The role of knowledge management in delivering the organization to the state of performance excellence: Mediating role of technological vigilance

Khalid Thaher Amayreh[a*]

[a]Assistant Professor, Irbid National University, Jordan

CHRONICLE	ABSTRACT
	Current study aims to examine the relationship between knowledge management and performance excellence through the effect of knowledge management (KM) on technological vigilance within pharmaceutical manufacturing organizations in Jordan. Depending on quantitative approach, 270 questionnaires were distributed among employees and leaders of 49 pharmaceutical manufacturing organizations in Jordan to examine the effect of KM and its chosen variables, Organizational Culture, Leadership, Organizational Processes, Organization's Politics and Strategies, on delivering organization to performance excellence through the mediating role of technological vigilance. Results of the study indicate a positive influence of KM on delivering organization to excellence; this influence was attributed to mainly leadership as the basic driver. The results also indicate that technological vigilance mediates the relationship between knowledge management and delivering the organization to the state of performance excellence. Moreover, the study results indicate that KM enhances the organization's ability to retain and improve organizational performance and helps deliver it to excellence based on experience and knowledge. Knowledge management allows the institution to define the required knowledge, document, develop, share, apply and evaluate this knowledge and it is an approach for excellent performance. Study recommends increasing efforts towards providing the requirements of applying knowledge management, and the need for organizational structures to be horizontal and flexible, and there must be conscious and eager leadership to apply knowledge management and encourage the exchange of information, and the need for organizational culture to be conducive to the application of knowledge.

1. Introduction

The concept of "knowledge" is an old term that has accompanied man since eternity (Pathirage et al., 2008). However, as according to Hislop et al. (2018), the new in this concept is the size of its impact on economic and social life and on human growth, the tremendous progress and development in information technology witnessed in the current century, which is considered the largest change in human life, enabled man to impose control on nature, and that the factor of development in the field of knowledge which has become more influential in life among other physical factors. According to Gagnon et al. (2015), one of the most important elements of enterprise success is its ability to catch up with the latest changes and maintain its ability to compete and remain in the market in light of the revolution in the information technology era. The tremendous accumulation and accessibility of information has led to an urgent need to organize and manage this information, and organizations must use their full collective intelligence to help them achieve the strategic goals of their institutions, and use them to support decision-making. Girard and Girard (2015) argued that despite the growing interest in the concept of knowledge management, there is no specific definition for it and it is described as those processes that help institutions to generate knowledge, choose, organize, use, and disseminate knowledge, and finally transfer important information and experiences

* Corresponding author.
E-mail address: Khaled_amayreh@inu.edu.jo (K. T. Amayreh)

that the organization possesses which are necessary for various administrative activities such as decision-making, problem solutions, learning, and strategic planning. It is this process through which institutions create value from their intellectual knowledge-based elements in order to arrive at best practices.

2. Literature Review

2.1 Knowledge Management

Knowledge management – known as KM – was defined by Todorović et al. (2015) as a set of processes that take place within the organization, which help to find knowledge, generate, use, and organize knowledge, and then the ability to spread it, use it in various administrative activities, make decisions, and solve problems, also known as: awareness of the culture of the organization, and the ability to gain, And sharing collective experience, in order to achieve the organization's goals and mission, and knowledge management refers to the set of efforts that are being made to accomplish jobs and successive steps in one department, or several departments and units; and to achieve long-term competitiveness. Davenport (2015) added that KM focuses on creating an appropriate cultural environment for the organization that contributes to facilitating knowledge acquisition, transmission, and sharing, and it also focuses on the effectiveness of leadership, which is a systematic management whose function is to manage the assets of knowledge in the organization in order to create value and achieve strategic goals, where it supports Knowledge management through the processes and strategies they contain, as well as the storage, evaluation and sharing of knowledge. Nonaka and Toyama (2015) on the other hand defined KM as a set of strategies used within organizations and companies to enhance results and in a society where knowledge is widely recognized and pursued, especially by workers who want to shine and excel, it is practically impossible to try to make improvements to a business without thinking about acquiring specific knowledge. Obeidat et al. (2016) noted to the differences between knowledge, information and data in reference to their meaning and type of outputs that it presents. Dalkir (2017) argued that three concepts differ: knowledge, information, and data are different from each other, where each of them forms an independent concept, and a delicate relationship is formed between them, as the data represents the lowest level, then the information follows at the second level, and knowledge comes at the highest levels, and these concepts are differentiated by several forms, as follows:

Knowledge: it represents a set of experiences, values, visions, meaningful information, and enthusiasm, whereby knowledge provides a framework through which the evaluation, merging of experiences and new information process takes place. It is worth noting that individuals possess knowledge that is the product of their experiences, and it includes the criteria by which individuals evaluate Entries surrounding them, and knowledge in organizations bypasses documents and documents, and they become embedded even in organizational routines, rules, and dealings.

Data: is defined as the facts, and the unorganized numbers that represent a specific thing, as these statements do not provide any additional information, and have little effect on the manager.

Information: is the data that has been classified, calculated, intensified, and placed in context. It is data with a specific goal, where this information is answers to questions that start with a question, such as: who, what, where, when, and the data is converted into information via information technologies in Large companies that produce a large amount of data through departments, and multiple jobs. Within the environment of organizations, García-Holgado et al. (2015) refers to the concept of organizational knowledge management which is an approach that aims at refining and polishing the nature of organizational knowledge, and in order to conduct organizational knowledge management it is necessary to apply various techniques and strategies, among them, it was mentioned that creating clear and effective communication channels, decentralizing processes and generating ideas, providing solutions and stimulating individual improvement and development. When gathering between KM and organizational culture; there appeared the so called organizational knowledge. On that idea, Dalkir (2017) argued that organizational knowledge is more comprehensive than individual knowledge because it is the sum of the skills and capabilities of individuals in all activities, whether it is knowledge, external or implicit. Organizational knowledge can be defined as all forms of knowledge that organizations deal with and that result from the interaction of their elements and their own movement in their conduct of the tasks assigned to them and in their dealings With the elements of the environment surrounding the organization, organizational knowledge consists of all experiences, experiences, trends, information, studies, decisions, policies and strategies that are the intellectual base that directs and organizes directly and indirectly human activities and behaviors in the organization. Chang and Lin (2015) also added that the real merger between organizational culture and knowledge management requires adopting new methods and formulating principles and work systems that keep pace with the changes that are sweeping the world today. Good governance in the knowledge economy is characterized by the ability to explode the energies of creativity, innovation and enthusiasm among the people on whom the organization depends, and this ability represents the essence of developing and managing human factor also involves standards that can be used to measure and manage human capital (de HolandaRabelo et al., 2015). Donate and de Pablo (2015) and Abu-Naser et al. (2015) argued that planning is not about predicting the future or controlling that future, as much as dealing with what will happen in the future. Therefore, in order to be able to deal accurately with future developments, organizations will succeed and contribute to improving the level of institutional performance supported by wise leaders, but if it fails to deal undoubtedly the results will be highly effective. Therefore, planning requires among the most important of knowledge management methods as one of the most important scenes of modern developments, and achieving this without a doubt is a very important goal, because

of their importance in ensuring the proper performance of institutional systems that include in addition to supporting "leadership", there is an infrastructure in the sense of organizational culture and technical tools, and measuring and evaluating all that is necessary to support the application of knowledge management programs and processes (Imran et al., 2016). Processes in KM framework is where new work practices are developed in processes to achieve and increase the interconnection between individuals working in one team, develop programs that deal with knowledge sharing, monitor the implementation of these programs, measure knowledge results, reduce cost, and increase speed in response, in addition to defining tasks, The roles of group or individual engagements in knowledge management (Liebowitz & Frank, 2016). Chang and Lin (2015) added that organizational processes include organizing knowledge, from designing and describing available knowledge and retrieving it, in order to share it and exchange it between individuals inside and outside the institutional framework. By using systems and programs such as "technology" techniques, data mining, data warehousing, knowledge mapping, intranet, electronic libraries, Dialogue, Communities Of Practices, etc., would help in laying the foundations of organizational culture, which enables the leadership of the institution to manage information and knowledge and generate new knowledge that affects performance behaviors to achieve competition and excellence. Strategies is the approach that is taken in order to achieve the organization's mission and goals, by confronting and exploiting the external opportunities available and the internal analysis of the project in terms of strengths and weaknesses. According to de HolandaRabelo et al. (2015), strategy in knowledge management is seen according to the tacit knowledge, or the phenomenon. Tang (2017) noted that an electronic system through which knowledge, storage, and capacity to reuse and benefit from it can be stored, organized, and deployed. The strategy creates knowledge management programs and creates policies that enable the sustainability of intellectual capital.

Ngah et al. (2016); Dalkir (2017); and Heisig et al. (2016) noted that KM processes are found within the following schemes:

- The diagnosis of knowledge, knowledge is defined within and outside the organization, its location is determined, and then the knowledge gaps are identified through the use of the knowledge map.
- Goals are set that are clear, and that aim to improve processes, and the ability to compete short and long-term, and enables the organization to be able to innovate, reach success, and achieve customer satisfaction.
- Knowledge is generated through its acquisition and access to it from external knowledge; such as obtaining a patent, attracting workers to the organization, or through the learning process and working groups
- Knowledge is stored in the minds of staff working in the organization, or in documents, reports, and databases. It is the process in which the appropriate knowledge is transferred in the required time at the required time through information technology and the Internet. Application of knowledge: in which individuals are supported; to apply knowledge using assistive technology, such as: decision support systems.

According to Massaro et al. (2015), KM aims at capturing knowledge from its sources, storing and reusing it, while Todorović et al. (2015) saw that KM aims at attracting greater intellectual capital to develop solutions to the problems facing the organization. Naser et al. (2016) noted that KM helps in creating an organizational environment that encourages everyone in the organization to share knowledge to raise the level of others' knowledge, as for Abu Naser et al. (2016) KM is a basic requirement for determining the essential knowledge and how to obtain and protect it.

Reuse and maximize knowledge: Dayan et al. (2017) stated that KM has the ability to building learning capabilities, spreading a culture of knowledge, and motivating it to develop and compete through human intelligence and insuring the effectiveness of the institution and converting the tacit knowledge into a visible knowledge and maximizing returns from intellectual property through the use of inventions and the knowledge it possesses and trading in innovations.

Organizational Excellence

The concept of excellence within organizational performance – as explained by Brown (2017) – refers to the ability of an organization to achieve unprecedented results that it surpasses by relying on clarity of vision and setting goals and proper planning and continuous evaluation, not to mention the role of commitment to this concept will lead to the success of the organization in more than once field including individuals and relationships with competitors.

ForWagner and Patzak (2020), organizational excellence refers to the set of knowledge, skills and abilities that the distinguished performers possess, and Ab Hamid (2015) defined the concept as the organizations' ability to perform a set of tasks under changing environmental conditions, Naser et al. (2016) added that performance excellence should accomplish the right goals in the right way. One of performance excellence drivers is the influence of KM on human resource practices in managing employees and their performance as according to Adeli and Askari (2013). In that sense, Adeli and Askari (2013) argued that human factor is an important component of knowledge management, and it is the main component of knowledge management, and it is not possible to work without it, as individuals are the basis through which the organization is transferred to organizational knowledge rather than individual knowledge. It is worth noting that the human component in the organization includes individuals of systems information, knowledge management, development, and research, knowing that individuals manage knowledge through the process of assessing inputs in terms of acceptance and rejection, converting them into knowledge, organizing, storing, linking and preserving them in technical systems (Shamia et al., 2018). Calvo-Mora et al. (2016) stated that distinguished organizations are those that seek to achieve the current needs and future expectations of all clients and

stakeholders of the organization through the type and how the services provided in addition to the imperatives of continuity of excellence, and this requires continuous efforts by the organizations themselves. Evans (2015) refers to main drivers of performance excellence which were summarized as in the following:

Working towards results: This means working hard to achieve all the results that relate to the interest of all clients concerned by responding immediately to the requirements of all beneficiaries in addition to the organization's need to measure and identify the current needs and future expectations of these beneficiaries.This requires the organization to review its policies and strategies, employ its past experiences with clients and set future goals for the short, medium and long term.

Customer Focus: By gaining complete and complete satisfaction of all clients together by achieving real value for them on an ongoing basis, on the basis that the last decision of the customer depends on his opinion of the service or commodity in terms of quality and this requires all organizations to move from focusing on service providers to the service recipient and work to identify On their current and future needs. It also requires the organization to stand up to its performance, identify work obstacles, perform it, define it, and diagnose the error in order to build a distinguished relationship with all clients.

Constancy of Purpose and Leadership: This driver refers in the ability of leadership to determine the direction of the organization towards achieving its vision and mission and its ability to motivate and mobilize workers around it in order to reach that vision and mission, and from this it was conclude that distinguished organizations have leaders who have a steadfast stance in achieving the set strategic goals. Technological vigilance is a state of monitoring and analysis of the scientific, technical and technological environment in which the organization operates, which is able to obtain the necessary information to anticipate risks and deal with them (Stearman & Durso, 2016). Lebert (2018) defined technological vigilance is the efforts made by the organization in following up technological and technological developments related to technological, applied and innovative research, including services, method of delivery, manufacturing, production, equipment and various programs in which competing organizations operate and achieve high profitability. According to Day and Schoemaker (2016), technologically vigilant organization is the organization that tracks its environment and environment in terms of scientific and technological developments adopted by competing organizations within the market and the external environment, and therefore is fully aware of all modern technological methods adopted by competitors in order to develop their productive, manufacturing and marketing activities and Promotional, in addition to the methods they use to introduce technology within the daily business related to their activities such as the Internet, social media and many other technological methods.

On the other hand, technological vigilance is one of the methods that cannot be dispensed with, especially with the information revolution that the world is witnessing today. Technological awakening has become one of the most important strategies that the organization must enjoy in order to be on the same path as other competing organizations and thus avoid being backward. From its counterparts from organizations in terms of production, manufacturing, marketing, management, and many other technologies related organizational processes (Tarafdar et al., 2015).

3. Aim and Hypotheses

In a study by Arumugam and Rouhollah (2011), it was revealed that aspects of knowledge management play a role in delivering the organization to excellence through influencing its internal factors including culture, processes and leadership. Arumugam and Rouhollah (2011) indicated that those aspects – with increased technological vigilance – can operate together in order to reach a state of full support to performance and reaching the state of excellence.
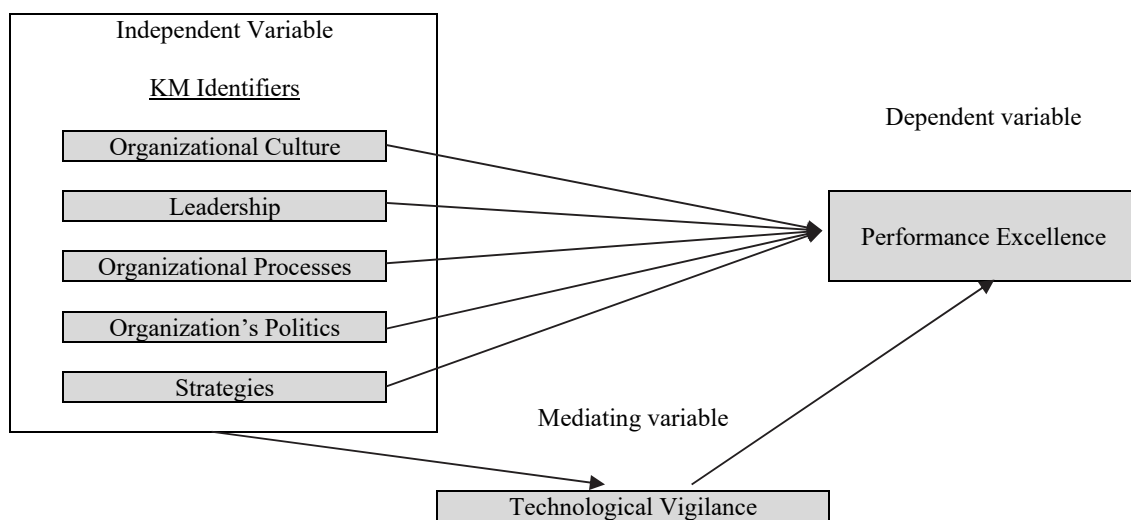

Fig. 1. Study Model adapted from Chang and Lin (2015) and Arumugam and Rouhollah (2011)

Chang and Lin (2015) supported the same idea, they argued that leadership, internal processes and technology awareness can help the organization increase its ability to reach excellence through influencing the state-of-the-art performance among its employees and as a result present better performance and loser outcomes to excellence. Pathak and Agrawal (2019) stated that having a well-structured knowledge management within the organization can open the horizon for more systematic approaches to achieving mission and vision in addition to preserving high level of performance management that enables the organization to accomplish excellence. Islam et al. (2017) argued that knowledge management along with its model play a role in defining the concept of business strategies through knowledge management strategies which influence organizational performance which takes place through adopting values of knowledge management. Based on above argument, current study aims at examining the influence of KM identifiers in driving performance excellence through KM identifiers' influence of technological vigilance. Relationship between variables was resembled in Fig. 1.

4. Methods

In achieving aim of study; researcher depended on the quantitative approach through utilizing a questionnaire distributed on (270) individuals within pharmaceutical sector organizations in Jordan. Population of study consisted of employees within (49) operating pharmaceutical organization within the Jordanian chamber of manufacturing. Original population consisted of all CEO's, GMs and leaders within the organization which calculated total of (350) individuals. After application, it was revealed that response rate was 77.1% which was statistically accepted. Through Cronbach's alpha; the reliability test resulted in a value of (0.905) for all the items within the study, the alpha however resulted greater than 0.60% which indicated the tool consistency that enhanced its use in the study.

5. Results

We first present personal characteristics of the participants in our survey in Fig. 2 as follows,
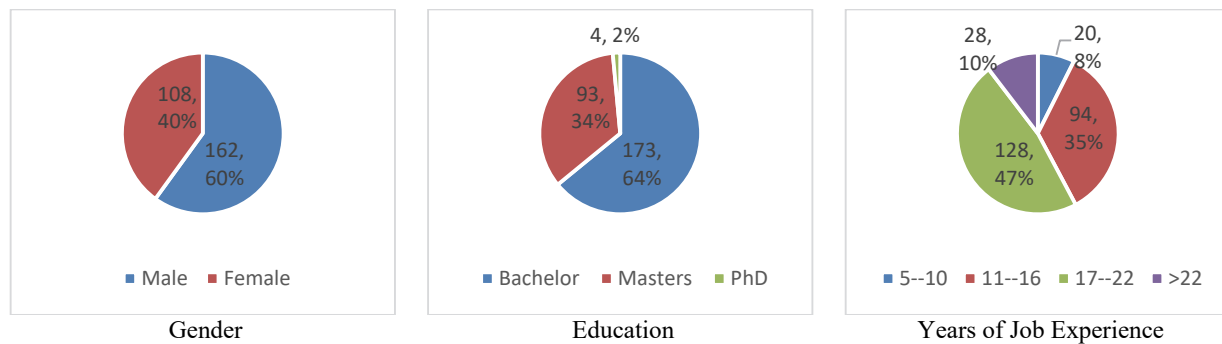

Fig. 2. Personal characteristics of the participants

In terms of gender, it was revealed that majority of sample individuals responded to questionnaire were males forming 60% of total sample compared to females who formed 40% of the total sample. In addition, it can be seen through analysis that majority of sample held BA degree forming 64.1% of total sample, while MA holders and PhD holders formed 34.4% and 1.5% of total sample respectively. It was seen that individuals who had an experience of 17-22 years formed majority of sample 47.4% which indicated that KM was applied within Islamic banks in Jordan with the early dawn of its application as the had the awareness of such concept and approach, it was followed by individuals who had an experience of 11-16 years old 34.8% and +23 years of experience 10.4%. In our survey, all statements of questionnaire scored higher than mean of scale 3.00, and statistically this can be seen as a positive indication to the statements; referring to the attitude of respondents towards presented statements on each segment of questionnaire. Same results also appeared in Table 1, when model's variables were analyzed, and it was seen that each and every variable scored higher than mean of scale 3.00 and indicating a positive attitude from respondents towards aforementioned variables. Details are presented in Appendix.

Table 1
Descriptive Statistics of Variables

	N	Minimum	Maximum	Mean	Std. Deviation
Organizational Culture	270	2.40	5.00	4.2541	.45712
Leadership	270	3.00	5.00	4.4696	.34647
Organizational Processes	270	2.60	5.00	4.3444	.42665
Organization's Politics	270	2.00	5.00	4.3237	.38517
Strategies	270	2.60	5.00	4.3267	.35231
Performance Excellence	270	2.29	5.00	4.3444	.32185
Technological Vigilance	270	2.83	5.00	4.4698	.30724
Valid N (listwise)	270				

5.1 Hypothesis testing: Technological Vigilance mediates the relationship between knowledge management and delivering the organization to the state of performance excellence

To examine the hypothesis, we have used Path analysis using IBM SPSS Amos 21.0 program. Table 2 presents the summary of the statistical tests.

Table 2
The summary of the Path Analysis

Chi^2	df	p- value	GFI	CFI	RAMSEA
5.17	13	0.42	0.992≥0.90	0.989≥0.90	0.06≤0.08

In order to test the structural model, the value of Chi-Square is 5.17 which is not significant at 0.05. However, other indicators such as GFI, CFI and RMSEA yield meaningful values, which means the structural model is fit. Table 3 shows the summary of the testing the hypotheses and we can conclude that the study hypothesis was supported:

Table 3
The results of the implementation of Amos

			Estimate	S.E.	C.R.	P**
Performance Excellence	←	F1	.733	.071	10.394	***
Technological Vigilance	←	F1	.631	.067	9.410	***
Technological Vigilance	←	Performance Excellence	.251	.053	4.733	***

- F1:KM. Variable
- ** Significant at 0.05 level

Table 3
Estimates for direct and indirect impact

Standardized Direct Effects	P	Standardized Indirect Effects	Standardized Total Effects
KM. → Technological Vigilance	0.000**		0.577
Technological Vigilance → Performance Excellence	0.000**		0.24
KM. → Performance Excellence	0.000**	0.138	0.641

** Significant at 0.05 level

Table 3 shows that C.R. Values are significant at level 0.05; which means:

- There is a significant relationship between KM dimensions and Technological Vigilance.
- There is a significant relationship between KM dimensions and Technological Vigilance.
- There is a significant relationship between Technological Vigilance and Technological Vigilance.

Also, it was found that Standardized Indirect Effect of Technological Vigilance was significant at level 0.05; that means Technological Vigilance mediates the relationship between knowledge management and Delivering the Organization to the state of Performance Excellence, as shown in the following chart:
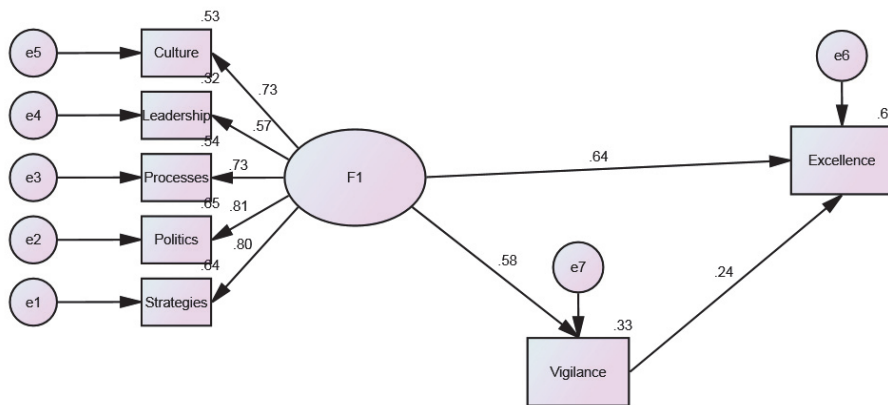

Fig. 3. Path Analysis

6. Discussion

The present study aimed at examining the influence of KM identifiers in delivering the organization to excellence through its effect on technological vigilance. Looking through previous analysis, it can be argued that study hypothesis was accepted as

KM identifiers – through its influence on technological vigilance – have the ability to deliver the organization to the state of excellence.

The relationship between variables was connected through the chosen KM identifiers, it can be argued that variables of Organizational Culture, Leadership, Organizational Processes, Organization's Politics, and Strategies are items that support organizational excellence and at the same time help in building more coherent technological vigilance. Also, from analysis, it was seen that the most influential variable that shapes the relationship between study variables was leadership scoring a mean of 4.4696 and indicating itself as the most powerful variables that has the ability to influence performance excellence through its influence on technological vigilance.

The influence of leadership was seen to be important not only in current study, but also in many previous studies like Donate and de Pablo (2015) who saw in leadership as a motivator for more coherent KM within organization and at the same time a provocative agent in increasing level of technological vigilance, and Shamim et al.(2019) who argued that knowledge management is built around generating an organizational environment that leads to knowledge generation and sharing within the organization. This is one of the major contributions of effective leadership. Leadership is the process of influencing and driving individuals in order to achieve the desired goals.

Over the past years, multiple theories have been developed by management researchers about leadership. While Tretiakov et al. (2017) saw the relationship between KM and leadership as the driver to excellent performance stating that if both the leader and the users share the same values, and they dissolve these values, the bond between the leader and the users will be strong. In such a case, individuals will communicate with each other freely in order to transfer the knowledge they possess. Leadership in a knowledge-driven organization must be a core issue, not a style.

Also, current study supported leadership in reaching excellence and at the same time support all technological vigilance trials launching from the fact that the importance of leadership appears in the idea that knowledge is a human function, so smart leadership requires focusing on the ways in which knowledge is used, identifying mechanisms that help in expressing it and motivating towards participation in it, and deepening its transfer process and for its application through training the second row of leaders Admin, encouraging the flow of information movement to generate knowledge in a stimulating atmosphere that contributes to changing organizational behavior, in a manner that promotes a culture of cooperation, trust and responsibility. Current study also saw that leadership plays a prominent role in modernizing the organizational culture as it is guiding them to understand the challenges facing business, training them to take entrepreneurial behavior at work, enhancing confidence in them, and spreading the organizational culture that allows work even if they make mistakes, learn from their mistakes, build standards of decision-making and participate in future visions.

In the 2nd rank, and scoring a mean of 4.3444; there appeared the variable of organizational processes which proved its efficiency to increase organizational chance in reaching excellence along with technological vigilance. This relationship was framed through identifying how supportive internal processes of the organization in managing knowledge and at the same time tackle technology that is used from the first place to manage knowledge. Results also supported the fact that knowledge management plays a vital role in building organizations as they greatly affect internal and organizational performance in various dimensions such as individuals, processes and products "outputs", in addition to the overall performance of organizations, and the role of internal processes comes in the ways that the organization provides in order to build a knowledge circle Powerful technology based on awareness and alertness, and this is proven by the study and confirmed by Chang and Lin (2015) and Jennex (2015).

Generally speaking, and given that KM proved its influence on reaching organizational excellence; it can be said that KM is a great opportunity for organizations to reduce costs and raise their internal assets to generate new revenue. This result matched what Naser et al. (2016) argued that it is an integrative systematic process to coordinate the organization's activities towards achieving its goals. KM is a tool for effective institutions to invest its intellectual capital, by making access to the knowledge generated by it for other people in need as easy and feasible, in addition to that, it provides the opportunity to obtain a permanent competitive advantage for organizations, through its contribution to enable the institution to adopt more creativity represented in offering new goods and services. Knowledge has contributed to the transformation of institutions into knowledge societies that bring about a fundamental change in the organization, to adapt to the rapid change in the business environment, and to face the increasing complexity in it.KM within organizational framework proved its efficiency in supporting efforts to take advantage of all tangible and intangible assets by providing a framework for enhancing organizational knowledge. Also, it contributes to maximizing the value of knowledge itself by focusing on content which appeared to rhyme within (Calvo-Mora et al., 2015).

7. Contribution and Conclusion

The present current study has contributed in grabbing attention of managers and stakeholder towards the importance of maintaining knowledge management infrastructure in its best position, the compare and contrast of KM on OP was clarified in accordance with both previous literature and study results, this indicated the importance of KM and preserving best level of

OP through technological vigilance. In conclusion, the concept of knowledge management provides information and makes it available to all employees of the institution, and the beneficiaries from outside it, as it is based on making the most of the information available in the institution, and the individual experiences inherent in the minds of its employees. Therefore, one of the most important advantages of applying this concept is the optimal investment of intellectual capital, and turning it into a productive force that contributes to developing the performance of the individual and raising the efficiency of the institution.It is believed that the world is already dealing with knowledge industries whose ideas are its products and data its raw materials and the human mind its tool, so that knowledge has become the main component of the contemporary economic and social system. Based on that, there is no doubt that information technology plays a pivotal role in knowledge management programs through its ability to accelerate the process of production and transfer of knowledge, and knowledge management tools help in collecting and organizing knowledge of groups by making this knowledge available through participation. Current study proved that organizational shift to interest in knowledge management was not an abstract intellectual luxury, but rather came in response to several requirements and influences of the internal and external environment which is an attempt to introduce change in the direction of achieving a kind of adaptation to these environmental requirements.

8. Recommendations

Based on earlier presented results and discussion; current study recommends the following:

- Change the culture of organizations related to knowledge management and the requirements for their application and push towards knowledge openness within the organization to exchange experiences and available knowledge and participate in them and get rid of the culture of secret knowledge as an element of personal strength for workers in it.
- Encourage team members, including employees and leaders in the researched organizations, to self-develop their technological skills by motivating them to enter developmental courses that add value to their knowledge, which enhances their empowerment in work and shares knowledge among them.
- Serious endeavor to provide the requirements of applying knowledge management, and the need for organizational structures to be horizontal and flexible, and there must be conscious and eager leadership to apply knowledge management and encouraging the exchange of information, and the need for organizational culture to be conducive to the application of knowledge.

References

Ab Hamid, M. R. B. (2015). Value-based performance excellence model for higher education institutions. *Quality & Quantity, 49*(5), 1919-1944.

Abu Naser, S. S., Al Shobaki, M. J., & Abu Amuna, Y. (2016). KMM factors affecting high performance in universities' case study on Al-Quds open university in Gaza-Strip. *International Journal of Information Technology and Electrical Engineering, 5*(5), 46-54.

Abu-Naser, S., Al Shobaki, M. J., & Amuna, Y. M. A. (2016). KM factors affecting high performance in intermediate colleges and its impact on high performance-comparative study. *Computational Research Progress in Applied Science & Engineering, 2*(4), 158-167

Adeli, G., & Askari, A. H. (2013). Examining the relationship between knowledge management and human resource performance of agricultural cooperatives of east Azarbaijan province. *International Journal of Advanced Biological and Biomedical Research (IJABBR)*, *1*(10), 1253-1262.

Arumugam, V. C., & Rouhollah, M. (2011). A structural relationship between knowledge management, innovation, and performance of Iranian industries: A theoretical approach. *International Journal for Quality Research*, *5*(3), 231-235.

Brown, M. G. (2017). *Baldrige award winning quality: How to interpret the Baldrige criteria for performance excellence.* CRC Press.

Calvo-Mora, A., Navarro-García, A., & Periañez-Cristobal, R. (2015). Project to improve knowledge management and key business results through the EFQM excellence model. *International Journal of Project Management, 33*(8), 1638-1651.

Calvo-Mora, A., Navarro-García, A., Rey-Moreno, M., &Periañez-Cristobal, R. (2016). Excellence management practices, knowledge management and key business results in large organizations and SMEs: A multi-group analysis. *European Management Journal, 34*(6), 661-673.

Chang, C. L. H., & Lin, T. C. (2015). The role of organizational culture in the knowledge management process. *Journal of Knowledge Management*, *19*(3), 433-455.

Dalkir, K. (2017). *Knowledge management in theory and practice*. MIT press.

Davenport, T. H. (2015). Process management for knowledge work. In *Handbook on Business Process Management 1* (pp. 17-35). Springer, Berlin, Heidelberg.

Day, G. S., & Schoemaker, P. J. (2016). Adapting to fast-changing markets and technologies. *California Management Review, 58*(4), 59-77.

Dayan, R., Heisig, P., & Matos, F. (2017). Knowledge management as a factor for the formulation and implementation of organization strategy. *Journal of Knowledge Management, 21*(2), pp. 308-329

de HolandaRabelo, J., de Oliveira, E. C. C., dos Santos, D. V., da Silva Braga, L. C., dos Santos Souza, G., Steinmacher, I. F., & Conte, T. U. (2015, May). Knowledge Management and Organizational Culture in a Software Organization--A Case

Study.In *2015 IEEE/ACM 8th International Workshop on Cooperative and Human Aspects of Software Engineering* (pp. 89-92). IEEE.

Donate, M. J., & de Pablo, J. D. S. (2015). The role of knowledge-oriented leadership in knowledge management practices and innovation. *Journal of Business Research, 68*(2), 360-370.

Evans, J. R. (2015). Modern analytics and the future of quality and performance excellence. *Quality Management Journal, 22*(4), 6-17.

Gagnon, M. P., Payne-Gagnon, J., Fortin, J. P., Paré, G., Côté, J., &Courcy, F. (2015). A learning organization in the service of knowledge management among nurses: A case study. *International Journal of Information Management*, *35*(5), 636-642.

García-Holgado, A., García-Peñalvo, F. J., & Rodríguez-Conde, M. J. (2015, October). Definition of a technological ecosystem for scientific knowledge management in a PhD Programme.In *Proceedings of the 3rd International Conference on Technological Ecosystems for Enhancing Multiculturality* (pp. 695-700).

Girard, J., & Girard, J. (2015). Defining knowledge management: Toward an applied compendium. *Online Journal of Applied Knowledge Management*, *3*(1), 1-20.

Heisig, P., Suraj, O. A., Kianto, A., Kemboi, C., Arrau, G. P., &Easa, N. F. (2016). Knowledge management and business performance: global experts' views on future research needs. *Journal of Knowledge Management, 20*(6), 1169-1198.

Hislop, D., Bosua, R., & Helms, R. (2018). *Knowledge management in organizations: A critical introduction*. Oxford University Press.

Imran, M. K., Ilyas, M., &Aslam, U. (2016). Organizational learning through transformational leadership. *The learning organization*.

Islam, O. S., Ashi, M., Reda, F. M., & Zafar, A. (2017). Strategic knowledge management as a driver for organizational excellence: A case study of Saudi Airlines. *International Journal of Modern Education & Computer Science*, *9*(7).

Jennex, M. E. (2015). *Knowledge management*. Wiley Encyclopedia of Management, 1-6.

Lebert, J. (2018). *Information and communication technologies and human rights advocacy: the case of amnesty international*. In Civil Society in the Information Age (pp. 19-36). Routledge.

Liebowitz, J., & Frank, M. (Eds.). (2016). *Knowledge management and e-learning*. CRC press.

Martín-de Castro, G. (2015). Knowledge management and innovation in knowledge-based and high-tech industrial markets: The role of openness and absorptive capacity. *Industrial Marketing Management*, *47*, 143-146.

Massaro, M., Dumay, J., & Garlatti, A. (2015). Public sector knowledge management: a structured literature review. *Journal of Knowledge Management*, *19*(3), 530-558

Milton, N., &Lambe, P. (2019). *The knowledge manager's handbook: a step-by-step guide to embedding effective knowledge management in your organization*. Kogan Page Publishers.

Naser, S. S. A., Al Shobaki, M. J., & Amuna, Y. M. A. (2016). Knowledge Management Maturity in Universities and its Impact on Performance Excellence "Comparative study". *Journal of Scientific and Engineering Research, 3*(4), 4-14.

Naser, S. S. A., Al Shobaki, M. J., & Amuna, Y. M. A. (2016). Measuring knowledge management maturity at HEI to enhance performance-an empirical study at Al-Azhar University in Palestine. *International Journal of Commerce and Management Research, 2*(5), 55-62.

Ngah, R., Tai, T., &Bontis, N. (2016). Knowledge management capabilities and organizational performance in roads and transport authority of Dubai: The mediating role of learning organization. *Knowledge and Process Management*, *23*(3), 184-193.

Nonaka, I., & Toyama, R. (2015). The knowledge-creating theory revisited: knowledge creation as a synthesizing process. In *The essentials of knowledge management* (pp. 95-110). Palgrave Macmillan, London.

Obeidat, B. Y., Al-Suradi, M. M., &Tarhini, A. (2016). The impact of knowledge management on innovation. *Management Research Review*, *39*(10), 1214-1238.

Pathak, S., & Agrawal, R. (2019). Design of Knowledge Based Analytical Model for Organizational Excellence. *International Journal of Knowledge-Based Organizations (IJKBO)*, *9*(1), 12-25.

Pathirage, C., Haigh, R., Amaratunga, D., &Baldry, D. (2008). Knowledge management practices in facilities organizations: a case study. *Journal of Facilities Management*, *6*(1), 5-22.

Shamia, M. J., Al Shobaki, M. J., Abu-Naser, S. S., &Amuna, Y. M. A. (2018). Using the Asian Knowledge Model "APO" as a Determinant for Performance Excellence in Universities-Empirical Study at Al-Azhar University-Gaza.

Shamim, S., Cang, S., & Yu, H. (2019). Impact of knowledge oriented leadership on knowledge management behaviour through employee work attitudes. *The International Journal of Human Resource Management, 30*(16), 2387-2417.

Stearman, E. J., & Durso, F. T. (2016). Vigilance in a dynamic environment. *Journal of experimental psychology: applied, 22*(1), 107.

Tang, H. (2017). Effects of leadership behavior on knowledge management and organization innovation in medicine and health sciences. *Eurasia Journal of Mathematics, Science and Technology Education*, *13*(8), 5425-5433.

Tarafdar, M., DArcy, J., Turel, O., & Gupta, A. (2015). The dark side of information technology. *MIT Sloan Management Review, 56*(2), 61.

Todorović, M. L., Petrović, D. Č., Mihić, M. M., Obradović, V. L., &Bushuyev, S. D. (2015). Project success analysis framework: A knowledge-based approach in project management. *International Journal of Project Management, 33*(4), 772-783.

Tretiakov, A., Whiddett, D., & Hunter, I. (2017). Knowledge management systems success in healthcare: Leadership matters. *International Journal of Medical Informatics, 97*, 331-340.

Wagner, K. W., &Patzak, G. (2020). *Performance Excellence-Der PraxisleitfadenzumeffektivenProzessmanagement*. Carl HanserVerlag GmbH Co KG.

Appendix A

Table A.1

Descriptive statistics of questionnaire statements

	N	min	max	Mean	Std. Dev.
KM Identifiers					
Organizational Culture					
Environment of the organization supports sharing knowledge	270	3	5	4.44	.526
The organization cares excessively about knowledge and its implications	270	3	5	4.31	.501
The culture of the organization promotes practices of adapting to knowledge management	270	2	5	4.23	.727
The culture of the organization contributes to raising the level of employees' beliefs in the success of knowledge management efforts	270	2	5	4.09	.833
The culture of the organization supports the processes of transferring and transferring knowledge within the organization	270	1	5	4.20	.755
Leadership					
Leadership is an art and mixture of skills capable of mixing balance and flexibility together to achieve knowledge management.	270	3	5	4.40	.521
They are active leadership roles focusing on managing knowledge in a practical way, setting emergency plans and alternatives, and preparing to activate them when facing obstacles and difficulties.	270	3	5	4.47	.529
Effective leadership uses knowledge management to make assumptions, encourage participation, establish a vision, and develop performance systems and link improvement with results.	270	3	5	4.60	.534
Effective leadership and knowledge management are a fundamental combination that aims to reach the organization for transcendence and elevation.	270	2	5	4.45	.561
Transformational leadership is the most appropriate to practice knowledge management tasks	270	1	5	4.42	.584
Organizational Processes					
The organization's internal processes facilitate the exchange of information on the completion of its operations	270	2	5	4.36	.533
The internal operations provide clear guidance regarding the completion of its operations	270	2	5	4.26	.595
Internal processes are supportive to share knowledge	270	1	5	4.39	.747
Internal processes focuses on credibility of knowledge	270	2	5	4.27	.760
The organization adopts a culture of knowledge acquisition and application by achieving continuous improvement in operations	270	2	5	4.44	.574
Organization's Politics					
The organization supports a policy of mutual influence between the administration and the employee	270	2	5	4.21	.573
The organization supports a policy of active participation among workers	270	2	5	4.37	.612
Internal policies are supportive to share knowledge	270	2	5	4.34	.674
Internal policies focuses on credibility of knowledge	270	2	5	4.41	.601
Organizational adopts policies of knowledge management and sharing with its competitors	270	2	5	4.30	.587
Strategies					
Organizational strategies put in mind knowledge and its management	270	2	5	4.26	.560
There is always an approach to acquire new knowledge within strategic plans	270	2	5	4.32	.521
The organization put a risk strategy for knowledge acquiring	270	2	5	4.25	.520
Any organization can start implementing the knowledge management initiative by setting a special strategy for that after defining the knowledge gap in the organization and defining needs and goals	270	2	5	4.46	.643
It is essential that organizations actively use knowledge management strategies to be able to increase their production and competitiveness	270	2	5	4.34	.592
Performance Excellence					
Knowledge management provides the different information needed to get the job done	270	3	5	4.40	.527
Knowledge management facilitates rapid responses to variables that occur within the work environment	270	2	5	4.20	.686
Knowledge management contributes to increased coordination and integration of different processes and divisions	270	1	5	4.30	.681
Knowledge management facilitates internal procedures to satisfy customers	270	1	5	4.35	.583
Knowledge management pays employees to develop their skills and capabilities	270	1	5	4.33	.571
The knowledge tool contributes to acquiring new knowledge and skills	270	3	5	4.40	.505
Knowledge management within the organization promotes a culture of learning	270	3	5	4.44	.554
Technical Vigilance					
Being vigilant means to be informed with the latest environmental updates	270	2	5	4.56	.560
In order to gain better competitive advantage; and organization has to be technological vigilant	270	3	5	4.45	.527
Technology infrastructure is supportive to knowledge management within the organization	270	3	5	4.46	.521
All employees are committed to share, store and acquire knowledge within internal systems	270	3	5	4.52	.529
IT department is always ready to solve tech problems	270	2	5	4.44	.554
Tech equipment are always up to date with recent applications of KM	270	3	5	4.40	.547
Valid N (listwise)	270				