THE ROLE OF KNOWLEDGE MANAGEMENT IN PROMOTING ENVIRONMENTAL ORGANIZATIONAL CITIZENSHIP BEHAVIORS: AN ANALYTICAL STUDY OF THE OPINIONS OF A SAMPLE OF AL-QADISIYAH UNIVERSITY ACADEMICS

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Article history:		Abstract:
The current research seeks to test knowledge management practices and their role in promoting environmental organizational citizenship behaviors for a group of Qadisiyah University academics from various disciplines and with various scientific titles. The questionnaire was distributed electronically, using a set of statistical analyses represented by confirmatory factor analysis and regression analyses using (the AMOS v.23 and SPSS v.23) tested the main research hypotheses. The current research presented a set of targeted conclusions and recommendations, the most important of which is that knowledge management practices effectively contribute to the access of working individuals to the level of effective participation in environmental events and contributions through their practices; and the most important recommendations were the need for higher education institutions to adopt knowledge management practices as they are knowledge-based institutions. A set of practices that can contribute to the effectiveness of educational institutions and improve the levels of organizational environmental citizenship behavior.

INTRODUCTION

The concept of knowledge management is one of the contemporary concepts in management thought, as a group of researchers defined knowledge management as the necessary capabilities that enable the organization to achieve success (*Sharply,2008:8*). Knowledge organizations are more responsive to market trends and quick to provide services. and at a lower cost than non-knowledge organizations (Khalifa, 2010:119). It represents the competitiveness of the organization through the use of best practices that meet the changing needs and desires of consumers and respond quickly to unexpected opportunities, as well as develop solutions to meet the expected needs (Tsourveloudis & *Caravans*,2002). Knowledge organizations are based mainly on integrating the information technology system, individuals, and processes within a coordinated and flexible organization that is able to respond and adapt quickly to events and changes in the environment, as it is a response to existing environmental challenges. Therefore, knowledge organizations must look beyond the issue of dealing with changes, but rather to think about how to invest in potential opportunities in a business environment characterized by turmoil and turmoil, and the possibility

of obtaining a special position, taking into account its capabilities and core capabilities to achieve environmental efficiency.

2. RESEARCH METHODOLOGY

2.1 The research problem: The business environment is characterized by its rapid movement, in which changes, transformations, technologies and technologies follow successively, and this calls for business organizations to keep pace with these rapid changes to ensure their survival and competitive continuity. The right decisions and the fact that these institutions are knowledge institutions in the first place—that is, they produce knowledge and present it to institutions and society in general—call for them to focus on practices in knowledge management, production, dissemination, and distribution through the interaction between individual and organizational factors of commitment and responsibility towards environmental goals and values that are enacted through the behavior of citizenship.

2.2 The importance of the research: The importance of the current research lies in two aspects:
A. Theoretical importance: The current research derives its theoretical importance from the scarcity of Arab and local studies that dealt with the subject of knowledge management and environmental organizational citizenship

behaviors. A theoretical framework for research variables.

B. Field Importance: The field importance is manifested in providing a set of knowledge management practices for educational organizations in Iraq, implementing and benefiting from them.

2.3 Research Objectives: The current research seeks to achieve a set of objectives, as follows:

a. Diagnosing the level of knowledge management and environmental organizational citizenship behaviors in the research sample organization.

b. Deepening the awareness of the research sample organization of the importance of research variables and the possibilities of investing them.

c. Determine the relationship and direct impact between knowledge management and environmental organizational citizenship behaviors.

d. Determine the correlation and indirect effect between knowledge management and environmental organizational citizenship behaviors.

2.4 Hypothetical Model of Research:

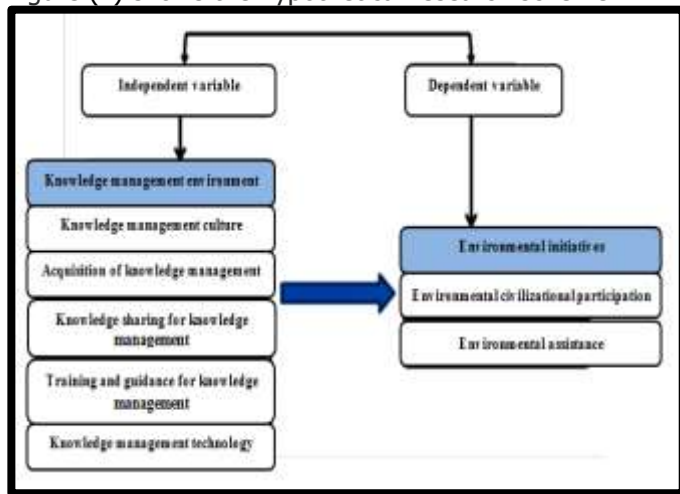Figure (1) shows the hypothetical research scheme

Figure (1)
Hypothetical model search

2.5 *Research* hypotheses:

Based on the hypothetical scheme of the research, a set of hypotheses were formulated as initial guesses that will be tested later, as follows:

- The first main hypothesis: There is a significant correlation between knowledge management and organizational environmental citizenship behaviors.
- The second main hypothesis: Knowledge management exercises a direct moral influence on environmental organizational citizenship behaviors.
- The third main hypothesis: Knowledge management exercises an indirect moral influence on environmental organizational citizenship behaviors.

2.6 Research sample

The research sample consisted of a group of Al-Muthanna University academics with various specializations and scientific titles. The questionnaire was distributed electronically to (160) teaching staff members and (132) responses were received. All questionnaires were subject to statistical analysis, and to provide an integrated picture of some demographic factors for the research sample, the respondents answered a set of questions related to gender, age, and years of service. *Table (1) shows academic achievement and scientific titles:*

Table (1)
Description of the research sample

Characteristics	Repeats	Repeats	Percentage
Sex	Male	92	70%
	female	40	30%
Age	Total	132	100%
	Less than 30	11	8%
	31 to 35	32	25%
	36 to 40	40	30%
	40 and more	49	37%
	Total	132	100%
Years of service	Less than 7	24	18%
	8 to 14	38	29%
	15-22	46	35%
	23-28	15	11%
	29 and more	9	7%
	Total	132	100%
Academic achievement	Master	76	58%
	Ph.D.	56	42%
	Total	132	100%
Scientific title	assistant teacher	42	32%
	Teacher	43	33%
	Assistant Professor	31	23%
	professor	16	12%
	Total	132	100%

Source: Prepared by the researcher according to the questionnaire.

3. THEORETICAL REVIEW

1. 3 The concept of knowledge management

The contemporary business environment is characterized by the dynamism and information explosion in the amount of data that is acquired and shared through personal devices, transactions, social media, and sensors(corocitto,2003:309). It makes knowledge management an entry point to explore new opportunities with a competitiveness that enables the use of relevant knowledge management and its acquisition from external

sources with sensing and full understanding of knowledge with response and full investment of new knowledge (Marhraoui et al., 2017:24). The results of studies showed that knowledge sharing methodologies can affect dynamic and creative capabilities, and the results of studies showed that knowledge sharing enhances dynamic and creative abilities (Palminteri, 2017:44). Saint (*2015*) added in his study a three-stage framework for the transfer and exchange of tacit knowledge and the possibility of developing partnerships and cooperation towards a rapid response within construction supply chains and using the knowledge-driven research approach to enhance partnership, cooperation, and performance effectiveness. And in the same direction, using a comprehensive and detailed set of criteria to evaluate and develop methodologies for knowledge management systems (KMS), which requires an iterative approach to measure each change against the predetermined success measures. and assessing the success of knowledge management by adopting the practices of some critical factors.

As for the issue of complexity and its effective role in enhancing knowledge management capabilities, this complexity arises from the accumulation of data in its repositories, which exposes it to error. To avoid this, it is imperative to provide a consistent and consistent interface for information that covers a specific information modeling technology that provides scalability mechanisms with a high level of empowerment in managing change-related flexibility (Global et al.,2016:56).

The concept of knowledge management is concerned with investing in opportunities, avoiding threats, and reducing failures (*Nail* et al., 2011:343) and the ability to effectively manage and apply knowledge towards a thriving organization in a changing and unpredictable environment (Chen et al., 2011:362) with the identification of existing capabilities On the knowledge of sensing customer requests by accelerating the flow of information and reducing potential bottlenecks (Roberts,2009:37), it is described in another way as a rapid response to external world events from sensing information (gaining knowledge from within) and response (interaction between internal and external knowledge*)* to adapt to changes (*Allman*,2017:75) and enhance the ability of cognitive management to produce knowledge (Mehdibeigi et al.,2016:97). Its ability to achieve qualitative leaps in value represents the ability to achieve true integration by joining and limiting meanings and creating new types of knowledge(*Mantra* et al., 2008:82). *This* methodology is concerned with the development of the orientations of individuals in a greater proportion compared to their orientation to the processes. In a more precise sense, it builds the knowledge structure that establishes the perceptions (*Garage*,2012:438) and reflects the ways of thinking and

evaluating the work after each learning cycle by adopting the iterative approach for the purpose of knowledge acquisition, generation, and exchange, and that line is symbolized by the line of action for the management knowledge that states (*Construction-Measurement-Learning)(Emblem*,2016:45). *It* can be given a set of codes for managing knowledge management that is adopted by each of (*sidewall*,2017:18; *Karats,2010:290),* who referred to repetition in reducing the accumulation and disposal of waste of knowledge with a focus on a specific behavior by possessing complementary skills, and health change that represents modeling understanding of how to promote expansion mechanisms through cognitive flexibility and healthy change management(Global et al., 2016: 100). *As* for(*Allman, 2017:75),* *he* presented the symbols of sensing and response. Sensing represents (gaining knowledge from within) while response indicates (acquiring knowledge from outside). The smart thinking symbol refers to the quick and wise thinking of unexpected reactions (*USR* et al.,2016:273). And (*Jobholder,2015*)identified three paths(A*, B, and* C)for the knowledge race to manage knowledge *management,* see table (2).

Table (2)
The three sprint tracks for knowledge management

New Possibilities A	New mindsets B	New Capabilities C
Learning by doing Gravity is the key to success create feeling Excellence and testing for speed	On-the-job training and application of faster learning practices Adoption of sharing for knowledge transfer social metrics and influences	Creation and acquisition is the key to learning Excellence for future best practices The customer is the basis of knowledge

In the new capabilities race (A)), stakeholders and work teams participate in creating new capabilities that enable knowledge management to influence individuals and achieve commitment. Race Track (B) focuses on achieving a quick win in Special Ops. Or the last track is a race (C) Internal knowledge The meaning of excellence and reuse in the work environment is external knowledge. It was agreed(*Santana*,2009:6; Ding ,2016:78) that knowledge management is distinguished by (7) characteristics, including:

a)   Highly qualified individuals based on knowledge using intellectual and symbolic knowledge at work.
b)   A high degree of self-organization and reduction of hierarchy.
c)   Use adaptive organizational forms.
d)   Extensive participation in *problem-solving*.
e)   Disposing of the accumulated waste of knowledge.

f) Objectivity in evaluating the quality of cognitive performance.

g) Distinguished service for the knowledgeable customer.

Table (3) presents some differences between the tasks of traditional knowledge management and the tasks of modern knowledge management in agreement(Roberts,2009:37; Sidewall,2017:18;Khalil,2016:32;Singh et al.,2014:22).

Table (3)
The difference between traditional and modern knowledge management

Traditional knowledge management	Modern knowledge management
1. Adopting knowledge storage, such as documents, as knowledge tools to solve problems	1. Reducing the accumulation and disposal of waste is the remnants of knowledge that are addressed through a set of value-added activities for knowledge
2. Set limits on the amount of work and cannot be changed by tasks	2. Unlimited work tasks
3. Adopt formal methods of transferring knowledge, lessons learned and documents	3. Encouraging the transfer of experiences & knowledge to new & less experienced individuals & is not limited to a hierarchy
4. Managing access to knowledge using communications to support knowledge production	4. Managing a richness of knowledge with the support of sensing & response, the development of tacit knowledge, & the development of tacit knowledge by focusing on the human element

3.2 Knowledge Management Techniques:

Knowledge management practices can be used to develop knowledge management software and compare them with mechanisms of knowledge transfer, rapid response, and enhance the role of learning and participation (Singh et al., 2014). From this point of view, the knowledge management practices that have been adopted in this research have become a key to solving the problems and challenges faced by knowledge management (Khalifa et al., 2010:120), which are as follows:

A-Knowledge management environment: Knowledge management is concerned with comprehensive response to the demands of the new competitive environment, evaluating the performance of knowledge workers without being fully prepared to learn(*Haskell, 2001:58*) and responding to sudden and unexpected changes in the environment with linkage to the knowledge distribution base across individuals and organizations rather than internal knowledge. With a narrower scope (Huang et al., 2012:293), it specializes in the internal environment of knowledge management and takes the form of knowledge management applications, knowledge management practices, and knowledge management processes. As for the external environment of knowledge management, it takes the form of the quality of knowledge management, group activities, and customer relations(*Zingier*,2013:3695).

The knowledge management environment is described as healthy and helps to implement and develop knowledge management processes (Ding,2016:57) and is able to create products and services with a short life cycle in return for an effective response to changes and environmental uncertainties(*ESPN*,2016:354).

B-Knowledge management culture: adapting to the culture and work environment in the completion of knowledge management processes and their speed of implementation to achieve results by focusing on the mentalities and behaviors of the knowledge axis *(Mira* et al., 2008:85) and extracting tactical knowledge from individuals by adopting the knowledge-friendly organizational culture association (Levy et al., 2009:63) and promoting culture as an element in resolving intellectual conflicts, increasing knowledge productivity, and raising levels of trust and feedback (Veerla,2011:209).

C-Acquisition of knowledge management: the acquisition of a new opportunity and a constant willingness to learn is only a response to the demands of the new competitive environment and a contribution to the knowledge structure's construction (Garage, 2012:438). *And* the distribution of external knowledge at all operational levels is an approach that can manage knowledge from sensing and response as an address for speed and skill (Huang et al.,2014:19). *which* enhances the ability of knowledge management to produce knowledge and improve its relationship with the customer at the long-term level (Mehdibeigi et al.,2016:97).

D-Knowledge sharing for knowledge management: It is certain that knowledge sharing is an important part of learning and makes an effective contribution to the development of knowledge management software by focusing on the minds of team members (implicit knowledge) (*DBA* et al., 2008:837). The case of long-term learning does not make The organization is not only successful but also helps to develop dynamic team leaders (*Qureshi* et al., 2009:390) and knowledge sharing raises the levels of internal trust by adopting open workshops and discussion panels as part of the proactive ammunition to adopt new ideas and rapid communication with external clients (Barbara, 2014:75).

E-Training and guidance for knowledge management: It means moving towards personal perceptions and evaluation, which requires knowledge management to improve the skills and training of its human resources to achieve pro-activeness towards organized training and a quick response to knowledge workers (Santa,2009:22).

F-Knowledge management technology: Knowledge management is based on software that makes individuals, rules, and modern methods a means of repetition and a tendency towards rapid movement to find shelter (*Emblem*,2016:96) and with the use of artificial intelligence systems as units to build a large-scale knowledge society focused on sensing. The response to reduce failures (*Ding*,2016:97) and open up the horizons of empowerment for human resources using information technology and research and development activities with tracking and monitoring of results is vital to achieving effectiveness in work (*McKenzie* et al.,2012:6).

4.Environmental organizational citizenship behaviors

1. 4 Environmental Organizational Citizenship Behavior Concepts:

The concept of organizational citizenship behaviors generally refers to the voluntary individual behavior that is not directly or explicitly recognized in the formal reward system and, as a whole, enhances the organization's performance efficiently and effectively (Organ et al.,2006:77). Employees can practice the behavior of organizational citizenship in the workplace by making additional efforts towards the organization in the form of civilized behavior, sportsmanship, and the assistance that can be provided to the members of the organization, which is called altruism. With the recent emergence of the concept of "environmental organizational citizenship behavior" (*CBE*) in the environmental literature, it is a promising approach that supports the behavior of pro-environmental workers in the workplace (*Faille* & *Burial*, 2013:3552). Both (*Burial* & *Faille, 2012*;Daily et al., 2009:229) have rooted this concept similar to the concept presented by Organ and his colleagues for organizational citizenship behavior, and given that environmental organizational citizenship behaviors are derived from organizational citizenship behaviors, the behavior of organizational citizenship can be defined as Environmental organizational citizenship is defined as "voluntary actions and behaviors on the part of employees within the organization that are neither required nor rewarded and directed towards improving the environment"(Daily et al.,2009:245). Environmental organizational citizenship behaviors (*Lam met* al., 2013:168) have been addressed by some as the extent to which employees take steps to act towards sustainability in the workplace, by extending environmental behaviors to the workplace, such as reuse

or reuse. Rotate or limit use. It is defined as voluntary behavior that is not specified in official job descriptions and through which individuals join efforts to help make the organization and/or society more sustainable, and it consists of three dimensions (help, civilized behavior, and sportsmanship). In the same context, (Organ et al., 2006), By addressing the applications of several dimensions of organizational citizenship behaviors (help, sportsmanship, organizational loyalty, organizational compliance, individual initiative, self-development). However, it remains relatively general and not specific, as indicated by the study(*Faille* & *Burial*,2013:267) compared to the dimensions. The three dimensions (environmental assistance, cultural connection with the environment, individual environmental initiatives, and self-development), but they remain relatively general and not specific, as indicated by the study(*Faille* & *Burial*,2013:168) compared to the three dimensions (environmental assistance, cultural connection with the environment, and environmental initiatives).

2.4 Environmental Organizational Citizenship Behavior Dimensions:

Several major determinants of the conceptualization of environmentally oriented organizational citizenship behavior were identified, including environmental concern, organizational commitment, perceived supervisory support for environmental efforts, and perceived social performance of organizations (*Daily et al.,2009:247*). The verification that environmental organizational citizenship behaviors as a modern concept reflect pro-environmental behavior in the work environment was addressed through a study (*Faille* & *Burial, 2013:132*), where three independent studies were presented: The first study provided evidence of the validity of the three-factor model of organizational citizenship behaviors (environmental assistance, environmental civilizational participation, and environmental initiatives). The second study indicated that there is a difference between the behaviors of organizational environmental citizenship, which consisted of environmental assistance, environmental civilized participation, and environmental initiatives, and organizational citizenship behaviors, which consisted of several dimensions (help, civilized behavior, and sportsmanship). Finally, the third study, using social exchange theory, showed that the worker's feeling of support from the organization makes him more committed and satisfied, and he is ready to participate in environmental organizational citizenship behaviors(*Burial* & *Faille*,2012:233) focused on initiatives to improve work practices and behaviors "indirect" of a social nature, which is more in line with "Active Citizenship Syndrome." She also presented a study(*Faille* & *Burial, 2013*). Environmental organizational citizenship behaviors are voluntary behaviors carried out by employees who demonstrate a willingness to cooperate with the organization and its members by performing behaviors in

the workplace that benefit the organization and its members by performing behaviors in the workplace that benefit the natural *environment,* and workers can participate in pro-environmental behavior in different ways. For example, a worker may develop, suggest, and implement voluntary behaviors in the workplace that contribute to improving environmental performance (*Burial* & *Faille*,2012;Daily et al.,2009:260). However, a distinction must be made between behaviors that will be seen as optional in favor of the environment and beyond job duties on the one hand, and behaviors that will be seen as being part of the job description on the other hand. The *socio-psychological* mechanisms that lead individuals in organizations to engage in citizenship behaviors environmental, which involves keeping individuals in organizations involved in participating in the organization's environmental affairs. Organizations are guided by the literature on organizations for knowledge management and the behavior of individuals in organizations to engage in environmental citizenship behaviors and share knowledge in managing the environmental impact of the organization(*Trainer* & *Faille*,2016:129)and through the interaction between individual factors, organizational, supervisory, and cultural influences, which encourage commitment and responsibility towards the goals and environmental values of organizations, which are enacted through citizenship behaviors *(*Jiang et al.,2012:130).

5. The practical aspect of research
1. 5 Describe and encode search variables
Table (4) shows a description of the research variables, the sub-dimensions of each variable, and the number of paragraphs through which the general and sub-variable is measured.

Table (4)
Description of the variables

Variables	dimensions	Shortcut	Number of paragraphs	Source of scale
Knowledge Management	Knowledge Management Environment	KME	4	)Khalifa et al., 2010: 120(
	Knowledge management culture	KMC	6	
	knowledge management acquisition	KMA	4	
	Knowledge managem ent sharing	KMS	5	
	Training and guidance	KTR	5	
	Knowledge Management Technology	KMT	4	
organizational citizenship behavior for the environment		EI	3	(Raineri, N., & Paillé, P. 2016:133)
		ECI	3	
		EA	3	

2.5 Testing the accuracy and quality of the resolution data
Scale stability:
In order to verify the stability of the study tool, the *Cranach* Alpha coefficient was calculated using the internal consistency method (*Cranach* Alpha) to ensure the stability of the scale tool, as(*Seaman*, 2003 :20) indicates that applied research requires that the (*Cranach* Alpha) coefficient be greater Or equal to (60.0), and the *KM* test for the adequacy of the sample size for the purpose of the confirmatory factor analysis. Statistically speaking, according to (Hinton, et al.,2014), if the saturation of the paragraphs exceeds the threshold of (.40), it is statistically acceptable. Hence, Table (5) indicates the fulfillment of this condition for all paragraphs.

Table (5)
Describe the accuracy and quality of the resolution data

Variables	Item	EFI	KMO
Knowledge Management KM	kme1	.774	KMO .936 Chi-Square 2053.720 Df 378 Sig. .000 Cronbach's Alpha .928
	kme2	.714	
	kme3	.727	
	kme4	.438	
	ckm1	.769	
	ckm2	.808	
	ckm3	.635	
	ckm4	.651	
	ckm5	.785	
	ckm6	.711	
	kma1	.777	
	kma2	.676	
	kma3	.410	
	kma4	.436	
	kms1	.586	
	kms2	.457	
	kms3	.719	
	kms4	.705	
	kms5	.580	

	ktr1	.732	
	ktr2	.726	
	ktr3	.663	
	ktr4	.713	
	ktr5	.802	
	Kmt1	.844	
	kmt2	.880	
	kmt3	.751	
	kmt4	.585	
organizational citizenship behavior for the environment	EL1	.856	KMO .894 Chi-Square 1044.499 Df 91 Sig. .000 Cronbach's Alpha .867
	EL2	.896	
	EL3	.996	
	ECI1	.526	
	ECI2	.702	
	ECI3	.711	
	EI1	.874	
	EI2	.790	
	EI3	.699	

Source: Prepared by the researcher according to the outputs of the programs AMOS v.23 & SPSS v.23

It is noticed from table (5) that the *KM* test for the sufficiency of the sample size for the purpose of conducting the confirmatory factor analysis was statistically acceptable, as it achieved knowledge management (.936) and environmental organizational citizenship behaviors (.894), all of which are statistically acceptable as they exceeded the threshold of (.50). Also, all paragraphs of the scale obtained statistically acceptable saturation estimates, and if factor saturations appear less than (.40), they are deleted. (Hair, et al., 2010). As for the stability test, which is an indicator of the internal consistency of the scale, we note that *Cranach*'s Alpha was higher than (.60), which is a statistically acceptable percentage in psychological, social and administrative research according to (*Seaman* & Bougie,2010).

3.5Hypothesis testing

1. Test the first main hypothesis, which indicates that there is a significant correlation between knowledge management and environmental organizational citizenship behaviors. For the purpose of validating the hypothesis, figure (2) was formulated.
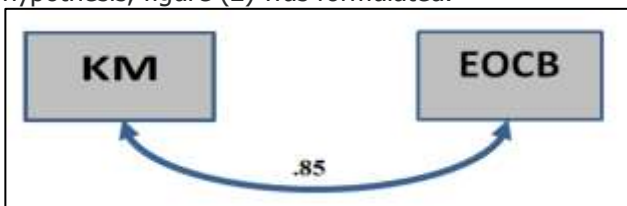

Figure (2)
The correlation between the research variables
Source: Prepared by the researcher based on the outputs of AMOS v.23.

We note from Figure (2) that there is a positive and strong correlation between the research variables, as the correlation coefficient between knowledge management and environmental organizational citizenship behaviors reached (.85), and according to the above correlation coefficients for the research variables, the first main hypothesis can be accepted.

1. Testing the second and third main hypotheses, which indicate that knowledge management exerts a direct moral influence on organizational environmental citizenship behaviors.
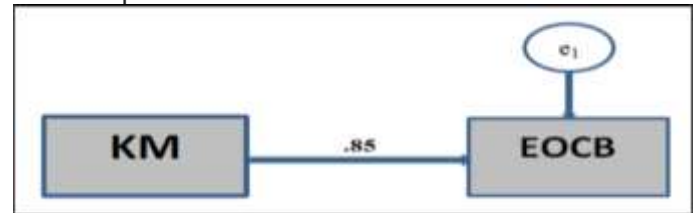

Figure (3)
The influence relationship between the research variables
Source: Prepared by the researcher based on the outputs of AMOS v.23.

Table (6)
The direct effect relationships between the research variables

			Estimate	S.E.	C.R.	P	Label
EOCB	<--	KM	.809	.044	18.383	***	
EOCB	<--	KM	.526	.111	4.739	***	

It is noticed from Figure (3) and Table (6), a set of results that indicate the validity of the hypotheses of direct and indirect influence, as the direct effect coefficient in the table reached (.526) for knowledge management and organizational citizenship behaviors at a level of significance of 0.001, in addition to that the value of (C.R) I was higher than (1.96) and this indicates acceptance of this hypothesis. As for the third main hypothesis, which states the indirect influence of knowledge management on organizational citizenship behavior through the value of the indirect impact factor (.630), which is greater than the direct impact factor of (.526), and thus accepts the second main hypotheses.

6. Conclusions and recommendations
1. 6 Conclusions

1. Knowledge management in general represents a source of competitive advantage, and this source can be more effective when it is characterized by innovation.
2. Knowledge management practices contribute directly and effectively to the employees' access to the level of effective participation in environmental events and contributions through their practices.

3. Knowledge management practices are one of the means and methods that the university can use to support environmental organizational citizenship behaviors by encouraging the presentation of ideas and issues of societal impact by adopting ways to protect the environment and reduce knowledge waste.

4. The results of the statistical analysis indicated the existence of a statistically significant relationship to the direct impact that knowledge management has on the organizational environmental citizenship behaviors.

5. The results of the statistical analysis indicated that there is a statistically significant relationship to the indirect influence that knowledge management has on organizational citizenship behaviors in its three dimensions.

2 . 6 Recommendations:

1. 1. Inviting Iraqi universities and higher education institutions to adopt knowledge management practices, since universities are knowledge-based institutions that can contribute to the effectiveness of educational institutions and improve the levels of environmental organizational citizenship behavior.

2. The necessity of preparing training and development programs for Iraqi university academics in a manner that is compatible and consistent with technological developments and knowledge management practices.

3. Develop knowledge management infrastructure, including modern hardware and software, that enable Iraqi universities and higher education institutions to implement knowledge management practices.

4. Develop trust between the university and the community to provide suggestions and improve environmental practices by stimulating voluntary participation in environmental programs and activities.

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