Applying Knowledge Management Processes to Improve Institutional Performance

Aram H. Massoudi, Hawkar Q. Birdawod

Department of Business Administration, Cihan University-Erbil,
Kurdistan Region, Iraq

***Abstract*—This study aimed to identify the role of knowledge management processes in improving the level of institutional performance in Cihan University-Erbil, Iraq. For the purpose of achieving the study objectives, a hypothesis has been formulated with two sub-hypotheses. The study relied on a descriptive analytical approach. The data were collected by a questionnaire distributed randomly to 90 academic staff at Cihan University-Erbil Campus, 74 valid responses were received. The results showed that knowledge management processes play an important role in improving the institutional performance level of the institution studied. Furthermore, the processes of generating and storing knowledge show have stronger correlation than the processes of distributing and applying knowledge in improving the institutional performance level in the university. The novelty of this article comes from its results and the set of recommendations that will contribute to raising the level of institutional performance.**

***Keywords*—Data acquisition, Knowledge management process, Knowledge management, Performance, Storage.**

I. Introduction

Renewal and innovation have become an obsession for many governmental and non-governmental institutions if they want to preserve themselves, survive and continue. (Stansberry et al., 2019). According to Fischer (2020) knowledge forms the basis that leads to innovation. Everything is based on the generation of knowledge, which is one of the most important knowledge management processes.

The world today is witnessing a stage of great dependence on knowledge to the extent that it has been called the Knowledge Society and the Knowledge World, and this highlights the role, importance, status and impact of knowledge management on the success of all institutions and fields (Grundmann, 2017).

The information and communications revolution makes us think seriously about the application of knowledge management to exploit information technology, just as the world has witnessed an unprecedented transformation in the field of knowledge and information. This revolution needs to provide qualified human resources that can contribute to attracting and harnessing them to serve societies. Therefore, it is imperative that institutions support, develop and develop human cadres to make them able to keep pace with these developments and exploit and use them with the highest possible efficiency. One of the most important ingredients for the success of institutions is the ability to catch up with the latest changes in the era of the technological and information revolution as a result of the tremendous development that has occurred in communication technology and its uses in the field of information and knowledge (Jameel et al., 2021).

According to Mormina (2019) the massive increase and accumulation of information has led to an urgent need to develop a modern concept that organizes and exploits the management of this information and to make maximum use of it in achieving strategic goals for institutions, and supporting decision makers in their decisions.

The essence of identifying the role of knowledge management in educational institutions because of its positive impact on improving the performance level of institutions and upgrading it for the better production. From the theoretical side, it has become clear that knowledge has a major role in building and achieving outstanding performance, in addition to the fact that the practice of knowledge management in educational institutions contributes to the development and improvement of institutional performance and the ability to survive, continue, grow, and achieve differentiation among other institutions. As for practical side, the practice of knowledge management faces many challenges, as it requires accuracy, skill and strategic thinking, through the collection of data and information about the institution under study.

Cihan University-Erbil journal of Humanities and Social Sciences (CUEJHSS)
Volume VII No. 1 (2023) 10 pages
DOI: 10.24086/cuejhss.vol7n1y2023.pp 1-10
Received 13 September 2022; Accepted 14 October 2022; Regular research paper: Published: 15 January 2023
*Corresponding author's e-mail: aram.massoudi@cihanuniversity.edu.iq

Therefore, the objectives of this study are to recognize the impact of the application of knowledge management on improving the performance of the educational institution. Furthermore, the awareness of the university officials of the concept of knowledge management.

II. Literature Review

A. Concept of Knowledge Management

As a term, knowledge management has been known since the beginning of the 1980 s. it was created by Peter Drucker. Knowledge management is a synonym to Information management, it is the processes that helps organizations to gain knowledge, choosing, and organizing, using and publicizing important information and experiences that are really important in the various management activities in making decisions, finding solutions for the problems, learning, and strategic planning (Andreev, 2022). According to Awaad (2008) KM can be defined as the process of analyzing, composing, and evaluating the changes that relate to knowledge to achieve the objective goals in an organized and purposeful manner. It is a process of an organized knowledge management to create business value and generate competitive feature. Finally, Karmalli (2005) stated that KM means to find an environment within the organization that facilitates, generates, transfers, and shares knowledge, and therefore the focus is on finding an appropriate organized culture, and to find an active leadership.

According to Staughton (2022) knowledge can be sorted into two types, including tacit and explicit. Tacit knowledge entirely personal, informal, and difficult to share or express. It can be expressed in behaviors, actions, routines, habits, responses, instincts, senses, intuitions, and bodily experiences. Explicit knowledge is the knowledge that can be shared among the individuals. This kind relates to the data and virtual that can be reached and save in files of institutes records with the result can be reached that the implied knowledge and clear knowledge each one complete other. Other terms fall under the category of tacit knowledge, such as implicit, procedural, contextual, embodied, expert, and distributed knowledge (Staughton, 2022).

According to Jamee et al. (2021), the focal aim of KM is to increase an organization's efficiency and save knowledge within the institution. KM provides an opportunity to get a permanent competitive feature to the organizations, through Empowering the organization to adopt more innovations such as goods and new services. Build abilities to learn the human being intelligence. Also, adopting the creative ideas through encouraging the principle of information sharing (Alyan, 2008).

B. Processes of Knowledge Management

According to Mohajan (2016), KM process consists of four stages: Acquisition, storage, distribution, and use of knowledge.

Knowledge acquisition

It means captivating or buying, innovating, discovering, absorbing, acquiring, or obsession. All of these processes indicate to the knowledge generation and gaining process but in different ways and from various sources (Rachapaettayakom et al., 2020). Purchasing point out to obtaining knowledge through direct purchase or through contracts of employment and employment. Absorption points out to the ability to understand and absorb for the apparent knowledge, and captivity pointing out to gain the knowledge that deep seated in the minds and thoughts of the inventive. Innovation pointing to the generate new, undiscovered knowledge did not use while discovery pointing to specify the existed knowledge. Acquiring knowledge always based on development and research (Pattinson and Preece, 2022).

The process of generating knowledge begins with an idea preparing by an individual who acquired it or innovate it. However, it is possible that can be generating knowledge through the departments of research, development, experimentation, learning lesson, and creativity thinking. Knowledge representation and absorption refers to obtaining apparent knowledge and it is worthy to mention here that individuals and organizations are different in ability to absorbing and representing the knowledge, for several reasons such as, absorptive capacity, the ability, the place and the mechanism of communication between the source and the target, and this will lead to differences in abilities of individuals and organizations in recognition the value of the new knowledge (Brix, 2017).

Storage

Knowledge storage processes mean: Retention, perpetuation, searching, accessing, retrieval, and place. The process of storing knowledge indicates to the importance of organizational memory (Jarrahi et al., 2022). The institutions face a great danger as a result of losing a great amount of knowledge because of individuals leaving for various reasons (Peña, 2014). Hence, they take this undocumented implied knowledge with them, and now it's important to save and to retentive it. Especially these organizations that have high rates of work rotation that base on recruitment or use as a temporary contract and advisory to generate knowledge in them, because these people take their implied undocumented knowledge with them. While documented knowledge will remain for the organization, so organizations should acquire the knowledge and distribute it among the members of the organization by enhancing users' knowledge (Jarrahi et al., 2022).

Knowledge distribution

Knowledge distribution: It includes such as distribution, publishing, sharing, outpouring, and transporting. If the institution does not distribute the knowledge efficiently, it will not generate income (Savolainen, 2017). It is easy to distribute the apparent knowledge through using electronic tools (Dash et al., 2022). Knowledge will increases, grow and get bigger through exchanging of ideas, experiences, and skills among people. That is why organizations are

encouraged to participate if four conditions are available to transfer of knowledge: There should a mean of transfer the knowledge either by a person or something else. Be fully aware of and understanding the knowledge content and also be able to transmit it. It should have the motivate to transfer this. Finally, there should not be any obstacles to prevent this transfer.

Institutions have resorted to give permission to their users to move within departments to spread the informal knowledge in all around organization, also the learning communities in the institution have given positive results in reducing time of transfer and delivery (Thomas and Prétat, 2009).

Knowledge application

According to Omotayo (2015) knowledge application is considered the ultimate step in knowledge, this means the use of knowledge in suitable time and to invest the existing opportunity in the institution. This means to use it when a problem is facing the institution, and the application of knowledge should aim to achieve the goals and objectives of the institution. The knowledge management is a multi-system field, and in general, there are two basic steps that are applicable in a large number of institutions and organizations are: To specify that knowledge actually suitable for the organization and to shape the core content for needed proficiencies for institutional success and growth. Furthermore, to specify the content and structure of knowledge, and this depends on the organization itself. Because each one is an element in this structure. They need to examine and review the knowledge base available. This knowledge is called intellectual capital stock, which can be achieved by saving knowledge, whether it's formal or informal.

C. Institutional Performance

Institutional performance is one of the most studied topics in business research (Gavrea et al., 2011). It is an essential matter for all types of organizations. Furthermore, it is a vital indicator in assessing organizational action. Successful institutional performance is a requirement for the strategic vision of business that pursues longevity and survival in today's environment (Cania, 2014). Imran, 2014, defined it as an excellence of job, effectiveness in decision making, enhancement of procedures, Leaders' relationship with subordinates, diversity of services, and innovations. Pandey and Dutta (2013) also referred to it as meeting the needs of stakeholders to achieve excellence. Institutional performance is the capability of the institution to manage its resources to reach its objectives (Sangiorgi and Siboni, 2017).

According to Abualooush et al. (2018), institutional performance includes three dimensions, financial, operational, and organizational. Financial performance focuses on the use of financial indicators such as profitability and growth. Operational performance is combination of financial and operational performance, by allocating available resources to gain incomes. This focuses on indicators such as market share and introduction of new high-quality product. Organizational effectiveness expresses the scope to which the organization achieves its goals.

According to Sintayehu et al. (2013), many factors can affect institutional performance such as: The political factor the extent to which the policy is appropriate to the work for the institution, and the existence of a policy dominating the work of the institution. Second factor is the economic factor it represents economic resources, employees, unemployed, the local, regional and global economy and the effect of all of these on the institution and the its reflection scope on the practice of production, work, activity, and services. Third, the social factor which is the general behavior of society, the lifestyle of individuals, and human and societal relations. Fourth, the technological factor such as technological progress and availability to support, distinguished the performance and work of the institution. Finally, environmental factor such as the climate, the field of institution work, the institution geographical location, pollution, and the local community reflections towards the environment.

D. Hypotheses Development

KM Process and institutional performance

Assessing the effectiveness of KM and its involvement in improving institutional performance is a key challenge to numerous institutions, which determines the usefulness of KM in terms of the outcome added from KM (Tubigi and Alshawi, 2015). Knowledge based institutions reflected as a key factor in performance measurement (Yadav, 2013). Knowledge resources are an important resource for the strategic path of the business Al-Delawi and Ramo (2020). This is true since knowledge resource has a positive impact on gaining a competitive advantage and improving the innovation process, which generate as a result an exceptional performance (Bouraghda and Dris, 2015). KM has an essential role in creating a positive atmosphere at the institutional setting, inspiring work, and encourage productivity (Alzou'bi and Al-Zaidy, 2012). Excellent institutions recognize the importance of KM processes: Acquisition, storage, distribution, and use of knowledge to increase their performance. Acquiring knowledge is a crucial part for the institution, since the knowledge in generated from within the institution. The objective of KM is to apply the knowledge all over the institution. Knowledge application is to Taylor the knowledge to execute the institutional activities and tasks (Shariatmadari and Forouzandeh, 2015). On the other hand, knowledge storage is the course of recovering knowledge, whether it is held by individuals or by the institution, in a way that enable the recovery of the information. Knowledge recovery can be done without contacting the person who originally developed such knowledge, saves time and other organizational resources and subsequently improves performance. From the above discussion, the researchers postulate the following hypothesis:

H_0: There is no significant effect between knowledge management processes and their role in improving institutional performance at Cihan University-Erbil. Two sub-hypothesis were generated from the main hypothesis:

$H0_1$: There is no positive statistically significant correlation between the processes of distributing and applying knowledge and improving institutional performance.

$H0_2$: There is no positive statistically significant correlation between the processes of knowledge generation and storage with improving institutional performance.

III. Methodology

For the purpose of achieving the objectives and hypotheses of this study, a descriptive analytical approach was followed using various scientific references related to the subject of the study. Furthermore, a quantitative approach was followed by preparing a questionnaire sheet containing a set of questions distributed to the target sample of Cihan University-Erbil, Kurdistan Region, Iraq. The results were measured using IBM-SPSS software, which contains a bundle of statistical tests.

A. Data Collection Method

The researchers adopted a field study method in data collection by using a questionnaire form distributed randomly to 90 academic staff at Cihan University-Erbil Campus, 74 valid responses were received with response rate of 83%. The questionnaire was divided into two sections. The first part describes the respondents' demographics (i.e., gender, education level, position, and years of experience). The second part examines the selected variables including Knowledge acquisition, storage, distribution, application and institutional performance. The questionnaire includes 44 items to measure the model constructs. Those items were selected from previous studies. Minor modifications were made on these items to fit the educational sector in Kurdistan Region. The measurements were adapted from the previous studies. The dimensions of Knowledge Management Process (Knowledge Generation, Knowledge Storage, Knowledge Sharing, and Knowledge Application) were adapted from (Kasasbeh, 2015; Sweis et al., 2011; Valaei et al., 2017 and Wang et al., 2014). Furthermore, institutional performance was adapted from (Tomislav et al., 2012 and Wang et al., 2014).

In measuring the variables, a three point Likert-scales ranging from 1 for "disagree" if the item average is 1 or less. "Natural" if the mean is >1 and ≤2. And 3 for "agree" if the mean is >2 and ≤3 were adopted.

B. Demographics

The study sample consists of 62% males and 38% females, the majority of respondents has master degree 70% and 30% has PhDs. All respondents are lecturers at Cihan University. And work experience range from 2 to 25 years of experience.

C. Normal Distribution Test

The Smirnov–Kolmogorov Test was used to test whether the data were normally distributed or not, and the results are shown in (Table I).

It is clear from the results of (Table I) that the level of significance (sig) for collecting the theme was greater than the significance level $\alpha \geq 0.05$. This indicates that the data of the questionnaire theme follow a normal distribution.

D. The Validity and Reliability of the Questionnaire

The validity of the questionnaire's paragraphs means the clarity of the questionnaire; its paragraphs, vocabulary and its concept of what will be included in the questionnaire, as well as being valid for statistical analysis (Massoudi and Ahmad, 2021).

Internal consistency means the extent to which each statement of the questionnaire is consistent with the variable to which it belongs, as the correlation coefficient was calculated between each statement and the variable to which it belongs (Birdawod, 2022). Table II illustrate the internal consistency for knowledge management operations or processes.

(Table III) shows the correlation coefficients for the institutional performance items and the overall average for the items, all of which were significant at the 0.05 level, and this is evidence of the consistency of the theme items.

(Table IV) shows that all the correlation coefficients for the study theme are statistically significant when the level of significance for each paragraph was <0.05. Therefore, it is considered as achieving the goal for which it was set.

E. Internal Consistency

It means the convergence of the questionnaire results if it is redistributed several times in a row (Massoudi, 2022). The Cronbach Alpha consistency coefficient was used and the results are shown in (Table V), where it shows that the questionnaire items are consistent and reliable to reach an accurate result.

IV. Results and Discussion

In this section, the researchers described KM to clarify the variables related to it and study its characteristics based on the results of the questionnaire submitted by the researchers, as shown in the following table:

TABLE I
the Results of the Kolmogorov test

The themes	Content	Number of paragraphs	Z. value	Statistical level
The role of knowledge management operations	Knowledge generation	11	1.845	0.082
	Knowledge storage	8	1.094	0.092
	Knowledge distribution	6	1.364	0.192
	Knowledge application	6	0.814	0.084
	all paragraphs	31	1.296	0.295
Performance improvement		13	2.391	0.073
all paragraphs		44	1.587	0.098

TABLE II
Correlation Coefficients between each Item of the km Processes

	The paragraph	Pearson coefficient	Sig
Knowledge generation			
1	To continuously and renew the role of knowledge management	0.673	**0.000
2	There is a special section to follow up the good knowledge in the scientific fields in general and your field of work in particular	0.483	*0.021
3	Through creative and scientifically qualified people	0.573	**0.000
4	By making use of past experiences	0.631	**0.000
5	How to transfer knowledge from the individual level to collective	0.554	**0.000
6	Forming a collective team of experts	0.671	**0.000
7	Attracting talented and creative energies	0.512	**0.000
8	By conducting scientific research on an ongoing basis	0.662	**0.000
9	By taking advantage of the scientific projects presented of students on graduation	0.770	**0.000
10	By work at college to provide interaction Environment with obtained and accumulated experiences	0.498	*0.016
11	The staff individuals perform courses meeting to exchange ideas	0.691	**0.000
Knowledge storage			
12	A database that provides information on knowledge topics	0.628	**0.000
13	In archives and paper documents	0.581	**0.000
14	In the manner of tacit knowledge	0.493	*0.021
15	With modern systems through which you retrieve knowledge	0.662	**0.000
16	Through the minds, experiences, competencies, and employees of the college	0.471	*0.03
17	In high quality computers	0.478	*0.032
18	Protection programs characterized by security and privacy	0.683	**0.000
19	By providing internet services	0.782	**0.000
Knowledge distribution			
20	Through an information network that helps individuals access the required data	0.738	**0.000
21	Issuing various scientific bulletins and periodicals	0.560	**0.000
22	By holding business meetings and seminars	0.503	**0.000
23	Holding internal training courses	0.462	*0.034
24	Through people who have the ability to communicate knowledge	0.761	**0.000
25	Through the college's attention to develop staff skills and capabilities	0.781	**0.00
	Knowledge application		
26	The college provides the requirements for the application of knowledge	0.745	**0.000
27	The college is working to employ the available knowledge to find new knowledge	0.813	**0.000
28	The college transforms the knowledge it possesses into action plans	0.774	**0.000
29	The college has means to help with the application	0.684	**0.000
30	The college is concerned with the extent to which employees apply knowledge	0.718	**0.000
31	The college supports knowledge integration processes	0.690	**0.000

TABLE III
Correlation Coefficients Between Each Item of Institutional Performance

	The paragraph	Pearson coefficient	Sig
1	The college is concerned with raising the efficiency of employees	0.472	*0.024
2	The college has an effective system of fault accounting	0.634	**0.001
3	The college works to achieve safety and job stability for its employees	0.498	*0.021
4	Knowledge management processes fundamentally help improve performance	0.735	*0.000
5	Knowledge management processes contribute to the development of employees' capabilities	0.553	**0.000
6	The college is working on opening majors that fit the students' desires	0.608	*0.000
7	The college is trying to simplify the registration procedure	0.716	**0.000
8	Knowledge management processes contribute to improving services	0.549	**0.000
9	The college operates a good incentive system in order to encourage employees	0.762	**0.000
10	The college develops integrated timetables	0.389	*0.034
11	Outstanding students are encouraged to continue learning and self-development	0.691	**0.003
12	The college depends on different training programs	0.593	**0.002
13	The college encourages creative students and adopts their ideas	0.699	**0.000

TABLE IV
Correlation Coefficients Between the Degree of Each Theme and the Total Score of Questionnaire

	The Study themes	Content	Correlation coefficient	Sig
1	Management operations role knowledge	Knowledge generation	0.653	0.000
		Knowledge storage	0.813	0.000
		Knowledge distribution	0.793	0.000
		Knowledge application	0.749	0.000
2	Performance Improvement	Performance Improvement	0.694	0.000

TABLE V
Cronbach's Alpha Coefficients

The themes	The content	Number of paragraphs	Cronbach's alpha coefficient
The role of knowledge management operations	Knowledge generation	11	0.715
	Knowledge storage	8	0.691
	Knowledge distribution	6	0783
	Knowledge application	6	0.769
Performance improvement		13	0.794

As illustrated in (Table VI), the opinions of the respondents about the contents of the KM were:

Knowledge generation: It was found that the relative weight of all paragraphs was >60%, which was equal to

TABLE VI
Analysis of the Paragraphs of the First Theme (KM Processes) with its Contents

	The paragraph	Arithmetic average	Relative weight	Standard deviation
Knowledge generation				
1	To continuously and renew the role of knowledge management	2.31	78.13	0.96
2	With a special section to follow up on good knowledge in scientific fields in general and your field of work in particular	1.34	79.07	1.23
3	Through creative and scientifically qualified people	1.87	81.23	1.04
4	By making use of past experiences	2.88	71.14	0.76
5	By transferring knowledge from the individual to the collective level	2.13	83.29	1.22
6	Forming a collective team of experts	2.06	78.57	0.87
7	Attracting talented and creative energies	1.23	69.73	1.38
8	By conducting scientific research on an ongoing basis	2.98	83.43	1.98
9	By taking advantage of the scientific project presented of students upon graduation	1.44	75.37	0.65
10	By work at college to provide interaction environment with obtained and accumulated experiences	1.32	71.98	0.93
11	The staff individuals perform courses meeting to exchange ideas	1.09	81.06	1.01
	All paragraphs of knowledge generation	2.12	74.52	0.94
Knowledge storage				
12	A database that provides information on knowledge topics	2.87	80.12	1.38
13	In archives and paper documents	2.36	74.23	0.89
14	In the manner of tacit knowledge	2.78	77.12	1.97
15	With modern systems through which you basic retrieve knowledge and modern	1.13	73.43	1.21
16	Through the minds, experiences, competencies, and employees of the college	2.06	72.19	0.84
17	In high quality computers	1.39	75.11	0.59
18	Protection programs characterized by security and privacy	2.47	79.07	1.00
19	By providing internet services	2.04	74.95	0.69
	Collecting knowledge paragraphs	2.16	72.43	1.15
Knowledge distribution				
20	Through an information network that helps individuals to reach for the required data	1.23	72.22	1.87
21	Issuing various scientific bulletins and periodicals	2.33	61.51	1.47
22	By holding business meetings and seminars	2.76	79.78	1.32
23	Holding internal training courses	2.03	71.08	0.87
24	Through people who have the ability to communicate knowledge	1.56	73.05	0.93
25	Through the college's interest in developing the skills and capabilities of employees	2.31	64.43	1.37
	Collecting knowledge distribution paragraphs	1.34	69.07	1.03
Knowledge application				
26	The college provides the requirements for the application of knowledge	1.16	69.07	1.07
27	The college is working on employing the available knowledge to find new knowledge	2.17	73.58	0.76
28	The college transforms the knowledge it possesses into action plans	1.45	61.23	0.59
29	The college has means to help with the application	2.10	71.11	1.03
30	The college is concerned with the extent to which employees apply knowledge	1.04	63.37	1.22
31	The college supports knowledge integration processes	1.21	68.49	0.87
	All paragraphs of knowledge application	1.24	62.75	1.16

74.52%, as well as the value of the arithmetic mean was equal to 2.12, which is greater than the hypothetical average of the answers of the study sample. This indicates the acceptance and approval of the study sample for the items of knowledge generation, where the most important and approval item for the study sample is the item that (provides for conducting scientific research on an ongoing basis), where the intensity of approval about this statement was 83.43%.

Knowledge storage: It was found that the relative weight of all items is >60%, where it was equal to 74.23%, with an average of 2.16, which is greater than the hypothetical average of the answers of the study sample, which is equal to (2). This indicates the approval of the study sample for storing knowledge. The highest approval rate from the point of view of the study sample is the item which states that (the database provides information on knowledge topics) with an approval rate of 80.12.

Knowledge distribution: It was found that the relative weight of all the items were equal to 69.07%, which is greater than the relative weight 60%, with an arithmetic mean of 1.34. This indicates that the answers of the study sample were neutral about this content. The highest degree of agreement is the item that states (holding business meetings and seminars) with an average power of 2.76.

Knowledge application: It was found that the arithmetic mean average of the items as a whole were equal to 1.24, with a relative weight of 62.75%, which is >60%, with an arithmetic average of 1.24. This indicates that the answers of the study sample were mostly neutral about the content items, and the paragraph that obtained. The highest approval

rate is the item that states that (The college is working on employing the available knowledge to find new knowledge) with an average of 2.17.

In table VII it was found that the arithmetic mean of all theme was equal to 2.11, which indicates that the answers of the study sample were positive with a degree of "agree" as the value was greater than the value of the hypothetical average (2) according to the triple Likert scale used in the study and the relative weight was 64.29%, where the generating knowledge came in the first place from the point of view of the study sample, while the application of knowledge was in the last place, which indicates that the study community (Cihan University-Erbil) needs to develop the process of applying knowledge within it.

In (Table VIII), it is clear that the average answers of the study sample on this variable were higher than the hypothetical average (2) and therefore the answers of the study sample are considered positive with an agreeable degree, although some of the items were neutral, but in general the items as a whole were positive, as well as the severity of approval (relative weight) It was equal to 72.34%, which is a value >60%, and it turns out that the item that obtained the highest approval rate is the paragraph that states that (KM processes contribute to developing the capabilities of employees) with an average of 2.78, followed by the item that states that (KM processes help mainly to improve the level of performance) with an average of 2.48, which is higher than the value of the hypothetical average (2). This indicates a degree of agreement according to the triple scale used, and the item that obtained the lowest degree of approval was (the university has an effective system to account for the fault) with an average of 1.48, which is less than the hypothetical average (2) and according to the scale used, it is clear that the answers of the study sample were neutral according to the average value for this statement.

The main hypothesis: (There is no significant effect between KM processes and performance improvement at Cihan University - Erbil)

To test this hypothesis, multiple regression analysis was used, (Table IX) showed that the independent variable (KM processes) explains 78% of the change in the dependent variable (performance improvement), where the value of the coefficient of determination was 78%, and the level of significance (0.000) and the rest was attributed to other factors. Therefore, we reject the main null hypothesis and accept the alternative hypothesis which shows that Km processes have an effect on improving performance at a level of confidence of 1%. The results indicate the existence of a statistically significant effect for each of the processes (generation of knowledge, storage of knowledge, and the distribution of knowledge) at a confidence level of 1%. As for the application of knowledge, there was no indication of the existence of an effect where the level of confidence was equal to 0.083.

Looking at the regression coefficients, we find that the largest percentage was for knowledge storage, where the regression coefficient was (0.31), followed by the generation of knowledge with a regression coefficient equal to (0.27).

The first sub-hypothesis: (There is no positive, statistically significant correlation at the level of significance of 1% between the processes of storing and generating knowledge and improving performance in the study community).

The second sub-hypothesis: (There is no positive statistically significant correlation at the level of significance of 1% between the processes of distributing and applying knowledge and improving performance in the study community).

TABLE VII
Analysis of all the Contents of the First Theme (Knowledge Management Processes

No.	The paragraph	Arithmetic average	Relative weight	Paragraph order
1	Knowledge generation	2.12	74.52	2
2	Knowledge storage	2.16	74.23	1
3	Knowledge distribution	1.34	69.07	3
4	Knowledge application	1.24	62.75	4
All paragraphs of the knowledge management operations theme		2.11	64.29	

TABLE VIII
analysis of the Paragraphs of the Second Theme (Performance Improvement)

	The paragraph	Arithmetic average	Relative weight	Standard deviation
1	The college is concerned with raising the efficiency of employees	1.65	69.39	1.28
2	The college has an effective system of fault accounting	1.48	67.27	0.76
3	The college works to achieve safety and job stability for its employees	2.19	71.10	1.84
4	Knowledge management processes Fundamentally help improve performance	2.48	75.16	1.93
5	Knowledge management processes contribute to the development of employees' capabilities	2.78	77.43	0.85
6	The college is working on opening majors that fit the students' desires	2.27	76.24	0.74
7	The college is trying to simplify the registration procedure	2.38	76.48	1.02
8	Knowledge management processes contribute to improving Services	2.41	77.03	0.93
9	The college operates a good incentive system to encourage employees	1.76	62.54	1.20
10	The college develops integrated timetables	2.08	70.18	1.17
11	Outstanding students are encouraged to continue learning and self-development	2.13	70.34	0.94
12	The college depends on different training programs	1.98	65.92	1.28
13	The college encourages creative students and adopts their ideas	2.27	72.17	0.87
	All items improve performance	2.28	72.34	0.82

TABLE IX
Linear Regression Analysis Test for the Impact of KM Processes on Improving Performance

The statement	Relation	The coefficient of determination	Calculated	Indication level	Regression coefficient (β)		T	Significant level
Performance improvement	0.882	0.78	91.570	0.00	Knowledge generation	0.27	1.542	0.018
					Knowledge storage	0.31	4.434	0.000
					Knowledge distribution	0.12	4.163	0.000
					Knowledge application	0.08	2.478	0.083

The outcomes and results of the analysis of correlation relationships in (Table X) display that there are a strong and positive correlations between KM processes and performance improvement at the 1% level, and its value was (0.735*) when generating knowledge and improving performance. Therefore, the null hypothesis is rejected and the alternative hypothesis was accepted. This result means that the greater the process of generating knowledge, the greater the improvement in the performance of workers in the institution studied. As for the storage of knowledge and its relationship to improving performance, the results exposed the existence of a correlation relationship where the correlation coefficient reached (0.716*), and it was found that there is a correlation between knowledge distribution and performance improvement, where the correlation coefficient was equal to (0.641*), as for the application of knowledge, there was a correlation at a significant level of 1% where the correlation coefficient was (0.494**). From the above analysis, it is clear that there is a notable correlation between KM processes and performance improvement, where the process of generating knowledge and knowledge storage had the strongest relationship compared to knowledge distribution and application according to the study sample's point of view.

The objective of this study is to investigate the influence of KM processes and institutional performance. The result showed a direct effect between Km processes and institutional performance. Furthermore, the result revealed that the processes of KM have an important role in improving performance in Cihan University-Erbil, where 78% of the change in performance improvement is mainly caused by the KM process. This result is consistent with the results of previous studies by Wang et al. (2016) and Jyoti and Rani (2017). KM also contributes to managing institutional knowledge assets and improving creativity and innovation in performance. This result agrees with the outcome of Tan and Wong (2015) study, which determined that KM is a key contributor in improving performance. In addition, it was appeared from the analysis of the first axis of knowledge management that the process of knowledge generation and the process of storing knowledge had an important role and great importance from the point of view of the study sample in improving the performance of the institution under study. The relative importance of each of them, respectively, reached 74.54%, 72.43% of the change in the level of institutional performance due to the change in the role of knowledge management operations. F, it was revealed from the analysis of the second axis of Km that the process of distributing knowledge and applying knowledge had an important role from the point of view of the study sample in improving the performance of the institution. The relative importance of each of them, respectively, reached 69.75%, 62.75% of the change in the level of institutional performance and this is due to the changing role of knowledge management processes. Finally, the results of the multiple linear regression analysis test in (Table IX) showed that KM processes has a positive effect on improving the level of institutional performance, where the coefficient of determination reached 78% of the change in improving the performance level of the institution. As for the results of analyzing the correlations between KM processes and performance improvement, (Table X) shows that the processes of generating and storing knowledge have a stronger role than the processes of distributing and applying knowledge in improving the performance of the institution. The researchers believe that ideas-based on knowledge are the foundations and motivations of institutional performance. This result corresponded with the findings of Hussinki et al., (2017).

TABLE X
Results of Spearman's Correlation Analysis Between Knowledge Management Processes and Performance Improvement

Independent subordinate	Performance improvement	Sig	Hypotheses results
Knowledge generation	0.735	0.000*	Rejecting the null hypothesis
Knowledge storage	0.716	0.000*	Rejecting the null hypothesis
Knowledge distribution	0.641	0.000*	Rejecting the null hypothesis
Knowledge application	0.494	0.026**	Rejecting the null hypothesis

V. Conclusions

The aim of this study was to examine the impact of applying KM process on institutional performance. The results of the study rejected the main hypothesis and showed a direct effect of KM process on institutional performance. In regard to KM processes effect on performance, the result showed that knowledge generation, knowledge storage, Knowledge distribution and knowledge application in all have a significant effect on improving institutional performance at Cihan University-Erbil, Kurdistan Region, Iraq.

A. Theoretical and Practical Implications

The theoretical contribution of this study incorporates developing an integrated model of knowledge resources, its role is to improve institutional performance. The model is a comprehensive framework for institution to seek superior performances by adopting KM processes.

This study also offers some suggestions to managers by recognizing the importance, role, and how to benefit from KM processes and the extent to which managers are aware of it. It is necessary of managers to focus on the role of KM processes (knowledge generation, knowledge storage, knowledge distribution, and knowledge application) to better affecting the performance of the institution. Furthermore, the necessity of modifying the methods used in administrative practices in line with KM because institutions should benefit from the knowledge and experience of the employees, represented in the tacit knowledge and work to disseminate this knowledge and experience to all employees of the institution.

B. Limitations and Future Research Directions

Due to numerous educational institutions in Kurdistan Region and Iraq, the researchers cannot generalize this study results. Undeniably, this study was implemented on one educational institution. The researchers were not able to cover and deliver the questionnaire to all institutions available in Kurdistan Region, thus the percentage of those who did not respond was still observable; consequently, further research is needed with higher response rate. Kline (2010) suggested that a sample of 200 or larger is appropriate for performing Structural Equation Modeling analysis. However, after eliminating the incomplete survey for the current research, our sample size consisting of 74 did not meet the recommended guidelines of Kline (2010). Therefore, for the generalizability purposes, future research should consider higher response rates. Furthermore, future studies considering the impact of KM infrastructure on the performance of the Small and Medium Enterprises could be useful for all sectors in the economy.

References

Abualooush, S., Masa'deh, R., & Bataineh, K. (2018). The role of knowledge management process and intellectual capital as intermediary variables between knowledge management infrastructure and organization performance. *Interdisciplinary Journal of Information,* 13, 279-309.

Al-Delawi A.S., Ramo W.M. (2020). The Impact of Accounting Information System on Performance Management. *Polish Journal of Management Studies*, 21(2), 36-48.

Alyan, R.M. (2008). *Knowledge Management*. Amman: Al-Safa Publication and Distribution House.

Alzou'bi, K.Y., & Al-Zaidy, Z.H. (2012). The impact of management information systems (MIS) onknowledge management processes (KMP) as perceived by the employees working in the centers of minis-tries in Jordan. Dirasat: Administrative Sciences, Jordan University, 8(4), 147-160

Andreev, I. (2022). *Knowledge Management*. Joensuu, Finland: Valamis. Available from: https://www.valamis.com/hub/knowledge-management [Last accessed on 2022 Feb 22].

Awaad, M. (2008). *Contemporary Trends in Knowledge Management*. Amman: Al-Safa Publication and Distribution House.

Birdawod, H.Q. (2022). Using factor analysis to determine the most important factors affecting student absenteeism at Cihan University-Erbil. *Cihan University Erbil Scientific Journal*, 6(2), 1-8.

Bouraghda, H.T., & Dris, N.B. (2015). The impact of knowledge sharing on the human resources per-formance: A case study of TV and NR's production unit of condor company in Algeria. *Jordan Jour-nal of Business Administration*, 11(4), 841-868.

Brix, J. (2017). Exploring knowledge creation processes as a source of organizational learning: A longitudinal case study of a public innovation project. *Scandinavian Journal of Management,* 33(2), 113-127.

Cania, L. (2014). The impact of strategic human resource management on organizational performance. *Economia Seria Management,* 17(2), 373-383.

Dash, G., Akmal, S., Mehta, P., & Chakraborty, D. (2022). COVID-19 and e-learning adoption in higher education: A multi-group analysis and recommendation. *Sustainability,* 14, 8799.

Fischer, M. (2020). *Innovation, Knowledge Creation and Systems of Innovation*. Vienna: The Annals of Regional Science.

Gavrea, C., Ilieş, L., & Stegerean, R. (2011). Determinants of organizational performance: The case of Romania. *Management and Marketing Challenges for the Knowledge Society,* 6(2), 285-300.

Grundmann, R. (2017). The problem of expertise in knowledge societies. *Minerva,* 55, 25-48.

Hussinki, H., Ritala, P., Vanhala, M., & Kianto, A. (2017). Intellectual capital, knowledge management practices and firm performance. *Journal of Intellectual Capital*, 18(4), 904-922.

Imran, M. (2014). Impact of Knowledge Management Infrastructure on Organizational Performance with Moderating Role of KM Performance: An Empirical Study on Banking Sector of Pakistan. *Information and Knowledge Management*, 4, 85-98.

Jameel, A., Massoudi, A., & Agha, A.Q. (2021). Knowledge sharing among Academic staff in the higher education institutions. *Cihan University Erbil Journal of Humanities and Social Sciences,* 5(1), 67-74.

Jarrahi, M.H., Askay, D., Eshraghi, A., & Preston, S. (2022). Artificial intelligence and knowledge management: A partnership between human and AI. *Business Horizons*, 66, 87-99.

Jyoti, J., & Rani, A. (2017). High performance work system and organizational performance: Role of knowledge management. *Personnel Review,* 46(8), 1770-1795.

Kasasbeh, W. (2015). The impact of knowledge management in the development of a culture of excellence: An empirical study of the commercial banks operating in the city of Tabuk. *Dirasat: Administrative Sciences, Jordan University,* 42(2), 267-287.

Karmalli, S. (2005). *Knowledge Management an Application*. Amman: Al-Ahliyah Publication and Distribution House.

Kline, R. (2010). *Principles and Practice of Structural Equation Modeling*. New York: The Guilford Press.

Massoudi, A. (2022). Reviving performance by adopting chameleon style of leadership. *Journal of Management and Business Education,* 5(1), 1-19.

Massoudi, A., & Ahmed, M. (2021). The Adoption of Blue Ocean Strategy to Sustain Competitive Advantage in the Syrian Food Industry. *UKH Journal of Social Sciences,* 5(2), 34-49.

Mohajan, H.K. (2016). A comprehensive analysis of knowledge management cycles. *Journal of Environmental Treatment Techniques,* 4(4), 184-200.

Mormina, M. (2019). Science, technology and innovation as social goods for development: Rethinking research capacity building from sen's capabilities approach. *Science and Engineering Ethics,* 25, 671-692.

Omotayo, F. (2015). Knowledge management as an important tool in organizational management: A review of literature. *Library Philosophy and Practice (e-journal)*, 1238. Available from: http://digitalcommons.unl.edu/libphilprac/1238. [Last accessed on 2022 Mar 12].

Pandey, S.C., & Dutta, A. (2013). Role of knowledge infrastructure capabilities in knowledge management. *Journal of Knowledge Management,* 17(3), 435-453.

Pattinson, S., & Preece, D. (2022). Communities of practice, knowledge acquisition and innovation: A case study of science-based SMEs. *Journal of Knowledge Management,* 18(1), 1-29.

Peña, A. (2014). *When Knowledge Left the Building*. Available from: https://workforce.com/news/when-knowledge-left-the-building [Last accessed on 2014 Feb 14].

Rachapaettayakom, P., Wiriyapinit, M., & Cooharojananone, N. (2020). The need for financial knowledge acquisition tools and technology by small business entrepreneurs. *Journal of Innovation and Entrepreneurship,* 9, 25.

Sangiorgi, D., & Siboni, B. (2017). The disclosure of intellectual capital in Italian universities: What has been done and what should be done. *Journal of Intellectual Capital,* 18(2), 354-372.

Savolainen, R. (2017). Information sharing and knowledge sharing as communicative activities. *Information Research,* 22(3), 1-20.

Shariatmadari, M., & Forouzandeh, B. (2015), The Relation Between Knowledge Management and Human Capital with Transformational Leadership of Educational Principals. *International Business and Management*, 11, 51- 56.

Sintayehu, S., Mesfin, B., & Kedir, O. (2017). Assessment of Factor Affecting Institutional Performance: The Case of Wolaita Sodo University. *Journal of Education and Practice*, 8(7), 60-66.

Stansberry, K., Anderson, J., & Rainie, L. (2019). *Experts Optimistic about the Next 50 Years of Digital Life*. Washington, D.C., United States: Pew Research Center. Available from: https://www.pewresearch.org/internet/2019/10/28/5-leading-concerns-about-the-future-of-digital-life [Last accessed on 2022 Apr 11].

Staughton, J. (2022). *What Are the Different Types of Knowledge*? Mumbai, India: Science ABC. Available from: https://www.scienceabc.com/eyeopeners/what-are-the-different-types-of-knowledge.html [Last accessed on 2022 Apr 12].

Sweis, R., Fallaq, M., Buqjati, J., & Abu-Hammad, A. (2011). Knowledge management processes and effect on achieving competitive advantages: A case study of Jordan telecom group "Orange". *Dirasat: Administrative Sciences, Jordan University,* 7(4), 511-526.

Tan, L.P., & Wong, K.Y. (2015). Linkage between knowledge management and manufacturing performance: A structural equation modeling approach. *Journal of Knowledge Management,* 19(4), 814-835.

Thomas, T.T., & Prétat, C. (2009). *The Process of Knowledge Transfer*. Sweden: Baltic Business School.

Tomislav, H., Bach, M.P., & Vukšić, V.B. (2012). Influence of strategic approach to BPM on financial and non-financial performance. *Baltic Journal of Management,* 7(4), 376-396.

Tubigi, M. & Alshawi, S. (2015). The impact of knowledge management processes on organizational performance: The case of the airline industry. *Journal of Enterprise Information Management,* 28(2), 167-185.

Valaei, N., Nikhashemi, S.R., & Javan, N. (2017). Organizational factors and process capabilities in a KM strategy: Toward a unified theory. *Journal of Management Development,* 36(4), 560-580.

Wang, Z., Wang, N., & Liang, H. (2014). Knowledge sharing, intellectual capital and firm performance. *Management Decision,* 52(2), 230-258.

Wang, Z., Wang, N., Cao, J., & Ye, X. (2016). The impact of intellectual capital-knowledge management strategy fit on firm performance. *Management Decision,* 54(8), 1861-1885.

Yadav, M.S., De Valck, K., Hennig-Thurau, T., Hoffman, D., & Spann, M. (2013). Social Commerce: A Contingency Framework for Assessing Marketing Potential. *Journal of Interactive Marketing*, 27(4), 311-323.