

# Impact of Organizational Context & Information Technology on Employee Knowledge Sharing

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Received: December 2, 2017

Accepted: January 5, 2018

Online Published: January 15, 2018

doi:10.5539/ijbm.v13n2p194

URL: <https://doi.org/10.5539/ijbm.v13n2p194>

## Abstract

This study aimed at identifying the impact of organizational context and information technology on the willingness of employees to share knowledge in the public health sector in Jordan. The study was conducted using a questionnaire designed for this purpose. 160 of which was distributed in the largest hospitals in the capital of Jordan - Amman, 140 were returned for analysis with a response rate of 87.5%. To ascertain the degree of reliability and validity Cronbach's Alpha was utilized. Multiple regressions were used to analyse the effect of several independent variables on a dependent variable to test the hypotheses and to validate the study model. Frequencies and percentages were also extracted to identify the personal and functional characteristics of respondents.

The most prominent conclusions obtained are: sharing knowledge among employees is positively affected social relations and rewards systems; knowledge sharing is negatively affected by the level of centralization in the organization; there is also no statistical support regarding formalization or any of demographic and functional variables; there are no statistically significant differences between vision, organizational goals, and trust among employees and their willingness to share knowledge; information technology and its ease of use positively impact on employee's readiness to share knowledge. This study has presented a number of recommendations that can benefit for future studies in this area.

**Keywords:** Organizational culture, organizational structure, information technology, knowledge sharing

## 1. Introduction

In competitive and dynamic economy, knowledge is a critical resource that provides a competitive advantage. To gain this feature it is necessary but not enough for organizations to rely on staffing and training systems that focus on selecting employees who have a specific knowledge and skills or helping them to its acquisition. Organizations also must consider how to transfer expertise and knowledge to novices who need to know (Hinds, P. J., Patterson, M., & Pfeffer, J, 2001). That is, firms need to emphasize the existing knowledge-based resources and to exploit it more effectively.

The process of transformation towards knowledge society is a social process rather than an economic one, combined with the economic and industrial transformations and the emergence of knowledge-based economies. This transformation has led to global changes such as the emergence of globalization, the collapse of trade barriers. In light of these rapid changes and developments, most firms seek to sustain their activities and to remain in a changing world. This cannot be achieved unless enterprises have a competitive advantage to survive. Knowledge is the only resource that cannot be imitated and has a great value today, unlike traditional production factors which became secondary to the production process and could be imitated.

Previous studies have shown that public and private organizations in many countries have implemented knowledge management mechanisms and achieved many benefits, including improved decision-making and implementation, as well; employees became fully aware of the nature of tasks entrusted to them. As a result, these employees are able to initiate initiatives for better improvements. One of the key benefits of knowledge sharing is that employees are readiness for more collaboration, more inclined to work more skilfully and seriously, more able to satisfy consumers and customers. In the end, this will be led to minimize time and costs, improve creativity, increase productivity, and growth of the organization to achieve its objectives. To implement

knowledge management, many companies in the United States and Western Europe, as well as Australia and the Arab countries have taken the necessary steps to effectively manage knowledge within the organization, among those steps are, changing the structure and culture of organizations; the use of modern technology; and promoting of learning change and innovation.

According to (Mahgoub, 2005), application of knowledge management requires the availability of a set of factors such as an organizational structure which promotes knowledge management and sharing, encouraging work in a team spirit, greater autonomy in decision-making, in addition, organizational culture must include many aspects of knowledge management such as IT. It can be argued that the most important factor of success in adopting knowledge management systems and achieving business objectives is the success of knowledge sharing among employees. Thus, organizations need to achieve this concept in a supportive regulatory and technical environment. The importance of this research is that the interest in the concept of knowledge management is new theoretically and practically. In theory, there are not enough studies that addressed this issue. Also, there are several terms that deal with the same concept but from different several aspects. On the other hand, knowledge sharing affects the success of organizations, especially at present, in terms of globalization and the continuing competition between organizations in different fields.

In this context, sharing knowledge became increasingly important to identify ways of managing knowledge in public and private organizations alike to overcome the obstacles that face. This is an important requirement, both at the level of organizational characteristics and information technology. Through this research paper, we conducted an analytical study to investigate the effect of the organizational characteristics (structure and culture) and IT on employee readiness to share knowledge in Jordan's health sector, which is considered one of the most important sectors in Jordan in terms of: size of the investments, the good reputation, and services provided to citizens.

### *1.1 Problem Statement*

The concept of knowledge sharing is one of the most prominent philosophical and intellectual concepts that have captured the interest of researchers and practitioners of knowledge management who are particularly working to develop and improve the performance of companies. Great effort of scientists and researchers were done to harness knowledge management to increase the efficiency of both private and public business organizations and impact on behaviour which leads to achieving excellence, uniqueness and improving efficiency. Organizations are therefore seeking to create the appropriate regulatory environment that supports knowledge management activities to achieve the desired objectives in supporting and enhancing the efficiency and effectiveness of their employees. Knowledge management affects the organization through four levels: processes, products, people, and performance. Nevertheless, the impact of organizational characteristics and information technology on staff readiness to share knowledge in the public sector remains ambiguous and poorly defined.

To date, there have been many empirical studies on sharing knowledge about the same subject in Jordan context, but they have dealt with these factors separately and with private sector only and have not addressed the technical factor which is the cornerstone of all knowledge management processes at present. Through this study, we try to fill that gap by adding the technical factor, because it has a great role in the integration, creation, and dissemination of knowledge, which encourages employees to share knowledge in organizations. These factors reduce the potential financial and cognitive losses. The problem of the study is to identify how these factors affect the sharing of knowledge among employees and summarized in answering the following major question: what are the impact of organizational context and information technology on employee Knowledge Sharing?

### *1.2 Study Importance*

The importance of the study stems from the importance of the subject matter and the context in which it applies stemming from the modernity of this concept of knowledge and its management as well as our urgent need to benefit from its applications and practices in our organizations. For centuries, knowledge has been the competitive advantage that made Arab and Islamic civilization in leading position. The importance of this study is reflected in the following: To highlight the factors that influence the concept of sharing knowledge as a contemporary and important concept for business organizations; to enrich scientific research and for researchers in the same field; the results of this study can serve as a guide for decision-makers and managers in the government and other economic sectors in order to identify the factors that encourage their employees to share knowledge and promote them and the obstacles that prevent to remove them.

### 1.3 Aim and Objectives

This study is equally important for other social and economic entities, whether it is profitable or not. These entities include public and private organizations, education, health sector, and research and development institutes, regional and international institutions all of which deal with knowledge. The general aim of this research study is to analyse and examine the impact of organizational context (organizational culture, organizational structure) and IT on employee's readiness to share knowledge. To achieve this aim, the following objectives of this study have been formulated: first: to determine the impact of organization's culture and structure on the employee's readiness to share knowledge; second : to assess the role of IT on employee readiness to share knowledge; third : to assess the level of knowledge sharing among public health sector employees in Jordan; and fourth : to assess the impact of demographic and functional characteristics and their variance on staff participation in knowledge.

### 1.4 Study Questions

To achieve the objectives of the study, the following main question was formulated: "What are the impacts of organizational characteristics and IT on employee readiness to share knowledge?" Which is specifically divided into the following eight sub-questions?

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**Question one:** To what extent does a clear understanding of the vision and goals of the organization affect the employee's willingness to share knowledge?

**Question two:** What is the effect of trust on employee's readiness to share knowledge?

**Question three:** How social relationships affect employee's readiness to share knowledge?

**Question four:** Does centralization affect the employee's readiness to share knowledge?

**Question five:** Does formalization affect the employee's readiness to share knowledge?

**Question six:** What is the impact of the performance-based rewards system on employee's willingness to share knowledge?

**Question seven:** How does the use of IT applications affect employee's willingness to share knowledge?

**Question eight:** What is the impact of ease of using IT applications on employee's willingness to share knowledge?

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### 1.5 Research Model and Hypotheses

The model is a representation of reality and can be used to improve our understanding of the factors that impact the sharing of knowledge in organizations overall. Based on the above, this study seeks to identify the effect of variables: organizational culture (vision, goals, and trust); Organizational structure (centralization, formalization, and performance based rewards); and information technology (their use and ease of use) on employee readiness to share knowledge. These variables will be used to test hypotheses, as an independent variable, while the dependent variables considered those factors that influence the sharing of knowledge, taking into consideration the differences in some of these variables, in addition to the demographic and functional variables that may have an impact on the participation of employees in their knowledge. According to the study literature and questions, the model described in Figure 1 was developed.

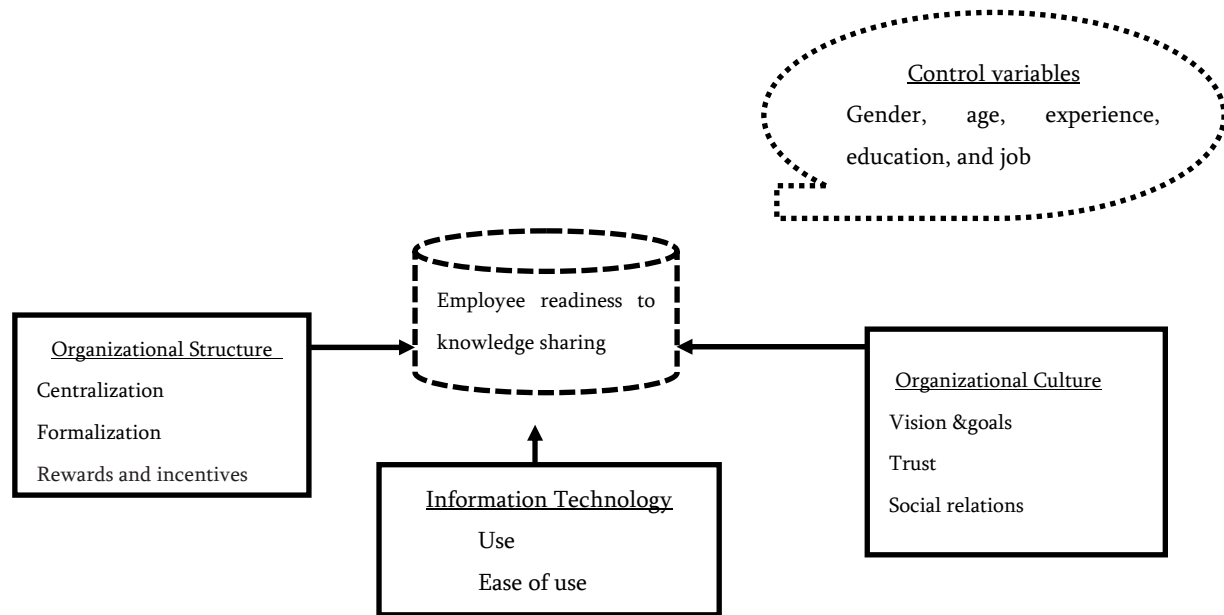


Figure 1. Research Model

In accordance with the previously stated objectives and consistent with related literature, the following hypotheses were proposed by the researchers of this research study based on the above research model.

**First Hypothesis (H1):** A clear understanding of vision and organizational goals positively affects their willingness to share knowledge.

**Second hypothesis (H2):** The high level of trust among employees positively affects their willingness to share knowledge.

**Third hypothesis (H3):** The level of social relations positively affects their willingness to share knowledge.

**Fourth hypothesis (H4):** High centralization negatively affects their willingness to share knowledge.

**Fifth hypothesis (H5):** The high degree of official negatively affects employee's willingness to share knowledge.

**Sixth hypothesis (H6):** Rewards and incentives positively affect employee's willingness to share knowledge.

**Seventh hypothesis (H7):** The level of use of IT applications positively affects employee's willingness to share knowledge.

**Eighth hypothesis (H8):** Ease of use of IT applications affects employee's willingness of the employee to share knowledge.

#### 1.6 Definition of Procedural Terms

**Organization culture:** A set of values and standards that governs employee attitudes related to knowledge acquisition and sharing within the organization.

**Organization Structure:** A management practice that is in line with the knowledge development based on a knowledge flow and spread that covers all levels of management and everyone participates in the transfer and share of knowledge in which enables the organization to achieve its objectives.

**Information technology:** An integrated system that includes: knowledge areas, technologies, social aspects, administrative procedures, and human efforts in all information related to the work, which is the skill or technical knowledge of employee to use this technology in solving problems, making decisions, and promoting creativity and innovation.

**Knowledge sharing.** An activity that is exchanged between employees through which they can acquire the knowledge that is inherent in the organization.

**Employee willingness to share knowledge:** Ability to share knowledge related to experience, knowledge - how, and organizational information with others through formal and informal interactions with the team or business units.

## 2. Methodology

This study employed a survey method to investigate the variables of the study and then to conduct correlation and causal tests between the dependent variable and the independent variables. Data were gathered from the following resources: And adopted in reaching its objectives on the following sources:

- **Preliminary sources:** The use of references and resources available to construct the theoretical framework.
- **Secondary sources:** The data was collected from several sources through a questionnaire designed for this purpose, and analysing these data to test the hypotheses.

### 2.1 Population and Sample

The researcher found that the health sector is the most sectors that can provide the conditions for the success of such study because knowledge systems and tools in it are of a great importance in obtaining knowledge and sharing among all departments in an organization. Accordingly, focusing on employees trends will contribute to promoting knowledge sharing which in turn reflects positively on the quality of services provided by this vital sector. A random sample of (140) employee was selected from the study population, which is composed of workers in the internal department in four public and private hospitals in the Jordanian capital Amman based on the convenient random sampling. In general, the size of the sample is suitable for most research if it is greater than 30 and less than 500 (RosCoe, 1975).

### 2.2 Instrument

The tool used for this research is a questionnaire to achieve the study objectives. Questionnaire items were selected from previous studies on the same subject, while others were developed by researchers. The following is a description of the sections covered by the questionnaire: Section 1: demographic variables: gender, age, years of work experience, education level, and job title. Section 2, consists of (38) items covering the variable independent study (organizational characteristics and information technology. Items (1-5) measure the impact of clarity of vision and objectives as adopted from a study of (Gold et al, 2001).

From the study of (Cook, J., & Wall, T , 2000), items (6-9) were adopted to measure the effect of trust between employees on knowledge sharing. Items (10-13) measure the impact of social relations and have been adopted from a study of (Yang, C., & Chen, L, 2007). Items (14-18) measure the effect of centralization and adopted from (Hage, J., & Aiken, M , 2003). Paragraphs (19-23) measure the effect of the formalization and its derived from a study of (Hage, J., & Aiken, M , 2003). The items (24-27) measure the impact of performance-based reward systems and have been drawn from a study of (Kim, S., and Lee, H, 2006). Items (28-32) measure the impact and ease of use of information technology, and have been quoted from (Armstrong, 2009). Section 3, includes (6) items covering the variable of the study (employee readiness to share knowledge) developed by the researchers.

Table 1. Respondent's Demographic Characteristics

	Frequency	Percentage (%)
<b>Gender</b>		
Male	80	57.1
Female	60	42.9
<b>Age</b>		
20 -29	34	24.3
30 – 39	47	33.6
40 -49	37	26.4
50 -59	22	15.7
<b>Education</b>		
Diploma college	27	19.28
Bachelor	87	62.15
Master	19	13.57
PHD	7	0.050
<b>Experience</b>		
Less than 5 yrs.	26	18.57
5- 10 yrs.	41	29.28
11- 15 yrs.	32	22.85

16 -20 yrs.	22	15.73
More than 20 yrs.	19	13.57
<b>Job</b>		
Administration	28	20.0
Doctor	53	37.85
Nurse	40	28.57
Technician	19	13.57
Total	N = 140	100 %

### 2.3 Validation of the Measurement Tool

The researcher conducted the face validity test for the measurement tool by presenting it to (4) faculty members with competencies in the field of knowledge management, business administration and management information systems in various Jordanian private and governmental universities in Amman.

### 2.4 Stability of the Instrument

The stability value of the measuring instrument was determined by calculating the coefficient of reliability (Coefficient Reliability) for each of the fields of the questionnaire, in addition to determining the total degree of stability. This was done using the Cronbach Alpha test. The value of this coefficient ranges from (0) to (1) ( $\alpha \leq 0.06$ ) is an indicator of the low degree of reliability of the internal scale (Malhotra N. , 2004). The value of  $\alpha$  for the study variables is as follows (Table 2).

Table 2. Values of the coefficient of internal consistency of the research variables

No.	Variable	No. of items	Cronbach's alpha
1	Vision and organizational objectives	5	0.91
2	Trust between employees	4	0.81
3	Social relationships	3	0.83
4	Centralization	5	0.85
5	Formalization	5	0.74
6	Rewards and incentives	4	0.83
7	Use of IT applications	6	0.86
8	Readiness for knowledge sharing	6	0.89

It is noted from Table 1 that the stability coefficient for all the variables under study is higher than the minimum accepted rate (60%) and acceptable for the purpose of conducting this study and for further analysis.

### 2.5 Statistical Processing

Data were analysed using a number of descriptive statistical methods using (SPSS). A model was developed presenting the correlation and impact of the organization's culture, organizational structure and information technology on the employee readiness to share knowledge. The test of correlation and causal relationships was then conducted using linear and multi-regression based on preliminary data. The study hypotheses were examined using t-Test to verify the effect of independent variables on the dependent variable in a regression models. The correlation coefficient (R) was also calculated to determine the strength and type of relationship between the independent and dependent variables. ( $R^2$ ) was calculated to determine the extent to which independent variables contribute to changing the variance in the dependent variable.

## 3. Background

### 3.1 The Reality of Knowledge Management in Jordan – An Overview

Jordan is a part of this world, which is the country most affected by what is happening in the Arab region. Today, the Jordanian organizations whether governmental or private, suffer from the pressures of global competition as a result of globalization, the liberalization of global trade, removing the borders and obstacles to the movement of goods, services, and capital among the various countries of the world. Jordanian public and private institutions are seeking to become competitive in domestic and global markets to attract Arab and foreign investments which require providing the best products and services to Jordanian citizens and foreign investors alike. For this, the Jordanian government has established a special committee to develop knowledge management systems in the public sector and launch initiatives to develop knowledge management strategies, as well as

e-government in Jordan which enhances and encourages knowledge sharing. The initiative to establish ICT centres and community service (later known as Jordan Knowledge Stations Initiative) was launched in 2001.

The King Abdullah II Award for Excellence in the Public and Private Sectors was the main motive for improving the performance of the Jordanian governmental and private institutions, especially as it adopted the Department of Information Technology, Knowledge as one of the main criteria for this award (Almarahbeh, 2001). It is remarkable that Jordanian governmental and private institutions are looking to become knowledge-based institutions, but it must be stated with great caution that these attempts are still in their infancy and far from being reality applied in the concept of knowledge management. For example, there is still a considerable confusion between the concept of information and the concept of knowledge, and confusion between the concept of technology management and the concept of knowledge management, because knowledge management differs from technology management and knowledge differs from information.

### *3.2 Sharing knowledge*

Knowledge sharing is one of the most important knowledge management processes in business organizations. The survival and sustainability of these organizations depend on the creation and use of new knowledge. To create knowledge sharing culture in the organization employees should be effectively encouraged and supported. There is an increasing emphasis on the importance of sharing public and private knowledge to improve organizational performance, efficiency, and productivity. Knowledge sharing activities and practices create an opportunities for private and public institutions, increase their abilities to meet changing customer needs, generate solutions to gain competitive advantage as well. As a result of focusing on performance, increasing productivity in organizations, researchers stressed the need for organizations to coordinate, integrate, share and transfer information and knowledge to all departments within an organization (Argote, L., McEvily, B., & Reagans, R, 2003).

As one knowledge-centred activity, knowledge sharing is the essential means through which employees can contribute to knowledge application, innovation, and ultimately the competitive advantage of the organization. Knowledge sharing between employees and within and across teams allows organizations to exploit and capitalize on knowledge-based resources (Cabrera, A., & Cabrera, E. F., 2002). Research has shown that knowledge sharing and combination is positively related to reductions in production costs, faster completion of new product development projects, team performance, firm innovation capabilities, and firm performance including sales growth and revenue from new products and services (Mesmer-Magnus, J. R., & DeChurch, L. A., 2009).

According to (Cummings, 2004), Knowledge sharing refers to the provision of job information and know-how to assist others and to collaborate with others to solve problems, create new ideas, or implement policies or the procedures. Knowledge sharing can occur via written correspondence or face-to-face communications through networking with other experts, or documenting, organizing and capturing knowledge for others (Cummings, 2004). The literature suggests that the effectiveness of the organization increasingly depends on its ability to facilitate the use and exchange of knowledge. More research has indicated that organizations are more efficient if successful conditions are created to share and benefit from knowledge. Sharing knowledge is an important part of daily organizational work. Reflecting the nature, experience and experience of the individual, especially as that process in the work environment is determined by a number of factors such as culture, structure, policies, strategies, information technology and even individual personality that can be considered as the cornerstone of knowledge sharing [ (Nonaka, I, Toyama R and Nagata A., 2000); (Awad E. M., 2004)].

According to a study of (Meso, P. and Smith, R. , 2000), knowledge sharing: guides and fosters innovation by encouraging the free flow of ideas and creativity for staff; reducing responsiveness; facilitating processes and increasing productivity; provide feedback for the re-employment and reuse of knowledge for the benefit of the organization; accelerate job advancement; and improve overall functionality. Finally, the sharing of knowledge implicitly or explicitly with others in business organizations cannot happen easily, because of the individual and diverse behaviour to solve these problems. Researchers have identified models and frameworks to explain these issues so that the process of sharing knowledge is a necessary means to achieve that collective process as part of job requirements.

## **4. Previous Studies**

The concept of knowledge management occupied the interest of researchers and scholars, and even business organizations, economists, governments, public and private institutions because of its impact on individuals and the society as a whole:

#### 4.1 Organizational Culture

Many studies have examined the effect of organizational culture on knowledge sharing. (De Long, D. W., & Fahey, L., 2000), found that the benefits of a new technology infrastructure were limited if long-standing organizational values and practices were not supportive of knowledge sharing across units. The study (Taylor et al., 2004) confirmed that organizational culture, learning from failure, and improving the quality of information is a strong indicator that knowledge sharing is strong, effective and successful. In this context, it was noted that this relationship is significantly higher, which enhances the expected organizational performance. It also emphasizes the importance of organizational culture and the degree to which it affects the loyalty and willingness of employees to share knowledge. Organizational culture is one of the biggest challenges to knowledge sharing. An organization that practices collaborative culture and employee participation is more successful in sharing knowledge than others where the employee has knowledge only to compete with others.

The organizational culture of communication is also another important factor through which knowledge can be shared within the organization. Communication in the broad sense affects the sharing of knowledge among staff and this does not significantly hinder the sharing of knowledge or makes it virtually impossible. Interpersonal communication is the critical factor for knowledge sharing and depends to a large extent on the opportunities for face-to-face contact. In the field of organizational culture, three elements were selected: Vision and goals [ (Leonard, D. A., and S. Sensiper., 2002); (Gold, A.H., Malhortra, A., Segars, A.H., 2001)]. Trust between employees (O'Dell, C. and Grayson, C.J., 2000), and social networks (Leonard, D. A., and S. Sensiper., 2002).

##### 4.1.1 Vision and Goals

The vision focuses on the way the organization works to achieve its objectives in creating a desired future image for the institution or part thereof. The objectives represent the specific outputs that the Organization sets out and seeks to achieve. Vision and clear organizational goals lead to the creation of an organizational purpose that the organization seeks to achieve. Vision, mission and value embody together the culture of the organization and thus identify the types of knowledge activities that are relevant and encouraged (Leonard, D. A., and S. Sensiper., 2002). Also, clarity of goals and pre-conceived organizational vision generates a sense of effective contribution to knowledge sharing (Dyer, J. H. & Hatch, N. W., 2006). Overall, these studies show that visibility and organizational goals positively affect employee readiness to share knowledge.

##### 4.1.2 Trust

Another important element of organizational culture is trust. A number of cultural dimensions that likely influence knowledge sharing has been identified, but trust has attracted the most research attention. A culture that emphasizes trust has been found to help alleviate the negative effect of perceived costs on sharing (Kankanhalli, A., Tan, B. C. Y., & Wei, K.k., 2005). Trust among employees will enhance and even enhance knowledge sharing behaviour by enabling individuals within the organization to communicate effectively, freely to share knowledge and experience freely, as well as personal interests (Von Krogh, 2003). Trust is an integral part of the process of sharing knowledge because of the inherent value of knowledge. In a study of (Andrews, K.M. and Delahaye, B.L., 2000), trust is one of the critical and critical determinants of sharing knowledge because staffs sometimes call the credibility of the ideas and knowledge they have gained through the sharing of knowledge.

It is likely that the sharing of knowledge to the sincerity and trusting him more than others has knowledge and does not get their trust, so it is important that trust must be reciprocal between the provider and the recipient, otherwise it is difficult to share knowledge. Moreover, the level of confidence among individuals will inevitably influence their behaviour and motivate them to share their knowledge. (Wang, S. and R.A. Noe., 2010), examined the impact of trust in sharing knowledge, and found that individuals were less enthusiastic to share with those perceived as capable of others who enjoyed honesty and integrity, and affirmed that loyalty and trust-based relationships. In general, the results of these studies have shown that confidence has a positive impact on employees' willingness to share knowledge.

##### 4.1.3 Social Relations

The third factor of organizational culture, which affects the employee's willingness to share knowledge, is social relations or what is known as informal relationships outside the scope of work in society, where the network of relationships is now considered the best way to create and share knowledge among individuals in business organizations. The process of knowledge sharing is more in-house than in the organization. The relationship between individuals within social networks involves an emotional affinity and a sense of security, thus facilitating the transfer of knowledge and improving the quality of information acquired by the individual. Social relations contribute to increase the motivation of individuals, achieve balance among them, achieve the



objectives pursued by the organization so as to help to achieve job satisfaction among employees and develop their performance and development while at the same time achieve a sense of belonging and colleagues in the staff, and is one of the administrative areas that deal with integration

Individuals in working situations together in a way that motivates them to work with the greatest productivity and achieve cooperation to meet the needs of workers. Cognitive sharing occurs within the organization through social networks through direct communication, dialogue, and individual or group activities encourage and support the sharing of knowledge and work-related experience of staff (Small, C. T., and Sage, A. P. , 2006) .These studies focused on the network of social relations between individuals. The results suggest that social relations or social capital, as some have called it through informal interactions, facilitate the transfer and acquisition of knowledge, which in turn affects the sharing of knowledge.

#### *4.2 Organizational Structure*

The organizational structure is still receiving more attention from researchers, consultants, and managers as it is an effective and vital mean that help organizations to achieve their goals efficiently and transparently. It is a fundamental variable that affects many variables and organizational aspects. Three variables (centralization, formalization, and rewards and incentives) were selected to examine the dimensions of the organizational structure and analyse their effect on employee readiness to share knowledge. A functionally segmented structure likely inhibits knowledge sharing across functions and communities of practices (Tagliaventi, M. R., & Mattarelli, E. , 2006).

##### *4.2.1 Centralization*

Centralization means that all authorities are in the hands of a high administrative level, which is responsible for all matters, and that is the centre from which all instructions are issued, where the other administrative levels are only available on orders of that higher level or approval. It is also known that the management of the organization tends to concentrate and limit the powers of senior management (Schminke, M., Cropanzano R., & Rupp, D. , 2002) . The concentration of the decision-making authority by a person, management or level in the organization leads to greater centralization, In the development of organizational objectives and the opportunities for dialogue and discussion, thus diminishing opportunities for sharing knowledge and exchanging information. In addition, these studies suggest that centralization negatively affects the employee's willingness to share knowledge (Schminke, M., Cropanzano R., & Rupp, D. , 2002).

Researchers have shown that knowledge sharing may be facilitated by having a less centralized organizational structure (Kim, S., & Lee, H. , 2006) ), creating a work environment that encourages interaction among employees such as through the use of open workspace (Jones, M. C., Cline, M., & Ryan, S. , 2006). Use of fluid job descriptions and job rotation (Kubo, I., Saka, A., & Pam, S. L. , 2001), and encouraging communication across departments and informal meetings (Yang, C., & Chen, L. C. , 2007) . Overall, the results of these studies suggest that organizations should create opportunities for employee interactions to occur and employees' rank, position in the organizational hierarchy, and seniority should be de-emphasized to facilitate knowledge sharing.

##### *4.2.2 Formalization*

Formalization refers to the degree to which organization in the organization adopts rules, procedures, instructions and written regulations that define the method and methods of completion of work (Rainey, 2003). The degree to which organizational activities are clear in written documents on procedures, job descriptions, and evidence of employee participation methods of knowledge (Kim, S., and Lee, H, 2006) .It also refers to the number and degree of application of the regulations, laws and procedures governing the employee's behaviour within the organization, so the formalization is the supervisory mechanisms that seek to ensure that the employee contributes to the achievement of the objectives of the organization.

Increasing the official limit of the opportunities for communication, interaction and dialogue with others does not encourage or enhance the building of organizational knowledge, and its decline allows for openness, debate and difference of opinion, which generates new ideas and behaviours. The official topic has attracted the attention of researchers who pointed out that among the high official results Alienation and loss of control over his work. It also leads to submissiveness and excessive submission by the individual. Regulations and instructions may become an end rather than a means. Generally speaking, we conclude from the above that the degree of formalism negatively affects the employee's readiness to share knowledge.

##### *4.2.3 Rewards and Incentives*

A major barrier to knowledge sharing across employees is the lack of incentives. Incentives including acknowledgment and rewards have been recommended as interventions to facilitate knowledge sharing and help

build a supportive culture (e.g., H Sabatier, & Nelson, 2006). A lack of incentives has been suggested to be a major barrier to knowledge sharing across cultures (Yao et al., 2007). Incentives including recognition and rewards have been recommended as interventions to facilitate knowledge sharing and help build a supportive culture [ (Liebowitz, J. , 2003); (Nelson et al. , 2006)]. Based on both social exchange and social capital theories, organizational rewards such as promotion, bonus, and higher salary have been shown to be positively related to the frequency of knowledge contribution made to KMSs especially when employees identify with the organization (Kankanhalli et al. , 2005).

Similarly, employees who perceive a higher level of incentives to share and use knowledge are more likely to report that the content of KMS is useful (Cabrera et al. , 2006) . Based on a sample from Korea, (Kim & Lee , 2006) also found that an organizational emphasis on performance-based pay system contributed to knowledge sharing. [ (Quigley et al. , 2007); (Taylor, E. Z, 2006)found an interactive effect between individual- and group-based incentives such that the positive relationship between group reward and perceived reward for knowledge sharing was stronger when individual-based rewards were increased. (Weiss, L , 1999), emphasized the need to align incentives and knowledge sharing.

#### 4.3 Information Technology (IT)

The vast evolution of information technology has enabled organizations to easily and quickly acquire, retrieve, store and disseminate information. Many business organizations use technology to facilitate knowledge sharing. Organizations and individuals alike need technology to communicate and share knowledge. Technology can be viewed from a cultural perspective. It is related to an organization's values and standards. Moreover, technology is central to sharing knowledge and reflects the level of its use in the values of knowledge management and the importance it attaches to it. Another component of technology related to the employee's willingness to share knowledge is the level of the user's ability to deal with and develop that system.

Ease of use the system enhances and encourages the user to support the practice of sharing knowledge, the design and display of programs and quickly access to the user's need is one of the most important factors that drive to use the system and benefit from it (Armstrong, 2009) . According to Kumar (2005), knowledge sharing cannot occur in an organization without infrastructure, and the effective use and ease of use of technology applications in the organization positively affects the employee's willingness to share knowledge because the individual feels more comfortable and interacting online than face-to-face.

### 5. Results

The results of the study were used to analyse Pearson correlation coefficient between the study variables to detect the extent of interference between the independent variables in the study model and their correlation with the dependent variable. Table 3 shows the arithmetic mean, standard deviations and Pearson correlation coefficients between the variables.

Table 3. Mean and standard deviation and correlation coefficient between the variables

variables	Mean S.D	Vision & objectives	Trust	Social relations	Centralization	Formalization	Rewards system	IT use	Ease of IT use	Knowledg e sharing
<b>Vision &amp; objectives</b>	<b>4.72 1.41</b>	<b>1.00</b>								
<b>Trust</b>	<b>5.11 0.93</b>	0.553**	<b>1.00</b>							
<b>Social relations</b>	<b>4.43 1.15</b>	0.532**	0.476*	<b>1.00</b>						
<b>Centraliz ation</b>	<b>3.71 1.61</b>	-0.366**	-0.327**	-0.320**	<b>1.00</b>					
<b>Formaliz ation</b>	<b>4.28 0.94</b>	-0.01	-0.79	-0.021	0.387**	<b>1.00</b>				
<b>Rewards system</b>	<b>3.75 1.04</b>	0.598**	0.399**	0.598**	-0.276**	-0.02	<b>1.00</b>			
<b>IT use</b>	<b>5.40 1.64</b>	0.287**	0.288**	0.359**	-0.149	-0.01	0.299**	<b>1.00</b>		
<b>Ease of IT use</b>	<b>4.85 1.15</b>	0.521**	0.477**	0.543**	-0.277**	0.292	0.487**	0.499**	<b>1.00</b>	

<b>Knowledge Sharing</b>	<b>4.33</b>	0.465**	0.355**	0.596**	-0.339**	-0.071	0.577**	0.478**	0.556**	<b>1.00</b>
	<b>1.23</b>									

### 5.1 Testing of Hypotheses

To test the study hypotheses, T-test was conducted at the significance level of [ $\alpha < 0.001$ , and  $\alpha < 0.01$ ]. Among the variables of organizational culture (vision and goals, trust, and social relations), social relations or social capital through informal interactions facilitate the transfer and acquisition of knowledge, which in turn positively affects the sharing of knowledge among employees. This means that in the opinion of the researchers if there are strong social relations between employees, the level of their participation will be higher than users who have less or no relationship, as the results showed, thus, the third hypothesis was supported. While other variables are less influential, although trust is closely related to social relations and vice versa. These findings were supported in the study of (Kim, S., and Lee, H, 2006; Small, C. T., and Sage, A. P. , 2006); (Cummings, 2004) on the same subject, which confirmed that knowledge sharing takes place within the organization through social networks, direct communication, dialogue, and individual activities.

Statistical data also support the fourth and sixth hypotheses. Data show that the sense of staff at higher levels of centralization reduces the likelihood of their willingness to share knowledge. Employees have strong positive perceptions of incentive systems and performance-based incentives and show greater willingness to share knowledge at the level of  $\alpha$  (0.001). In addition, the results of multiple regression analysis show that the high level of use of IT applications, information systems, the most important factors affecting the employee's willingness to share knowledge at the level of significance ( $\alpha < 0.001$ ), which supports and confirms the seventh and eighth hypotheses. All of these results are consistent with the findings of many previous studies (Kim, S., & Lee, H. , 2006) , emphasizing that the organization's focus on the pay-for-performance system contributed to knowledge sharing.

Organizational benefits such as promotion, bonuses, and higher salaries have been shown to positively influence the pace of knowledge sharing. Other studies have also confirmed that the technology related to the employee's willingness to share knowledge is the level of the user's ability to deal with and develop that system. The ease of use of the system enhances and encourages the user to support the practice of sharing knowledge (Armstrong, 2009). According to (Kumar, N, 2005), knowledge sharing cannot occur in an organization without infrastructure, and the effective use and ease of use of technology applications in the organization positively affects the employee's willingness to share knowledge.

On the other hand, there are no statistically significant differences between the vision, the organizational goals and the trust between the employees and their willingness to share knowledge (the first and second hypotheses). There is also no statistical support related to the official (hypothesis 5) or any of the demographic and functional variables. The data also indicate a positive correlation between the number of years of experience and education and their association with social relations, which positively reflects the employee's willingness to share knowledge. Table 4: The results of the multiple regression analysis indicate the employee's readiness to share knowledge.

### 6. Conclusion

Based on the findings of the study, we can conclude that centralization, social relations, performance-based savings systems, and the use of IT applications and their ease of operation are important variables affecting the employee's willingness to share knowledge. This confirms that human factors are a major contributor to knowledge sharing and not just a technology. To enhance the sharing of knowledge among employees, further efforts are required through a management committed to strengthening the network of formal and informal relations through management practices dedicated to organizational knowledge and sharing. To transform organizations into knowledge societies, decision-makers and senior management should assess needs to activate knowledge sharing. In addition, the knowledge that the organization devises must be defined and its objectives clarified and their results is measurable, especially in the era of information technology, e-government and human capital management.

Sharing knowledge is a critical tool for the successful implementation of knowledge management in the organization. Therefore, this study proposed a general framework of the factors that are supposed to be positively / negatively impact on employee sharing knowledge within the health sector organizations in Jordan, thus leading to the integration of technical factors (technology) and non-technical (organizational content). This

study will increase understanding of Jordanian employees in general the importance of knowledge sharing and its success requirements. Also, it motivates researchers, practitioners to pay attention to conducting further studies on the subject of knowledge sharing in other sectors.

### 6.1 Limitations

Several limitations should be considered: (1) lack of Arab studies and references relevant to knowledge sharing issues; (2) the sample size is relatively small and needs to be increased; (3) the study failed to analyse the specific organizational processes and the mechanisms undertaken by the institutions studied towards the adoption and implementation of the culture of knowledge sharing; and (4) lack of awareness among some employees and administrations of the concept of knowledge management and knowledge sharing in general.

### 6.2 Recommendations

Based on our findings, we recommend by the following : (1) supporting and strengthening effective knowledge capacities within the organization, eliminating obstacles and negatives; (2) the commitment of senior administrations to formulate mechanisms and methods that would encourage knowledge sharing process , such as the system of incentives and rewards; (3) continuous development and training of departments and staff to develop their functional and communication skills; (4) providing knowledge and knowledge management systems using modern software and material technology; (5) Justice and equality between employees and continuously searching for strengthening the social relations between employees ; (6) Minimize the degree of centralization and formalization. The interrelationship between the organizational content and the information technology of the study findings can serve as a starting point for research projects in other sectors. The validity of the findings we have obtained is of particular value. Further studies could be undertaken to expand this study to include other factors that may influence knowledge sharing. Researchers should focus on the nature and type of knowledge involved, motivational factors (internal and external), their impact on knowledge sharing, as well, the effect of knowledge sharing on organizational performance.

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