one, provides a serious review of the related lecture regarding this issue. Based on interviews that had been conducted previously and hosted KMS experts from many prestigious and important institutions. They focused on eleven factors that play a great rule in making the decision of the implementation of KMS, as suggested by the literature review and technological adoption theories. Experts have validated these factors and put them in ranks. From these results, a comprehensive integrated implementation conceptual model of KMS that developed to serve the Iraqi HEIs and lead the performance to the next level by the adoption of technology

Keywords: *KMS, Performance, Adoption, Higher Education Institutions, Iraq, Experts Validation, Factor Extraction*

1. INTRODUCTION

The outcome –based approach has been taken for granted by many countries as an approach that provides continuing improvements for the educational institutions and help them to survive against the growing numbers of the graduate students who are unemployed. To tackle this, and as a step toward this issue the, higher educational institutions have paid great care for their students and providing them with sufficient and professional training, assisting them with career preparation and increase their awareness on market demands of certain potentials and outcomes as well. Students' progress and learning can be evaluated in this way, narrowing the gap between classroom theory and real-world application [1-4].

The implementation of KMS in HEIs is a core function to help the Outcome based approach that usually most of the countries all over the world are aware of its importance. This has allowed for the expansion of networked systems, computing devices, and software, as well as online interaction. A system for gathering, processing, and disseminating information throughout an organization, including its personnel, its physical components, its software applications, its networks, and its data stores [5]. In this context, the KMS application and implementation, supported by its assessment and specific system, will be invaluable to HEI institutions [6]. By implementing the KMS information will be prepared to both of making decision and the assessment in addition to

controlling and supervising the educational activities evaluation and assessments [4].

Adopting KMS in the context of educational institutions can help reduce the demand-supply gap in the field of education [7-9]. This idea has spurred most countries to increase their focus on and funding for KMS innovation as a means of bettering their educational systems and students' outcomes [10-12]. Additionally, it has been thought that the KMS implementation, which makes up the education provision, consists of a number of procedures that must be carried out in order to improve the performance and goal-achieving efficiency of HEI. Studies in the context of developing nations have demonstrated a number of obstacles to the application of KMS in the literature, including Garrett [13], Shroff, Deneen [14], Alharthi [15] and Oumran, Atan [4] in the Libyan's context.

According to earlier KMS works, technology and system acceptance, and more specifically KMS adoption, are still in their infancy [4]. The three primary categories of barriers that have received the most attention in research of this caliber are those that are related to individuals, organizations, and technology (e.g., [16]; [17]. Although there is still a lack of evidence to support theory on the adoption of KMS on the human and environmental level, previous studies have shown that information systems, when integrated with technological, social, organizational, and environmental aspects, have been successful [4, 18].

Talking about the middle east countries, Gholam and Kobeissi [19] found that in Arabic world, no technological solutions were being used to evaluate teachers' performance in order to better their training. What's more, Alfahadi, Qradi [20] and Alharthi [15] came up with a critical analysis of the current evaluation process in Libya, arguing that the lack of tools and procedures results in an unclear picture of student performance.

As has been emphasized, for higher education institutions to be competitive and to undergo a transformation into global leaders in the educational platform, they must examine innovation and technology adoption. To further and encourage the implementation and use of learning innovations, a more precise picture of such acceptance is required [21].

In addition, the development of technology incorporates the usage and application of KMSs in educational institutions for the purpose of improvement, and studies of this caliber have emphasized KMSs as an essential instrument in evaluating the evaluation process (e.g., Bartlett [22].

2. KNOWLEDGE MANAGEMENT

Advantage in business can be gained via acquiring and sharing knowledge [23]. A group effort that helps businesses create, store, retrieve, and apply their intellectual property for competitive advantage and continued success is known as "knowledge management" [24, 25].

In addition, organization's knowledge management capabilities are the means by which it gathers and utilizes information [23]. There are four main components to knowledge management: gathering information, storing it, disseminating it, and using it [26]. The initial phase of knowledge management is acquiring the necessary information. Organizations that are adept at acquiring new information are better able to monitor their surroundings and respond quickly to changing conditions. It also enables individuals to increase their technical prowess by expanding their knowledge base [27]. The term "knowledge storage" was used to describe the processes and structures put in place to keep data safe and organized. These are typically information technology-based systems that aid in the archiving and retrieval of practical expertise [28]. Disseminating one's knowledge to others is a key contributor to creative thinking. It is obvious that a company's level of innovation, including new problem-solving methods and new products in response to market demand, is influenced by its capacity to transform and utilize information [29, 30].

Organizational activities that facilitate the creation of new knowledge assets, enhancement of existing ones, and the development of new products are known as "knowledge application" [28]. In addition to assisting businesses in improving their expertise and saving money, the practical application of information also assists them in those areas.

Knowledge applications include things like protection, action, and problem resolution [31]. The practical application of knowledge necessitates its acquisition, storage, sharing, and application, perpetuating a cycle of knowledge management that in turn supports the processes through which organizations develop expertise and produce long-lasting goods [32].

Evaluating the success of knowledge management is important for understanding the influence it has on management decisions and the ways in which knowledge workers may help produce better outcomes [33]. Businesses, however, need to actively seek out valuable information. This synergy may prove significant; however, understanding how markets respond to physical presence is a prerequisite. Knowledge management strategies can be developed with the help of these considerations [34]. Successful organizations actively encourage all stages of the knowledge generation and management process and actively incorporate all relevant sources of information into the product innovation procedure [35]. As a result, the term "knowledge management" refers to the process of gathering information, organizing it, making it accessible to others, and using it.

3. KNOWLEDGE MANAGEMENT SYSTEMS AND PERFORMANCE OF EDUCATIONAL INSTITUTIONS

The term "information system" (IS) is used to describe the coordinated effort to collect, organize, and disseminate data [36]. To collect, create, and disseminate necessary data, typically within businesses, requires a system of hardware, software, and telecommunication networks. KMS, on the other hand, is a subset of IS used for managing an organization's internal knowledge [37].

In this context we could define KMS a category of IS and any given organization can use it to deal with knowledge by using IT-based system as a resource that provides information to improve the process as everything from the inception of a thought to its eventual application in the world.

KMS is an abbreviation for "knowledge management system," which is an information technology-based system designed to aid in the activities of companies including the production, archiving, distribution, and utilization of knowledge [37]. This study successfully represents the goal of promoting KMS adoption in Iraqi HEIs, as noted by the congruence between Alavi and Leidner [37] definition and our own, hence their definition will be chosen and adopted.

Moreover, KMS can be referred to as a system of knowledge management in organizations that supports creating, capturing, storing, and disseminating information, allowing individuals to access the stored information and fact from databases, information sources, research papers, and manuals [38].

Added to the above, KMS has a permeable boundary that is challenging to pinpoint, underlying the reason why the knowledge that is invaluable to a member of the organization may not be so to another in another department. The increasingly dynamic business environment has urged organizations on a global scale to implement KMS to develop knowledge as their competitive advantage source [37]. This calls for the immediate understanding of KMS implementation success, particularly in the face of management's significant attempts in adopting KM initiatives[4] .

Shrafat [39] studied CSFs the critical success factors as one of the related studies in literature, following KMS implementation and their great importance to the system, in which he discovered that there is organizational readiness to influence it or to keep on appreciating its importance to the system.

On relation to the above, potential adopter who are not sure that adopting KMS will bring consistency between them and KMS process, they need to be sure of this matter. the indications that the two sub-groups in Shrafat,2018 `study revealed that future advantages, have a vital role to the intention of adoption or keep using KMs. The results of this study provide empirical evidence for the role that foreseen benefits play in the spread and implementation of innovations.

In addition, various variables, including technological and organizational considerations, adoption and performance, are needed to achieve the desired organizational environment after implementing and maintaining a KMS. The results of this study show that there is a strong connection between the identified parameters and the adoption, usage, and continuation of KMS by both potential adopters and current users.

This study confirms the coordination between Oumran, Atan [4] definition and what have been given in this study, both have describe it as a category of IS took place to provide a managing organizational knowledge by implementing IT-based systems that is improved to support and boost organizational performance.

In general, the complications that organizations experienced in their works lead them to stress on adopting KMS based on to Sahibzada, Jianfeng [40] in which it is believed that KMS implementation and its flexibility will support educational performance and develop it as well, by giving it a good opportunities to meet all difficult educational needs.

Knowledge creation is vital in order for the education institutions to perform well. This

require the KMS to be implemented in education sector. However, the current frameworks are not applicable in facilitating this need, thus, this study is aiming to propose the implementation framework.

4. RELATED WORKS IN KNOWLEDGE MANAGEMENT SYSTEM IMPLEMENTATION

Implementation is a crucial assumption in dealing with technical challenges, as the adoption of new technology has become a trend for organizations and individuals to maintain their job and keep them in competition with other organizations and enterprises. Implementation is a technological dissemination step that involves the propensity of the organization and the person to choose and use the technology [41].

Through effective information management and organizational learning techniques, KMS aims to increase the utilization of organizational knowledge. The study by Ahmad, Lodhi [42] employs a sample of 26 universities from Khyber Pakhtunkhwa province, both in the public and private sectors, and focuses on information technology, organizational learning, and knowledge management in higher education institutions. Their findings show that the organizational performance of universities is highly impacted by knowledge management techniques as measured by information technology, organization, and knowledge.

The adoption of big data and the sharing of knowledge management were included as factors in Al-Rahmi, Yahaya [43] model for measuring sustainability in the education sector. As a result, behavioral intentions to use this big data, which are supported by the adoption of big data in sustainability of both the knowledge and management education, have had an impact on the intention to use big data and educational sustainability based on Unified Theory of Acceptance and Use of Technology (UTAUT).

According to KMS implementation indications based on a national survey, Caliber, Tsai and Hung [44]conducted this study in comparison to all previous studies on the same topic. They used empirical techniques to gather their data and found that, in addition to KM enablers, organizational and KMS characteristics can also have an impact on KMS implementation.

In addition, Arpaci [45] research aimed to determine what factors contribute to the success of cloud computing as a knowledge management tool in the educational sector. Accordingly, when it was implemented in a real-world learning setting to promote KM principles. By raising people's knowledge of the advantages of KM techniques and how they may be applied to cloud computing services, Arpaci [45] hopes to hasten their widespread adoption in the educational sector and has uncovered a fundamental relationship between the three.

When it comes to using cognitive technologies to enhance their overall knowledge orientation, certain Saudi higher education institutions struggle. At a time when it should be working to create a technological backbone and a learning organization by allowing its members the flexibility to use a variety of technologies, including e-mail, to access and exchange information. A. The knowledge management system doesn't have a way to record and share the information that employees have learned, thus the business will lose that information whenever an individual leaves, retires, or otherwise leaves the organization. In order to satisfy the policy of employees to be actively sharing their information, educational institutions must ensure that their staff members understand the necessity of exchanging knowledge through various modes of communication. As such, universities work to advance IT by staffing IT departments to facilitate the collection, organization, and dissemination of knowledge, as well as by making the Internet accessible to all faculty and staff so that they may share, collaborate on, and create new knowledge from anywhere at any time, and with minimal risk.

Based on administrative perspective the result of the above studies has set up guidelines for companies that desire to adopt KMS implementation, to overcome the obstacles that might face them. Moreover, to get the best advantages in the pre-adoption and post-adoption process. Few information could be obtained regarding organizations which had been focused on by KMS implementation because of the limitation studies that conducted on such topic. Yet this study will illustrate clearly the factors that influence the adoption of KMS among HEIs.

In Indonesia, Rohendi [46] found that KMS play a key role in the performance of the organizations. The author developed the prototype by using SharePoint to enable, collecting, storing and publishing digital data at the university to help in making it accessible online.

Using an explanatory quantitative survey design, Salami and Suhaimi [47] investigated the

determinants influencing KMS adoption in Nigerian universities. Conclusions Individual and management support elements were found to be more important than organizational and technological variables in KMS implementation in Nigeria. The findings can be used to validate and further investigate these elements in future research, especially with regard to management support and individual factors. The research centered on the organization's structure, culture, infrastructure, and government funding. Knowledge, individual creativity, experience, and attitude were taken into account when determining individual variables, while training, management initiatives, and management were taken into consideration when determining management support. The study focused on trial ability, compatibility, visibility, and complexity for the technological components as a whole.

Alhaj [48] used an integrative and thorough conceptual model to research the effects of organizational characteristics on innovation among public and private oil enterprises in Libya while determining the importance of social capital and knowledge sharing. They used a sample of 418 workers from the public and private oil industries to examine the direct and indirect effects of organizational characteristics on creativity. The author suggested future authors add elements that potentially play a mediating impact on the effect of organizational characteristics on innovation after data were analyzed using PLS-SEM.

Additionally, Oumran, Atan [4] in Libya established a conceptual framework including crucial variables influencing the choice to use KMS. Eleven factors were validated and ranked by professionals using a qualitative method that included a critical evaluation of the and was supported by interviews.

Knowledge management and knowledge sharing have been shown to improve both decision-making and organizational performance, but Haque, Ahlan [49] review the literature to determine what factors influence these practices. The primary goal of their research was to identify the factors that influence university faculty members' decisions to engage in knowledge management and knowledge sharing. It was suggested that additional research be conducted with a larger sample size in the international university settings to validate and generalize the findings.

Comparing Western Sydney University (WSU) in Australia with King Fahd Security College in Saudi Arabia, Alshahrani [50] research intended to identify the CSFs for efficient knowledge management in universities using Nonaka's model (KFSC). Knowledge creation and dissemination were discovered to be contextual and dynamic processes rather than explicit ones at institutions of both countries. The results show that the complexity of elements and behaviors associated to the knowledge environment is the driving force behind the successful implementation of KM practices and initiatives in both nations. Nonaka's knowledge conversion model identifies four modes for managing knowledge (i.e., socialization, externalization, combination, and internalization), with each mode involving a different set of processes that were influenced by a total of 14 internal and 6 external elements. Leadership, organizational structure, rules, employee responsibilities, IT infrastructure, training, teamwork, and assessment were among the internal elements examined in the study.

5. METHODOLOGY

According to Mukred, Yusof [51] methodology, there are four stages that must be completed in order to create the study framework: conducting an extensive literature review, identifying the crucial factors, seeking the opinions of experts on the KMS factors, and emphasizing the most important ones. Figure 1 adopted the mentioned methodology to extract the factors.

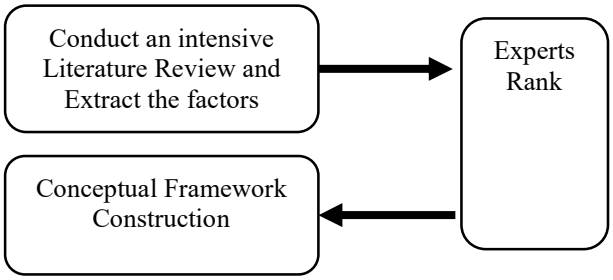

Figure 1. Study Methodology , Source: Mukred, Yusof [51]

In order to examine behavioral intent for the implementation of KMS in higher education institutions in Iraq, the study's methodology first conducts a literature analysis to identify relevant variables, which are then reviewed by subject-matter experts. The details of each methodology step are listed below.

5.1 Factor Extraction

In this article, we conducted a literature review using the phrases "Knowledge Management System implementation factors," "technology adoption factors in higher education," "Knowledge Management System frameworks," "Knowledge Management System for performance," and "Iraq's KMS and education." In order to identify the important factors of KMS that the author emphasizes on a literature search on similar studies.

In addition, the results of a study that was related to KMS and was evaluated to discover the factors that were utilized in common by the writers found 55 factors. The highlighted factors, which can be used to identify the factors that are most commonly cited in the literature, are listed in Table 1, which can be found here.

Table 1 List Of The Extracted Factors From The Literature Review

Dimension	Factors	No of Factors
Individual	Self-Efficacy, Experience, Gender, Training, Satisfaction, Age, Literacy, Subjective Norm, Motivation, skills	10
Technological	Perceived Usefulness, System Quality, Perceived Ease of Use, Big data Tools availability, IT infrastructure, Compatibility, Service Quality, Privacy, Efficiency, Cloud Infrastructure, Information Quality	10
Organizational	Effective Communication, Top Management Support, Training, Location, Financial support, Change Management, Organization Type, Facilitating Conditions, Social Influence, Organization Readiness, Outsourcing, Standardization, Competitiveness, Firm Size	15
Environmental	Laws and Legislations, Pandemic Pressure, Cloud Computing, Political Stability, Policy, Digital transformation Assets	6
Behavioral Intention	Extrinsic Motivation , Intention to Use, Intention to implement, User Expectations	4
Use	Performance, User Involvement, Overall Satisfaction, Productivity, Accountability, Continuity, Survivability, User Satisfaction, Decision Making, Perceived Benefits	10
	Total	55

However, frequency does not indicate the usual and common characteristic of factors; rather, it is defined as the number of times each extracted component is cited in prior works of literature [52].

The research uncovered 55 different variables, but focused on the 20 most frequently mentioned ones in relation to KMS and technology uptake in the classroom. The results of the literature review are summarized in Table 2.

Table 2 Frequency Of The Extracted Factors

No	Factor	Total	No	Factor	Total
1	Top Management Support	23	11	Training	29
2	Perceived Usefulness	23	12	Competitiveness	12
3	Service Quality	23	13	Subjective Norm	15
4	System Quality	20	14	Efficiency	11
5	Perceived Ease of Use	19	15	Information Quality	26
6	Behavioral Intention	27	16	Financial support	25
7	Policy	17	17	Facilitated Conditions	24
8	Performance	17	18	Political Stability	6
9	Organization Readiness	16	19	Big data Tools availability	7
10	Firm Size	15	20	Cloud Infrastructure	7

Of the 65 factors extracted, only 20 are the most cited. The remaining factors are not included in the final frequency list as they are cited only a few times in the literature. This study defines a

KMS from a technical and non-technical point of view.

5.2 Experts' Consultation and Factor Classification

A copy of the survey was distributed to respondents as a list of the top 20 most frequently cited factors affecting KMS implementation was distributed to experts (teachers using KMS and familiar with KMS). The awareness of KMS among those who have experience in education has increased. A total of 12 factors have been identified as the most important factors associated with behavioral intent associated with KMS use, and ultimately with actual use. In determining the key factors, we followed the recommendations of [53] and [54]. Let's talk to an expert. We sought knowledge from 10 professionals working in college and familiar with implementing KMS technology. Professionals are PhD students working in various organizations in Iraq, Saudi Arabia, Malaysia and Yemen. The expert profile is shown in Table 3.

Table 3 Experts' Profiles

	Gender	Specialist Areas	Year of Experience
E01	Male	Information Science	11
E02	Male	Technology and Higher Education	10
E03	Female	Technology and Higher Education	7
E04	Male	Technology implementation	8
E05	Male	Technology and Higher Education	18
E06	Male	Computer Science	12
E07	Male	Information science	14
E08	Male	Technology Implementation and Engineering	9
E09	Male	Knowledge Sharing and Information Governance	17
E10	Male	Knowledge Sharing and Information Governance	13

Twelve of the most significant factors that can affect a person's motivation to adopt and use a knowledge management system have been identified by experts. Factors were assessed by specialists utilizing selection criteria and in-depth interviews. The goal was to evaluate the variables that affect KMS deployment.

All 24 factors were identified from the literature review, but further examination removed 12 factors due to the mix of expert feedback. Table 4 shows a list of factors ranked by experts.

The final list of the factors based on the experts is shown in Table 4. All of the analysis's final mean and their respective sources are displayed in the table below.

Table 4 List of Factors Recommended by Experts

No	Factor	Adapted from	Mean out of 5
1	Perceived Usefulness	[55]	5
2	Perceived Ease of Use	[55]	5
3	Top Management Support		5
4	Training	[4]	5
5	Pandemic Pressure	[56]	4
6	Political Stability		4
7	Policy	[18]	5
8	Competitive	[4, 57-59]	5
9	Big Data Tools Availability	(Chen et al. 2012)	5
10	Cloud Infrastructure	[60]	5
11	Financial Support	[4]	5
12	Behavioral Intention to Implement	[61-63]	4
13	Performance	[64]	5

5.3 Framework Construction

Examining the theoretical frameworks that serve as the basis for a study is crucial. In the process of framework creation, this can be utilized as a reference point for making assumptions about the relationships between various components. KMS implementation research can improve the level of acceptance by identifying and investigating the determinants of such acceptance. Therefore, previous literature on this topic proposes several theories and models [65-67] to study the acceptance of KMS in HEIs.

The Unified Theory of Acceptance and Use of Technology (UTAUT), the Technology Acceptance Model (TAM), the Diffusion of Innovation (DOI) theory, the Theory of Planned Behavior (TPB), and the Technology-Organization-Environment (TOE) framework were among the major theories that were considered and applied in this research domain.

Extrinsic factors, KMS implementation purpose, and institutional performance were identified as the three connected variables that were used to create and propose the KMS framework that was used in this research (see Figure 2).

This study examines the pertinent theories and models in order to determine which ones are the most applicable to the goal of the study and which ones should be avoided. According to Alharbi [65] and Al-Jabri [66], the TAM, TOE, UTAUT, and DOI models were the ones that were utilized in the field of educational research the majority of the time.

This study analyzes the usage, applicability, validity, and reliability of TAM in examining the incorporation of technology in a variety of contexts. This is because TAM has been validated as a robust model in the literature that was evaluated [68]. We put it to use in order to determine whether aspects of the KMS implementation were consistent with the effect recommendations. However, the TOE theory is used for classification and grouping the factors into second order dimensions.

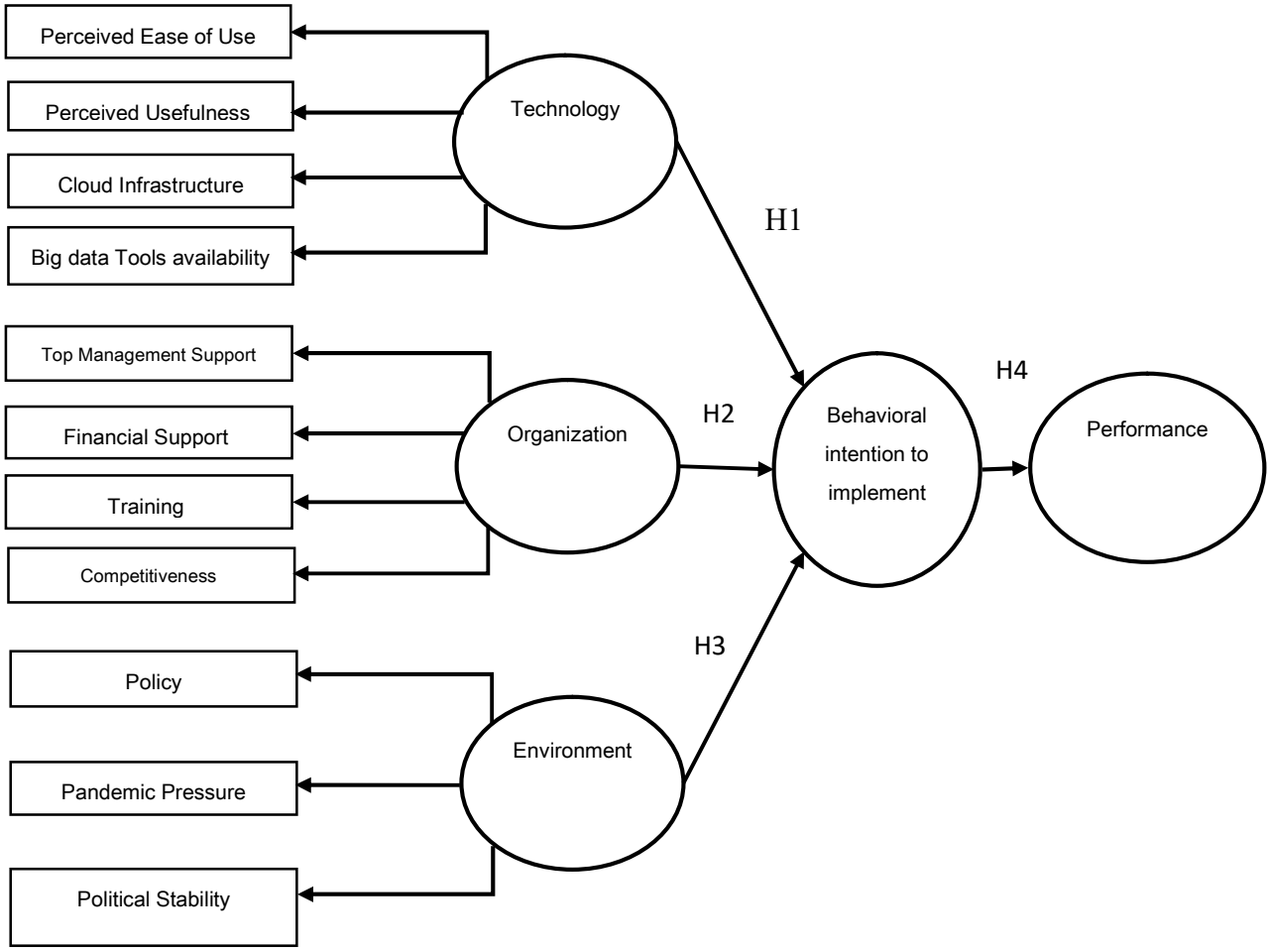

Figure 2. The Proposed KMS Implementation Model Of The Study

6. DISCUSSION AND INTERPRETATION

The experts we talked to all agreed that the perceived ease of use and perceived usefulness of KMS are two of the most influential elements in the system's uptake. When people are sure that it will enhance the quality of their job and is simple to use, they are more likely to adopt it. The availability of resources and educational opportunities have been ranked well. Big data analytics tools and cloud infrastructure, as well, according to three experts (E2, E7, and E8), can have an effect on KMS deployments. However, there are many who advocate for providing funding to universities in Iraq so that they might implement such changes.

For effective and timely implementations, experts E1 and E6 argued that environmental dimension aspects should be considered as additional factors in the underlying conceptual model. To obtain the extraordinary outcomes that are hoped for while implementing KMS at Iraqi HEIs, experts E3, E4, and E5 all concur that competition is a crucial factor. Therefore, this factor is included in this study. All experts agreed on ease of use, value, and the importance of cloud infrastructure as key determinants of KMS implementation. Experts emphasized the importance of political stability for the successful implementation of KMS in Iraq. They confirm that they also need to have such a factor in pandemic pressure. They emphasized the true need for comprehensive policies to be implemented. Therefore, they were factored into the study's overall design. Since the function of system implementation in enhancing performance has not yet been determined, E9 and E10 stressed the significance of testing the influence of recognized elements on the behavioral intent of adopting a KMS.

In Figure 2, we can see the study's proposed conceptual framework. According to the theory that informed its development, the model's

ten identified elements are listed in order of importance.

The proposed model took into account the influence of contextual factors on the introduction of KMS. Among these are characteristics of the TAM model (appreciation of the system's usefulness and user-friendliness) that have a direct bearing on the individuals' intentions to take the necessary actions to put KMS into practice. The availability of big data analytics technologies is also important, as are cloud infrastructure, training, financial assistance, policy, and top-level management's enthusiasm.

In the following section, we'll go over the suggested conceptual model's components in further depth, outlining their respective prepositions and descriptions.

6.1 Technological Variables

The use of technology has the potential to increase the quality of services offered, the productivity of employees, and the competitiveness of businesses across all industries. As a result, it has become clear that integrating technology into institutions is crucial [4, 69]. Empirical research has found impediments and challenges to technology adoption in higher education, despite the fact that some academic studies have proven that technology implementation has positive effects on organizations. Successful deployment and use of the technology relies on understanding the elements that affect it.

According to this research, the user's perception of how much a certain system will improve his or her performance on the job is the technological dimension factor [61].

[70] also used TAM to evaluate faculty and staff attitudes about KM, therefore these findings are in line with theirs. According to their research, the level of perceived usefulness is a crucial factor in determining user intent. On the other side, as demonstrated by [55], the two most important determinants of behavioral intent related with IS adoption are perceived usefulness and perceived ease of use.

According to this research, "perceived ease of use" refers to how simple managers and workers think KMS is to use. The potential of the system to improve efficiency, effectiveness, and performance at work has been taken into account while analyzing this factor. The expected level of effort is a predictor of future system use and acceptance, according to the data [71, 72].

Another important in the technological dimension as a whole is also cloud-based infrastructure [4]. Includes consistency of IT planning, business goals, the architecture of IT, and skills of the people in IT department. Oumran, Atan [4] showed that IT infrastructure capabilities enable a variety of applications to enhance current and potential organizational goals and competitiveness in the business market. The author also emphasized the role of big data analysis influencing the behavioral intent of KMS implementations.

KMS has been studied in several empirical studies [4, 68, 73-77], each has its own goals and conclusions, but the general trend in research is that KMS has technical factors such as perceived ease of use, perceived usefulness, cloud infrastructure, and big data analytics capabilities. It can affect your implementation. This study advises evaluating the following prepositions based on the previous rationale and the importance of KMS implementation considerations;

H1: Technological factors have significant relationship with behavioral intention to implement KMS in HEIS of Iraq.

6.2 Organizational Variables

The commitment of the entire organization is necessary for the successful implementation of KMS; hence, top management is obligated to advocate for a new records management system as an element of the change management project. It should not be the sole focus, but there are many various organizational ways to implement KMS. In addition, there are many different organizational ways to apply KMS. When it comes to incorporating technology in educational institutions of higher learning, Binyamin, Rutter [78] state that organizational aspects are just as significant as their technological equivalents. According to the findings of the authors, organizational support is an essential component in the successful adoption and utilization of information systems.

Mukred, Yusof [18] extended their investigation into the experiences of educational personnel who utilized a mixed explanatory method and progressed beyond the phase of adopting the technology into the phase of practice. According to the findings of their research, the incorporation of new technologies is being hampered by a number of problems brought about by a variety of variables. Some of these challenges include learning how to use computers. The most effective utilization of technology can be enabled by evaluating and

enhancing the computer abilities of users, as well as continuously addressing data entry and system use through training.

The provision of financial support is yet another organizational component that plays an important part in the implementation of technology [79]. Successfully integrating technology to improve future information efforts is increasingly reliant on financial backing, and this backing has a beneficial effect on the successful implementation of technology [80]. Therefore, this study considers financial support for the impact on the implementation of KMS in educational institutions.

On both the national and international scales, competitive pressure is a major component of the environment. Because of this stress, businesses are increasingly looking to new technologies to help them become more productive and efficient [81]. Governments around the world are widely adopting the use of new ways for advancement in development as a result of dynamic rivalry and technological progress, as well as developments in digital technology. The present decade has seen a shift from paper-based to electronic delivery of government services as a direct result of public awareness of the benefits of such technology [82]. Therefore, implementing a KMS between HLIs is an important factor in assessing behavioral intent.

The lack of managerial support, financial backing, training, or competitiveness are frequently cited as reasons for limited KMS adoption. increase. Therefore, the following adverbs are suggested by this research:

H2: Organizational factors have significant relationship with behavioral intention to implement KMS in HEIS of Iraq

6.3 Environmental Factors

In the past literature that was specifically dedicated to the implementation of KMS Primarily focused on researching organizational, technological, human, and individual variables [47]. In the field of education, the implementation of KMS needs to pay attention to environmental concerns as well. In light of this, the following aspects and factors are taken into consideration in this study: Pressure from competitors, analytics on large amounts of data, and cloud computing.

For this reason, policy is a key component of environmental considerations on both the national and international stages. The importance of policy in shaping educators' intentions to use technology in the classroom has been established by numerous studies [4]

Another environmental factor affecting the implementation of KMS is pandemic pressure. Prior studies also indicted the pandemics might have pressure on organizations to implement technology or implement it [56]. The solution to this problem lies in the design of flexible user interfaces for KMS applications. An efficient knowledge management system, then, is one that is simple to update across platforms and databases. This is because fewer people will bother utilizing a clogged, ineffective system that makes them work harder for little reward. In order for your organization to successfully execute the system and ensure its continued ease of use, you must select the appropriate and efficient technology that is compatible with your application and hardware.

This study identified the political stability factor as one important and vital factor especially in developing countries [83].

In conclusion, environmental factors are absolutely necessary for the successful implementation of KMS [75]. This research suggests putting the following prepositions to the test, based on the discussion that came before it:

H3: Environmental factors have significant relationship with behavioral intention to implement KMS in HEIS of Iraq

6.4 Intention to implement KMS Factors

An individual's behavioral intention can be seen as their level of preparedness to carry out a certain conduct; hence, behavioral intention is considered to be an antecedent of behavior [84]. In the context of this investigation, the term "intent" refers to a person's readiness to do future activities, whether they succeed or fail.

According to Venkatesh, Thong [85], the primary component that determines actual behavior is behavioral intention toward technology. Attitude, subjective norms, and perceived behavioral control are the three elements that are most predictive of behavioral intention to use technology.

In the same research, Ahmed and Ward [86] analyzed the acceptance patterns of personal, academic, and professional portfolios by contrasting several technological acceptance models. The author has demonstrated that a positive and direct link exists between the perception of how easy something is to use and how useful people think it is. It was also discovered that the perceived simplicity of use had an immediate favorable impact on intent.

Overall, illuminating the amount of acceptance of KMS in educational institutions and the hurdles that limit such adoption through the identification of content and context characteristics is a useful exercise [4].

In order to ensure that KMS is successfully implemented, it is important to take into account the impact of technological, organizational, and environmental aspects. Therefore, the following hypotheses are proposed for this investigation:

H4: Behavioral intention to implement KMS has a significant relationship with the performance of HEIs of Iraq.

This study proposed a second order three dimensions' framework based on technological factors, organizational factors and environmental factors. The framework integrates new factors that are combined together in a way making it unique which is different from previous works even in different domains. It's important to include the environmental factors especially in developing countries to shed light on what is the role of governments or supporting agencies in making the implementation success. Previous works overlooked this point and hopefully this research contribute in this regard.

7. CONCLUSION

This study shed light on the paucity of research into KMS implementation, despite the system's centrality to bolstering and improving educational institutions' performance and fostering more informed decision-making overall. Therefore, it established and recommended a conceptual framework that is necessary to be robust in addition to the few research that are examined. Literature reviews on KMS acceptance and implementation, as well as the study model's primary variables, were conducted for this research. They were culled after the aforementioned processes and sent to an authority for verification. Technology, organizational structure, and technological dimensions were identified and categorized. Based on the aforementioned considerations and the conceptual model designed to analyze the factors influencing the implementation of KMS in educational institutions, a panel of experts has analyzed and determined the significance of these factors for KMS initiatives in these establishments. Eleven factors, two of which were accepted from UTAUT and eight of which were adopted from a literature review, were determined to have an influence on the implementation of KMS in Iraq's HLIs after the confirmation of these factors by experts. The examined factors included perceived ease of use, perceived usefulness, cloud infrastructure, big data analytics tools availability, top management support, training, financial support, competitiveness, policy, pandemic pressure and political stability. According to the findings of the study, KMS plays an important influence in improving performance. The current study makes a contribution to the existing body of knowledge by determining the factors that have an influence on behavioral intention to implement and use KMS. In addition to this, it makes a contribution to practice by directing the limited management resources that are available to the significant areas that would make the system implementation successful and seamless. The study helps to propose a second order strategy and classifies the components into three categories at the levels of technology, organizations, and the environment. This will speed up the adoption process since each party will be more aware of its obligation to contribute through the aspects that have been delegated to it.

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