International Journal of Engineering & Technology, 7 (3.13) (2018) 188-192

International Journal of Engineering & Technology

Website: www.sciencepubco.com/index.php/IJET

Research paper



Critical Success Factors (CSFs) needed to Build Faculty Knowledge Sharing Systems Concentrating in Universities the Middle East

Dr. Ashraf Badawood ،Dr. Hamad AlBadri

[1]*College of Business, MIS, University of Jeddah, Jeddah, Kingdom of Saudi Arabia*
Emails: ambadawood@uj.edu.sa ,halbadri@uj.edu.sa

Abstract

The objective of this study is to assess the critical success factors needed to build faculty knowledge management systems with students by using phone texting platform. This study particularly investigates the efficacy of using phone texting platforms as primary knowledge sharing system in universities in the Middle East. Consistent with results collected and previous research, it was shown that knowledge sharing is plagued by various barriers while implementation of phone texting platforms was viable but also impaired. To ameliorate this, changes in cultural, leadership and control attitudes ought to be undertaken to ensure knowledge sharing technologies are integrated in culture as well as in the universities. Revision of government policy is also important in order to foster implementation of knowledge management systems in universities and they can also help in availing the capital outlays required for infrastructure. Furthermore, collaboration with western universities who have already impended phone texting platforms as knowledge sharing systems is also essential. Finally, training of faculty members on how to use and integrate knowledge sharing technology especially phone texting platform will help in augmenting their skills in this facet of knowledge management

Keywords: *Knowledge management, tacit knowledge, phone texting platform, knowledge sharing, Middle East*

1.Introduction

The concept of knowledge management (KM) has been extensively used in institutions over the years. As defined by Liebowitz & Frank, (2016), knowledge management refers to an interdisciplinary approach employed in order to achieve an organization's goals by facilitating efficient utilization of knowledge. Wang et al., (2014) assert that the concept refers to practices of knowledge creation, sharing, utilization and storage undertaken by organizations to facilitate information flow in an organization. In all organizations that knowledge sharing is used, it primary focus is directed at; enhancing continuous improvement at the institution, integration, sharing from learnt lessons, enhancing innovation, gaining competitive advantage, and improving performance (Donate & de Pablo, 2015).

Essentially, knowledge management helps empowering organizational learning. In recent years, the KM has found applications in educational institutions especially universities and colleges. Naser et al., (2016) posit that, universities have extensively used knowledge management in order to build human capital through knowledge sharing activities such as research and development and training. For instance, Chen et al., (2016) note that extensive knowledge sharing and management in universities have become essential aspects in the sprouting and progress of technological hubs such as; Shenzhen Hi-Tech Industrial Park, Silicon Wadi, Hsinchu Science Park and Silicon valley. However, in universities in the Middle East, Kamasak & Bulutlar, (2010) note that lack of sharing knowledge is rife and has led to poor utilization of cognitive resources leading to limited realization of such establishments.

The interest in knowledge sharing in universities has increased due to the advent of technological innovations and the internet (Li et al., 2014). Additionally, this concept has been boosted by other drivers such as; intra-organizational drivers, human resource drivers, economic drivers, process drivers and knowledge-based drivers. However, Fullwood et al., (2017) note that technological drivers have been the primary underpinning factors in KM and sharing especially, the advent of social media, emails, search engines like Google and other fast file sharing platforms. In universities, students have been shown to use phone texting platforms which also have file sharing capabilities as a method of knowledge sharing. This phenomenon has coincided with the search for ways of improving electronic communication between administrators, staffers and students.

2. Research Problem

Knowledge management has become a significant aspect of enhancing competitive environments and elevating the organizational success (Usman & Oyefolahan, 2014).Once knowledge has been generated, it is essential that it is widely used through efficient and effective distribution. In Universities, this is carried out to ensure students attain higher academic excellence; through knowledge sharing, the students can pursue innovation, research and development. While there are many established platforms for knowledge sharing, institutions contend with challenges of how to effectively carry out knowledge sharing and management with the dynamic popularity of different platforms. Additionally, effective

Copyright © 2018 Authors. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

sharing of knowledge has been curtailed by a lack of an out and out knowledge sharing method to facilitate knowledge management (Chong & Besharati, 2014). Thus, many faculty members, administrators and staffers are searching for ways to improve how they communicate electronically with students for enhancing knowledge sharing. Some academics argue that universities should be active on whatever platform students regularly use, whether it is email, Facebook or text messaging. Others argue that universities should require students to use email, as it will likely be one of their main forms of communication once they enter the workforce; however, there is a growing feeling that universities should consider phone texting. This protracted problem of knowledge sharing is deeply rooted in the Middle Eastern universities. Thus, this study aims to evaluate the Critical Success Factors (CSFs) of faculty knowledge management systems with students by using phone texting platform.

To help address this problem, the following specific research questions will be used;

What information and knowledge resources are students sharing?

What problems are currently encountered by academics during knowledge sharing in Middle Eastern universities?

What contemporary facilities are available to promote information and knowledge sharing in Middle Eastern universities?

What are the benefits for adoption of knowledge sharing in Middle Eastern universities?

What are the student preferences in regards to systems for information sharing?

3. Significance of the Study

The demand for highly qualified human resource across different organizations in the Middle East is high (Shaw, 2015). This demand puts strain on universities which are predominantly involved in endowing their students with knowledge and skills that enable them to enter the workforce. To augment this process, effective knowledge sharing and management is important. Unfortunately, in the Middle East, knowledge sharing especially in higher education institutions if comparatively low Seba et al., (2012) due to lack of dedicated knowledge sharing platforms.

Hence, the significance of this study is to outline that using phone texting platforms has high efficacies in faculty-student knowledge sharing activities in the Middle East. This study will also help to influence the opinions of students, staffers, administrators and policy makers in universities concerning the use of phone texting platform as method of knowledge sharing. Furthermore, the research will fill research gaps related to the use of electronic knowledge sharing systems in universities and the challenges involved in implementation of knowledge sharing in the Middle Eastern universities. Lastly, the study will help to outline how mobile technology can be integrated into universities to facilitate knowledge creation, acquisition and sharing.

4. Limitations of the Study

First, this study limited itself on knowledge management and sharing in the Middle East notwithstanding the fact that the concept is employed in many institutions across the globe. Thus the generalizability of the study's results is constrained due to the limited scope of study. Additionally, the phenomenon of using phone texting platforms in Middle Eastern universities for sharing of knowledge is quite new. Thus, acquisition of resources and data related to the subject was difficult and literature to base the study on was limited. Thus, the study had to rely on literature and resources that were similar rather than literature on the subject itself. Additionally, due to the fact that there is limited information and data to indicate how knowledge sharing has been taking place via phone texting, data collection was challenging.

5. Operational Definitions

Knowledge sharing- according to Dong et al., (2017), this comprises activities which expertise and information are shared between different people. For instance, explicit knowledge can be shared through; access, guidance, awareness and articulation.

Knowledge management- According to Levin, (2008), knowledge management is the creation, combination, securing, retrieval and distribution of knowledge. On the other hand, Cvitanovic et al., (2015) define it as the process of managing information-based knowledge resources of an institution.

Techno-centric knowledge management- according to Ennals et al., (2016) this process focuses on the use of technology underpin knowledge creation and sharing

Explicit knowledge – Becerra-Fernandez & Sabherwal, (2014) it as a type of knowledge which can be easily codified, verbalized, accessed and articulated. This knowledge is transmittable to other recipients and can be stored in various media forms.

6. Previous Studies

6.1 Knowledge Management Practices in Universities

Since the theory of organizational knowledge creation was formulated by Nonaka in 1994, knowledge management has been gradually ushered into universities. In universities, the primary source of knowledge is through human activities of; learning, innovation, teaching and research activities (Fitzgerald et al., 2016). Once the knowledge has been generated it has to be managed effectively, thus, various stakeholders in the universities are involved in knowledge management. A study conducted by Massaro et al., (2015) showed that many institutions believe that KM and sharing is a responsibility of librarians only. However, Dalkir & Beaulieu, (2017) argue that such reductionist views are oblivious to tacit knowledge and new methods of storing academic knowledge. As such, the advances made in technology have facilitated the move from using hardcopy materials as only sources of information and key methods of sharing this information especially in universities. Despite making strides in knowledge management especially the use of technology, Johnson et al., (2015) concede that most universities struggle with sharing knowledge created during administrative and academic process. To mitigate this problem, Asrar-ul-Haq & Anwar, (2016) posit that KM and sharing research conducted especially in developing nations in the Middle East and south Asian region have identified that universities are in the process of outlining and implementing methods and policies regarding the subject. These practices are aimed at promoting knowledge creation and curtail the barriers to knowledge sharing. Lastly literature from Adomßent et al., (2014) has shown that KM and sharing in developed nations is quite advanced and innovative techno-centric knowledge management systems have been developed. However, in sections of the world such as the Middle East, effective knowledge management and sharing practices are yet to be developed (Seba et al., 2012). This view is countered by Eid & Al-Jabri, (2016) who advance that technological tools such as emails, online platforms, social networks and teleconference activities have been used to transfer knowledge especially from faculties to students.

6.2 Benefits of Knowledge Sharing in Higher Learning Institutions

Knowledge sharing in higher education institutions has a positive effect on institutional success. First the use of techno-centric knowledge sharing platforms enhances the information and technological cultures of the institution. Enhancement of information culture leads to better sharing of information thus enhancing innovation, performance and research among faculty members and

students (Cheng et al., 2009). Seonghee & Boryung, (2008) has shown that knowledge sharing enhances collaboration between students and faculties thus giving a chance for enhancement of skills, performance and better chances of career advancement. Furthermore, there is increased efficiency and organizational quality; sharing of knowledge facilitates this by increasing the productivity, innovativeness of stakeholders at the learning institution. Seonghee & Boryung, (2008) advance that effective knowledge sharing between faculty members and students acts a decision support tool in academics. Institutions that have optimal knowledge sharing systems are able to realize reduced operational costs by enhancing performance (Wu et al., 2014). Furthermore, knowledge sharing helps in augmenting the learning and adaptability to new processes in an organization. Knowledge sharing also has the ability to improve communication which enhances staff participation towards achieving organizational goals. Lastly, knowledge sharing enhances information flow; Ellison et al., (2015) advance that it helps in cementing teamwork, enhancing individual knowledge, developing competence and shortening training periods.

6.3 Challenges of Implementing Knowledge Sharing

Realizing the benefits of knowledge in organizations is saddled with a range of challenges. First, Ritala et al., (2015) has noted that institutions incur more costs due to training of personnel; most of new age technological knowledge sharing systems require a great deal of resource investment in order to make personnel to be conversant with it. Furthermore, techno-centric knowledge management and sharing is hard to achieve because some systems are intricate and average students or personnel may struggle in understanding them. Chong, & Besharati, (2014) asserts that knowledge creation and acquisition form students can prove to be difficult as people value their intellectual property thus limiting the level of sharing. On the other hand, Widén-Wulff, (2014) posits that, knowledge sharing can lead to dissemination of redundant or out-dated information of the KM systems is not up to task. This negatively affects innovativeness, creativity processes and performance. On the other hand, Rego et al., (2009) observed that excessive knowledge sharing among students leads to information overload that diminishes the retentive and absorptive capacities of recipients.

7. Research Methods and Procedures

7.1 Methodology

This research utilized systematic literature review as method of gathering secondary data. Fundamentally, relevant studies and literature were employed to gather knowledge relating the use of mobile phone texting platforms, knowledge management and knowledge sharing. According to Creswell & Creswell, (2017) the method can facilitate efficient collection of data within a limited duration; it saves the time that was to be invested in collecting the data. Additionally, the method is also effective in availing numerous databases of high quality which may prove resource intensive and time consuming when conducted by the researchers themselves. The method also limits the subjectivity of the researcher and helps to limit bias in data collection. Furthermore, Matthews, & Ross, (2014) advance that, secondary data collection helps in capturing past developments where a new survey may prove unfeasible. Lastly, the method is important due to the fact that the method is cost efficient. The method also proved to be effective due to tight schedules that students and faculty members have to put up with in universities making it ineffective and cumbersome to conduct primary data collection.

7.2 Procedures

The literature search conducted was geared towards; assessing factors that influence the extent to which knowledge sharing systems were being used in the university and the level of penetration of these knowledge sharing systems. The search also probed the frequency of using mobile phones among students and faculty members as well as the level to which they use phone texting platforms. These parameters were gauged by tri-scale; low, moderate and high. Furthermore, the search highlighted the profile of university stakeholders by searching for average education status, age and gender.

To capture the secondary data, credible internet sources, official websites, reports, books and scholarly journals were analyzed. Before concluding the search, the sources were thoroughly analyzed in tandem with recommendations from Schreier (2014), who posits that sources must be subjected to an inclusion and exclusion criteria so that only relevant sources are used. Thus this study checked different and analyzed for incidences of bias or subjectivity. Additionally, the impetus towards certain studies was also analyzed to determine their relevance to the current study. Apart from this, the evaluation criteria involved determining the scope of publication, their target audience, date of publication, data collection methods, the type of research conducted, examining the authors' credentials and the general relevance to knowledge management. To ensure the relevance of the sources is high, this research put emphasis on but not limited to sources published after 2009. Lastly, this study selected well known authors on the subject of knowledge management and sharing and evaluated other sources with contents relevant knowledge management and sharing as well as phone texting platform.

Coding was essential so that the data transformed can be understood by the software in a dedicated computer in order to facilitate analysis. To improve on the reliability of data and minimize errors from the analysis, multiple coding systems were established and worked on similar data but independently. A Computer Assisted Qualitative Data Analysis Software was used to analyze the coded data. After analysis, descriptive techniques were utilized to come up with short descriptive coefficients to interpret the sets of data collected. The analysis yielded various frequencies and percentages concerning the level of penetration of knowledge sharing, frequency of using phone texting platforms and receptiveness to new knowledge sharing systems. The assessment of these results was done in relation to the gender, age, level of education and profession type held in the university. These key indicators were used to determine the efficacy of using phone texting platforms as a tool for knowledge sharing in the universities.

8. Data Analysis and Results

8.1 Factors Determining the level of use of Knowledge Sharing Systems in Universities in the Middle East

The data collected showed that there are different factors that influence the use knowledge sharing systems in the university. Sidani & Al Ariss, (2014), showed that cultural aspects of the region were negatively impacting on the receptiveness of the knowledge sharing in education. An analysis of secondary data from Seba et al., (2012) shows that there is low receptiveness to knowledge sharing resistance of Western learning cultures in the Middle East especially the use of technology. On the other hand, data from Fullan, (2014) showed that many individuals in the Middle East believe that incorporation of western styled knowledge management and sharing systems into universities was an underpinning factor to cultural erosion thus increasing resistance to many KM systems. Secondly, capital was identified as critical factor to the use of knowledge sharing technologies in

universities in the Middle East. Fundamentally, capital investment in knowledge sharing technologies such as email and computers was quite high. These results are supported by the fact that the economy of most Middle Eastern nations is high due to a thriving oil economy. Hassan et al., (2018) also shows that disposable income in the Middle East is quite high and the per capita income is also up as compared to other regions such as south Asia, South America and Africa. Data from Khan et al., (2015) showed that this high disposable income has led to acquisition of technological devices such as mobile phones that facilitate knowledge sharing through mobile learning.

A literature search from Halpern, (2015) indicated that leadership and control in the universities was also identified as a major factor for the implementation of knowledge sharing systems in the universities. This was in tandem with secondary data from Romani, (2009) that indicates that poor research and lack of development in universities has led to poor implementation of new information and communication systems in many universities. This situation has greatly curtailed implementing KM systems in the Middle East because most of them rely on information technologies. It has been shown by Altbach & Knight, (2007) that government policy was also culpable for the implementation of different knowledge sharing systems in universities in the Middle East. A study by Ahmad and Daghfous, (2010), posits that there is fragmented intergovernmental policies regarding knowledge management and sharing especially in the Middle East. Lastly, inadequacy of skills was also highlighted as key factor influencing knowledge sharing implementation. As such, Tubaishat & Lansari (2011) highlighted that lack of skills had the most serious ramification on implementation of knowledge sharing in universities.

8.2 Demographic Profile of Universities

From the literature reviewed, it is evident that males account for a higher percentage of the university population (Miller-Idriss & Hanauer, 2011). On the other hand, Roudi, (2011), show that the youth are the most populous group of the university population; this age group has been labeled by Ullah et al., (2018) as being receptive to integration of technology and the use of mobile phones. Data from Al-Adwan & Smedley, (2012) showed that faculty members comprised a small section of the university population; most of them are male and older. Thus they prefer using paper and pen as the primary knowledge management and sharing tools.

8.3 The Level of Utilization of Knowledge Sharing Systems in Universities the Middle East

Data from Kamasak and Bulutlar (2010 showed that the level of utilization is quiet low as compared to developed nations. These results are in tandem with findings made by Al-Adaileh and Al-Atawi, (2011) who posit that the use of knowledge management and sharing systems was limited in the Middle East. It was established that leadership and control in universities and poor government policies relating to the adoption of knowledge sharing systems were culpable. This low utilization is created by faculty members; Al-Adwan & Smedley, (2012) shows that group are critical facets to knowledge management and sharing but their use of knowledge systems is low. In comparison, literature searched from Mirza & Al-Abdulkareem, (2011) shows that students were active proponents for implementation of knowledge management systems. As such, this segment acknowledges that they were proponents of integrating more knowledge sharing activities in universities.

8.5 Frequency of Use of Mobile Phone Use among Students and Faculty Members

Data from Khan et al., (2015) it is apparent that most faculty members and students in Middle Eastern universities actively use mobile phones with over 85.5% using phones. Statistics obtained from data from a report by McKinsey & Company, (2016) show that middle eastern countries such as Bahrain, Qatar and United Arab Emirates have a smartphone penetration of 100% with a 3G network coverage of 97%. These parameters coupled with mobile phone use are key facilitators of knowledge sharing. This shows that implementation of knowledge sharing over this platforms is viable.

9. Conclusion and Recommendation

9.1 General Conclusion

Knowledge management and sharing is essential facet in institutional success. Thus, it is essential to construct robust platforms for sharing of knowledge such as powerful technologies like mobile phone texting. The establishment of these reliable knowledge sharing platforms will help in the creation, storage and distribution of explicit and tacit knowledge. Additionally, it helps in enhancing performance, creativity, decision making and innovativeness of university students and faculty members. In universities in the Middle East, knowledge sharing will help them enhance the skills of students and their research abilities thus producing better qualified workforce for industries. It will also underpin their fundamental functions in society which are; exchange, creation, utilization and creation of knowledge. Implementing a sustainable knowledge sharing architecture in Middle Eastern universities will offer various value–added tools that will address complex knowledge management challenges and barriers to its effective use. One of these methods that can be implemented to facilitate knowledge sharing is mobile phone texting platform.

9.2 Recommendations

This study focused on the efficacy of using phone texting platforms as a critical success factor to build KM and sharing systems concentrated in universities in the Middle East. Based on data collected and analyzed as well as the barriers related to successful implementation of phone texting platform as knowledge sharing system, the following recommendations can be made. First, government policy and regulation should target their efforts in promoting KM and KS through phone texting platforms due to the fact that it is the most effective way of information sharing. Periodic help in re-validating success made through monitoring of results and using feedback from stakeholders to formulate policy and regulation to govern the use of phone texting platforms in the university sector in the Middle East. Furthermore, the government can foster collaborative activities between western universities and local universities to facilitate skills transfer especially among faculty members in order to enhance their use of phone texting platforms as KM systems. Secondly, leadership and control in universities should focus on maximization of value of knowledge being offered by embracing phone texting platforms which are familiar technologies with most students and they can be used to index large collections of documents. Thirdly, faculty members should learn to use phone texting platforms in order to selective benefit from the platform that will enable them to create and transfer knowledge.

The performance of phone texting platform as a knowledge sharing system should also be periodically measured in universities in order to decipher its impact on knowledge creation. In order to ameliorate cultural friction, local experts in this sector should be contacted to help disseminate the knowledge on the subject and

help in creating the implementation frameworks for phone texting platforms as knowledge sharing systems. Lastly, capital outlays should be made especially from the government and universities to help in building infrastructure and implementation phone texting platforms to help in knowledge sharing. Consequently, universities in the Middle East will augment their KM practices and produce knowledgeable and more skills graduates.

References

[1] Adomßent, M., Fischer, D., Godemann, J., Herzig, C., Otte, I., Rieckmann, M., & Timm, J. (2014). Emerging areas in research on higher education for sustainable development–management education, sustainable consumption and perspectives from Central and Eastern Europe. *Journal of cleaner production*, *62*, 1-7.

[2] Ahmad, N. and Daghfous, A., 2010. Knowledge sharing through inter-organizational knowledge networks: Challenges and opportunities in the United Arab Emirates. *European Business Review*, *22*(2), 153-174

[3] Al-Adaileh, R.M. and Al-Atawi, M.S., 2011. Organizational culture impact on knowledge exchange: Saudi Telecom context. *Journal of Knowledge Management*, *15*(2), 212-230.

[4] Al-Adwan, A. and Smedley, J., 2012. Implementing e-learning in the Jordanian higher education system: Factors affecting impact. *International Journal of Education and Development using Information and Communication Technology*, *8*(1), 121.

[5] Altbach, P.G. and Knight, J., 2007. The internationalization of higher education: Motivations and realities. *Journal of studies in international education*, *11*(3-4), 290-305.

[6] Asrar-ul-Haq, M., & Anwar, S. (2016). A systematic review of knowledge management and knowledge sharing: Trends, issues, and challenges. *Cogent Business & Management*, *3*(1), 1127744.

[7] Chen, J. K., Sun, B. S., & Batchuluun, A. (2016, September). Exploring the influence factors for creation one Knowledge hub of Science Park: Comparison between Silicon Valley and Hsinchu Science Park. In *2016 Portland International Conference on Management of Engineering and Technology* (1156-1171). IEEE.

[8] Cheng, M. Y., Ho, J. S. Y., & Lau, P. M. (2009). Knowledge sharing in academic institutions: A study of multimedia university Malaysia. *Electronic Journal of Knowledge Management*, *7*(3).

[9] Chong, C. W., & Besharati, J. (2014). Challenges of knowledge sharing in the petrochemical industry. *Knowledge Management & E-Learning: An International Journal*, *6*(2), 171-187.

[10] Cvitanovic, C., Hobday, A. J., van Kerkhoff, L., Wilson, S. K., Dobbs, K., & Marshall, N. A. (2015). Improving knowledge exchange among scientists and decision-makers to facilitate the adaptive governance of marine resources: a review of knowledge and research needs. *Ocean & Coastal Management*, *112*, 25-35.

[11] Dalkir, K., & Beaulieu, M. (2017). *Knowledge management in theory and practice*. MIT press.

[12] 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.

[13] Dong, Y., Bartol, K. M., Zhang, Z. X., & Li, C. (2017). Enhancing employee creativity via individual skill development and team knowledge sharing: Influences of dual-focused transformational leadership. *Journal of Organizational Behavior*, *38*(3), 439-458.

[14] Eid, M. I., & Al-Jabri, I. M. (2016). Social networking, knowledge sharing, and student learning: The case of university students. Computers & Education, 99, 14-27.

[15] Ennals, R., Göranzon, B., Nelson, B., & Alvunger, D. (2016). Dialogue, skill and tacit knowledge: Practical knowledge and corporate social responsibility. In *Cultural Roots of Sustainable Management* (153-163). Springer International Publishing.

[16] Ellison, N. B., Gibbs, J. L., & Weber, M. S. (2015). The use of enterprise social network sites for knowledge sharing in distributed organizations: The role of organizational affordances. *American Behavioral Scientist*, *59*(1), 103-123.

[17] Fitzgerald, H. E., Bruns, K., Sonka, S. T., Furco, A., & Swanson, L. (2016). The centrality of engagement in higher education. *Journal of Higher Education Outreach and Engagement*, *20*(1), 223-244.

[18] Fullan, M. (2014). *Leading in a culture of change personal action guide and workbook*.. New York: John Wiley & Sons.

[19] Fullwood, R., Fullwood, R., Rowley, J., & Rowley, J. (2017). An investigation of factors affecting knowledge sharing amongst UK academics. *Journal of Knowledge Management*, *21*(5), 1254-1271.

[20] Halpern, M., 2015. *Politics of Social Change: In the Middle East and North Africa*. Princeton University Press.

[21] Hassan, H. A., & Thabet, H. (2018). Africa and the Middle East: Shifting Alliances and Strategic Partnerships. In *Africa and the World* (335-358). Palgrave Macmillan, Cham.

[22] Johnson, L., Adams Becker, S., Estrada, V., & Freeman, A. (2015). *The NMC Horizon Report: 2015 Higher Education Edition*. New Media Consortium. 6101 West Courtyard Drive Building One Suite 100, Austin, TX 78730.

[23] Kamasak, R. and Bulutlar, F., 2010. The influence of knowledge sharing on innovation. *European Business Review*, *22*(3), 306-317

[24] Khan, A. I., Al-Shihi, H., Al-Khanjari, Z. A., & Sarrab, M. (2015). Mobile Learning (M-Learning) adoption in the Middle East: Lessons learned from the educationally advanced countries. *Telematics and Informatics*, *32*(4), 909-920.

[25] Levin, B., 2008, May. Thinking about knowledge mobilization. In *an invitational symposium sponsored by the Canadian Council on Learning and the Social Sciences and Humanities Research Council of Canada* (15-18).

[26] Li, X., Roberts, J., Yan, Y., & Tan, H. (2014). Knowledge sharing in China–UK higher education alliances. *International Business Review*, *23*(2), 343-355.

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

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

[29] Matthews, B. and Ross, L., 2014. *Research methods*. Pearson Higher Ed.

[30] McKinsey & Company. (2016). *Digital Middle East: Transforming the region into leading digital economy.* Dubai.

[31] Miller-Idriss, C. and Hanauer, E., 2011. Transnational higher education: Offshore campuses in the Middle East. *Comparative Education*, *47*(2), 181-207.

[32] Mirza, A.A. and Al-Abdulkareem, M., 2011. Models of e-learning adopted in the Middle East. *Applied computing and informatics*, *9*(2), 83-93.

[33] 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".

[34] Ritala, P., Olander, H., Michailova, S., & Husted, K. (2015). Knowledge sharing, knowledge leaking and relative innovation performance: An empirical study. *Technovation*, *35*, 22-31.

[35] Rego, A., Pinho, I., Pedrosa, J., & Pina E. Cunha, M. (2009). Barriers and facilitators to knowledge management in university research centers: an exploratory study. *Management Research: Journal of the Iberoamerican Academy of Management*, *7*(1), 33-47.

[36] Roudi, F., 2011. Youth Population and Employment in the Middle East and North Africa: Opportunity or Challenge?. Population Reference Bureau.

[37] Seba, I., Rowley, J., & Lambert, S. (2012). Factors affecting attitudes and intentions towards knowledge sharing in the Dubai Police Force. *International Journal of Information Management*, *32*(4), 372-380.

[38] Seonghee, K., & Boryung, J. (2008). An analysis of faculty perceptions: Attitudes toward knowledge sharing and collaboration in an academic institution. *Library & Information Science Research*, *30*(4), 282-290.

[39] Shaw, R. P. (2015). *Mobilizing Human Resources in the Arab World (RLE Economy of Middle East)*. Routledge.

[40] Schreier, M., 2014. Qualitative content analysis. *The SAGE handbook of qualitative data analysis*, 170-183

[41] Sidani, Y. & Al Ariss, A. (2014). Institutional and corporate drivers of global talent management: Evidence from the Arab Gulf region. *Journal of World Business*, 49(2), 215-224.

[42] Tubaishat, A. & Lansari, A. (2011). Are students ready to adopt e-learning? A preliminary e-readiness study of a university in the Gulf Region. *International Journal of Information and Communication Technology*, 1(5).

[43] Ullah, O., Khan, W., & Khan, A. (2018). Students' Attitude towards Online Learning at Tertiary Level. *PUTAJ-Humanities and Social Sciences*, *25*(1), 63-82.

[44] Usman, S. H., & Oyefolahan, O. (2014). Determinants of knowledge sharing using web technologies among students in higher education. *Journal of Knowledge Management, Economics and Information Technology*, *4*(2), 1-22.

[45] Widén-Wulff, G. (2014). *The challenges of knowledge sharing in practice: a social approach*. Elsevier.

[46] Wang, S., Noe, R. A., & Wang, Z. M. (2014). Motivating knowledge sharing in knowledge management systems: A quasi–field experiment. *Journal of Management*, *40*(4), 978-1009.

[47] Wu, L., Chuang, C. H., & Hsu, C. H. (2014). Information sharing and collaborative behaviors in enabling supply chain performance: A social exchange perspective. *International Journal of Production Economics*, *148*, 122-132.