Knowledge Sharing to Enhance Scientific Research Among Universities

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ABSTRACT
Nowadays Iraq is facing different problems in many fields due to the limitation of knowledge and experience. Higher education sector can play an important role to solve these problem by making scientific researches. Therefore, iraqi universities should collaborate by sharing their knowledge to make better solutions. However, knowledge sharing means share implicit and explicit knowledge with others in order to create new knowledge. The purpose of this paper is to figure out the influential factors of knowledge sharing among Iraqi universities so as to enhance scientific research in Iraq. Moreover, this study contributes to extend the limitations of previous research on knowledge sharing in Iraqi universities. Knowledge sharing will be done by profiling the attitudes and intentions of knowledge sharing of Iraq academics, and by profiling their views of some of the factors that might be expected to have an impact on knowledge sharing activities.

Keywords: Knowledge sharing, scientific research & higher education sector.

I INTRODUCTION
Indeed, there is a strong relationship between scientific research and higher education systems. Higher education is a basic competency that are working in the field of research and development, any weakness of them is reflected on the other. According to Fullwood, Rowley and Delbridge, 2013, previous studies of knowledge sharing among universities are so limited (Sohail & Daud, 2009; Howell & Annansingh, 2013). However, knowledge is difficult to be shared because it is the result of mixing information or knowledge with thinking thus, there are many difficulty in order to share the knowledge in higer education sector. The level of quality among researchers is considered as one of the issue especially between public and private universities (Sohail & Daud, 2009). Higher education institutions in United Kingdom (UK) are facing the challenge of knowledge sharing in scientific research in order to create new knowledge. Even if these institutions aim to develop knowledge and this because it is affected by individual perspectives barriers and organizational structures barriers(Howell & Annansingh, 2013). Moreover, according to Fullwood, Rowley and Delbridge (2013), UK universities have an embedded knowledge culture, but that culture is individualistic in nature and to some extent self-serving. This poses interesting challenges for universities.

In the Arab countries most researchers do not have sufficient capacity to do scientific research that makes arabic universities not to be in good rank. (Allioui & Youssef, 2007; Ababna, 2011). While in Iraq the scientific research in the universities is still having limited attention or it is absent in some of them. The reasons of these limitations are lack of resources (Mahsan, 2012), dearth of knowledgable staff (Al-Sharifi, 2006), bad environment and finance support (Abdul-Wahad, 2011). The progress in the process of communication and information technology has created significant contributions to the employment of knowledge between universities, but there is somehow a weakness in the communication process between research centers (Mahsan, 2012). Moreover, there is low rate in exchange the knowledge resources among the members of the teaching staff and also there is lack of knowledge that members have (Abdalrasul, 2009). Researchers have recommended, the need for greater interaction between academic staffs and universities to exchange information and provide rules for information services and university research (Al-Fatly, 2008). Thus, this study focuses on interaction between the researchers which is called as knowledge sharing in order to enhance the scientific research in Iraq. There is a need of knowledge sharing to support the development of scientific research in Iraq (Abdul Alaziz, 2009; Al-Obidy & Al-Dabbagh, 2013). According to (Fullwood, Rowley and Delbridge, 2013), in general, academics engage in knowledge sharing in respect of various types of knowledge; knowledge associated with research, and teaching and learning is shared most frequently. This study contributes to find the successful sharing of the researchers’ knowledge among the universities. Also it contributes to identify the field isolation and compatibility of knowledge as influential factors in knowledge sharing between researchers in the universities.
The next section briefly reviews previous research into scientific research and knowledge sharing. Next section is the influence factors, which is outlined based on social exchange theory. Finally, conclusions are summarised and recommendations are offered for practice and further research.

II LITRETURE REVIEW

This section identifies higher education sector in Iraq, scientific research and knowledge sharing among researchers.

A. Higher Education Sector

In order to democratize the political system of Iraq and to modernize its society, the higher education sector has to be an important section of the country’s effort (Harb, 2008). Iraqi Universities have the ability to aid in solving the social and political disagreement of the country. The Universities give students and faculty the chance to deal as agents for having a social change (HEI, 2003). The Higher education sector is able to maintain a principal character in protection of prolong civic peace in Iraq in spite of a legacy of war and authoritarian rule, and current procedures of inadequate resources and rigorous social and political unsteadiness (Harb, 2008). Recently, universities in Iraq are around 27 public and more than 30 private universities. Therefore, the number of universities is increasing specially after 2003; so far we can say that Iraqi higher education sector is on the right way to build strong education system in order to support the society and government.

B. Scientific Research

There are many definitions for scientific research, but it varies depending on the types of research, research fields, goals, ways and tools. Some researchers identified it as a humanitarian effort organized and purposeful, which is based on the link between means and ends in order to achieve the aspirations of the people and address their problems and meet their needs and satisfactions (Kadhim & Musaab, 2013). Research includes a set of tools, data and information organization and linking theories, ideas and creativity of the human hand and the experience and practice, problems and aspirations of humanity, on the other hand (Mahsan, 2012). Researchers also identified the scientific research as an organized process of data collection and analysis of the information logically for a particular purpose (Al-Obidy & Aldabbagh, 2013). The importance of scientific research has a huge and effective role in the process of construction and development of communities through the application of this research to solve the problems of society (Abdul-Wahad, 2011). Moreover, it works to provide community foundations scientific and practical useful for all fields, such as economic, social, cultural, intellectual, technology and more others. Thus, scientific research promotes the march of science and knowledge.

C. Knowledge Sharing

Knowledge sharing is known as the process of sharing individuals’ implicit and explicit knowledge in collaborative way in order to get new knowledge (Salman, 2013). It is however important to be clear on the types of knowledge that are being shared. According to Howell and Annansingh (2013), there are two types of knowledge. First is explicit knowledge, which can easily be transferred and codified into for example an instruction manual or knowledge repository. In contrast, tacit knowledge is the type of knowledge that is stored within a person’s head and is non-verbalised, intuitive and unarticulated (Howell & Annansingh, 2013). Consequently, this type of knowledge can be difficult to transfer and can be considered more valuable.

Nonaka’s idea is that the two distinct types of knowledge are explicit and tacit forms of knowledge that should not be looked at as separate components and are ‘‘two sides of the same coin’’. Moreover, tacit knowledge cannot be separated from human practice. In this study, tacit and explicit knowledge are considered as inseparable from each other. Knowledge sharing can be used to associate knowledge with research. Thus, the aim of knowledge sharing in the organization is to either create new knowledge or better exploit existing knowledge (Christensen, 2007). This is because of the potential benefits that can be realized from knowledge sharing (Howell & Annansingh, 2013).

For example, in a general sense, Fullwood, Rowley and Delbridge (2013) suggests that one issue for employees concerns the evaluation of the advantages and disadvantages of sharing their knowledge. Advantages can be intrinsic and extrinsic rewards, improved performance of the organization and increased status. A significant disadvantage is that sharing can ‘‘potentially give away a source of power and expertise to others’’ (Fullwood, Rowley & Delbridge, 2013).

III RESEARCH FRAMEWORK

This study has identified knowledge sharing framework in order to improve the sharing among researchers among Iraqi universities. This improvement can enhance scientific research in these
universities to enhance the knowledge and the rank of them. Moreover, this improvement of scientific research in Iraqi universities can solve the society issues in Iraq. However, this framework consists of thirteen factors as follow.

A. Intention to share knowledge
It is however important to be clear on the types of knowledge that are being shared. According to Nonaka (1995), there are two types of knowledge. First is explicit knowledge, which can easily be transferred and codified into for example an instruction manual or knowledge repository. In contrast, tacit knowledge is the type of knowledge that is stored within a person’s head and is “non-verbalised, intuitive and unarticulated”. Consequently, this type of knowledge can be difficult to transfer and according to Reychav and Weisberg (2010) be considered more valuable. Nonaka’s idea that the two distinct types of knowledge are explicit and tacit forms of knowledge that should not be looked at as separate components and are “two sides of the same coin”. Similarly Orlikowski (2002) asserts that tacit knowledge cannot be separated from human practice. Tacit and explicit knowledge are considered as inseparable from each other. Employees in Iraqi organizations need to share both types of knoweldge (ticit and explicit) in order to improve their knowledge sharing (Hamid and Shaker, 2011).

B. Expected rewards and associations
Knowledge sharing is most likely to occur when employees perceive that incentives exceed costs (Bock, Lee & Zmud, 2005). For example, in Siemens’ ShareNet project, explicit rewards were effective in motivating employees to share their knowledge (Ewing & Keenan 2001). Similarly, the use of redemption points in Samsung Life Insurance's Knowledge Mileage Program led to an explosive growth in knowledge registration by its employees (Bock, Lee & Zmud, 2005). Thus, anticipated extrinsic rewards are posited to encourage more positive attitudes toward knowledge sharing. According to Al-Askari (2013), there is a percentage of failure in the work of the Iraqi universities in the field of incentives and financial granted for the purpose of sharing knowledge.

C. Expected contribution
When two individuals are influenced by their social and organizational contexts, especially where unspecified cooperative outputs such as knowledge are exchanged, the social exchange relationship is a major determinant of their attitudes (Bock, Lee & Zmud, 2005). Social exchange, distinct from economic exchange, establishes bonds of friendship with and/or super ordination over others, and engenders diffuse, unspecified obligations. The concern is primarily with the relationship itself, and not necessarily any extrinsic benefit that might directly follow (Sohail & Daud, 2009). Thus, employees who believe their mutual relationships with others can improve through their knowledge sharing, and who are operating on the basis of their desire for fairness and reciprocity (Huber, 2001), are likely to have positive attitudes toward knowledge sharing. Contribution to share knowledge has an influence effect in knowledge sharing between employees in Iraqi organizations (Salman, 2013).

D. Normative beliefs on knowledge sharing
The subjective norm construct, is defined as perceived social pressure to perform or not perform a behavior (Bock, Lee & Zmud, 2005), has received considerable empirical support as an important antecedent to behavioral intention (Fullwood, Rowley & Delbridge, 2013). Iraqi organizations should give more attention to the employee who has desire or behaviour to share the knowledge (Hamid and Shaker, 2011). Moreover, the trust environment among researchers has positive effect on increasing knowledge sharing among them (Al-Askari, 2013; Salman, 2013).

E. Attitudes towards knowledge sharing
The context of knowledge sharing is the importance of the attitudes, actions and behaviours of leaders and managers. Bircham-Connolly, Corner and Bowden (2005) suggest that leadership plays a pivotal role in promoting and cultivating knowledge sharing behaviour, through contributing to employee’s experiential learning, and through providing opportunities for managing the processes whereby their staff share or transfer their knowledge. It is necessary to have active leader and manager in order to provide share environment in Iraqi organization (Salman, 2013).

F. Autonomy
Universities have high levels of autonomy and traditionally run by and for the academic community (Taylor, 2006). Moreover, universities are more bureaucratic in character with a centralised and hierarchical management structure where all staff report to line managers, and have less autonomy. Iraqi universities should encourage the academic staff to share their knowledge not only in the university but encourage them to share it with each other (Abdulrasul, 2009).

G. Affiliation to institution
There is also widespread discussion of the role of organisational culture in promoting knowledge sharing (Fullwood, Rowley & Delbridge, 2013), although there is some debate as to whether culture change should be part of a knowledge management programme (Fullwood, Rowley & Delbridge, 2013) or whether knowledge management initiatives should try to match the existing culture (Liebowitz, 2008). More specifically, there has been considerable debate regarding the role of culture in universities in knowledge management and sharing. Iraqi universities should change the role of their culture in order to enhance knowledge sharing among them. Thus, this paper suggests that role of university culture has an influence effect on sharing knowledge among universities’ academic staff.

H. Affiliation to discipline
Lee (2007) suggests that academics can also be looked at as individuals with loyalty to their discipline, their department, and to members of other subcultures. Furthermore, different departments may have “opposing ideologies and values”. Moreover, Lee (2007) asserts the importance of the academic department is due to its position as a meeting point for the influences of the university and discipline. The prime loyalty of many academic staff is due to the discipline. This can affect the relative degree to which academics identify with their institution or their discipline. Academic staff in Iraqi universities can be ready to any responsibilities (Al-Askari, 2013), thus, discipline can have an influence effect on sharing knowledge among them.

I. Leadership
Managers have a hand in the development of IT systems, reward systems, opportunities for interaction, and the availability of time for knowledge-sharing (Sandhu et al., 2011). Indeed, Wang and Noe (2010) point out that when management is supportive of knowledge sharing, employees perceive that a knowledge sharing culture is prevalent, and consequently the example provided by management can be highly significant. However, the role of the leader can also be quite different in universities from that in other forms of organisations. There are two types of leadership in play within higher education. Academic leadership attributes accentuate knowledge, professional recognition and expertise, personal qualities and team acceptance, thus the power base is a personal one. In contrast, managerial leadership accentuates hierarchical position, job responsibilities, control and authority and power is vested in the position rather than the person. Academic leadership is broadly assigned to the traditional more collegial university whereas managerial leadership is associated with the corporate style model that many universities are moving towards, however significant tensions can exist when those promoted for managerial ability are called upon to judge academic situations (Yielder & Codling, 2004). Leadership has an influence effect in knowledge sharing in Iraqi public organizations (Abdulrasul, 2009; Salman, 2013).

J. Structure
Organisational structures are also seen as impacting significantly on knowledge sharing (Fullwood, Rowley & Delbridge, 2013). University structures invariably differ from those of most public and commercial institutions. Moreover, the functional organisational structure of higher education institutions could be a significant barrier to knowledge sharing, as could physical and psychological barriers. It is necessary to Iraqi public organizations to change their structure in order to fit the needs of knowledge sharing (Abdulrasul, 2009; Salman, 2013).

K. Technology capability
Development of IT systems, reward systems, opportunities for interaction, and the availability of time for knowledge-sharing (Sandhu et al., 2011). In order to develop IT system, it needs to build software, hardware and IT skills for the researchers (Akbulut, Kelle, Pawlowski & Schneider, 2009). According to Al-Diuhgi and Abulmuhsan (2013), Iraqi organizations need to provide software, hardware and IT professional staff in order to build good knowledge sharing environment (Al-Maakhidi & Al-Hafkh, 2013; Salman, 2013).

L. Field isolation
There are many scientific research personnel, many different fields in universities, such as natural sciences, social sciences and etc. Scientific research work of universities has a direct impact on construction work, the potential impact and advantages of the university (Chun-zhou, Hua-yu, Xi-chen & Hui-jin, 2011). Paradoxically, there is mounting evidence that important, even revolutionary, innovations arise from the interstices of different technological fields. Mixing seemingly disparate elements of knowledge may be a source of competitive advantage at the same time that technological progress leads to greater technological isolation (Ensign, & Hebert, 2004). In order to enhance scientific research to slove, Iraqi oranizations issues needs to mix in scientific area (Abdulrasul, 2009). Therefore, our study suggests that this factor has an influence in knowledge sharing among researchers in Iraqi universities.
M. Compatibility of knowledge
Knowledge compability means researchers should have samillar level of knowldege. Knowledge-sharing may lead to free-riding because someone just stays idle and enjoys the fruit of others (Wang, Wang & Wang, 2010). Therefore, Having a favorable reputation is a necessary ingredient for cooperation (Ensign & Hebert, 2004). This research suggests compability if knowledge has an influence effect on knowledge sharing among researchers in Iraqi universities. Moreover, according to Al-Askari (2013), there is uncompatibility of knowledge between researchers based on gender.

Figure 1 shows the research framework of thirteen factors that have influence to improve knowledge sharing among scientific researchers between Iraqi universities. Iraqi universities can use this framework in order to enhance scientific research among them. Moreover, this framework can improve the collaboration, interactions, trust and information sharing between academic staffs in one hand and universities in another hand. Thus, this cooperation contributes to change the situations into better especially in higher education sectors and generally in Iraqi government. Eventually, the final result of this study will be to develop society in Iraq.

IV CONCLUSION
Iraq is currently facing several kinds of issues in different sectors. Thus, it needs to have high quality scientific researches in different fields to solve these problems. In turn, universities and researchers should work together in order to make high quality researches. However, this study focuses on the factors that effect knowledge sharing among Iraqi universities in order to enhance scientific research. Therefore, previous studies have been used to find out the factors that influence knowledge sharing. In general, there are limited studies in knowledge sharing fields thus, this study can increase one study on knowledge sharing. In specific, this study has contributed to find the successful sharing of the researchers’ knowledge among the Iraqi universities. Contribution of this study is to identify the field isolation and compatibility of knowledge as influence factors in knowledge sharing between universities’ researchers. The questionnaire will be distributed among academic researchers in five universities in order to analyze the effectiveness of these factors. Moreover, interviews will be done in the research centers of these universities.

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