THE IMPACT OF KNOWLEDGE SHARING ENABLERS ON KNOWLEDGE SHARING CAPABILITY: AN EMPIRICAL STUDY ON JORDANIAN TELECOMMUNICATION FIRMS

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Abstract

The aim of this study was to examine the impact of knowledge sharing enablers on knowledge sharing capability. This study used a questionnaire where the scale is adapted to measure those dimensions of knowledge sharing enablers (i.e. enjoyment in helping others, knowledge self-efficacy, top management support, organizational rewards, and ICT use) and knowledge sharing capability. This study targeted the telecommunication companies in Jordan, namely Orange and Umniah. The suitable returned questionnaires accounted for 367 out of 600. Multiple regression analysis was used to explore the impact of each of the knowledge sharing enablers on knowledge sharing. This study found that knowledge sharing enablers affect knowledge sharing. Also, it found that the most influential dimension of knowledge sharing was enjoyment in helping others; followed by ICT use, organizational rewards, and then top management support. However, knowledge self-efficacy did not have a statistically significant effect over knowledge sharing.

Keywords: Knowledge Management, Knowledge Sharing, Knowledge Sharing Enablers, Jordan

1. Introduction

Organizations seek to adopt management approaches that enable them to be effective and efficient. Therefore, researchers have developed management concepts and theories to meet the organization's demands and customers' need. In addition, rapid technological developments have contributed to uncertainty and unpredictability in all sectors that have emphasized the importance of the ability of an organization to adapt to unexpected changes, something that is considered to be critical to achieving and maintaining a competitive advantage. Indeed, knowledge sharing came in this sequence to enhance organizational effectiveness and competitiveness. Therefore the aim of this study is to examine the impact of knowledge sharing enablers on knowledge sharing capability in Jordanian Telecommunication Firms. Indeed, according to Davenport and Prusak (1998, p. 5), Knowledge can be viewed as "a fluid mix of framed experience, values, contextual information and expert insights that provides a framework for evaluating and incorporating new experience and information". Further, knowledge management consist a set of processes: knowledge creation, knowledge storage and retrieval, knowledge transfer and knowledge application which is a key component of an effective knowledge management. Also, researchers and practitioners focus on knowledge sharing and various enablers work together to success knowledge sharing across the organization because knowledge management alone cannot lead organization to success (Kumar and Rose, 2012). According to Skyrme and Amindo (1997), firms face several difficulties when apply knowledge management systems, including a lack of senior management commitment; lack of making knowledge useable; lack of motivating employees to search, accept, and adopt best industry practices; lack of motivating employees to share knowledge; and lack of rewards and recognition. Sáenz et al. (2012) argued that there is a lack of research in this field, examining key antecedents affecting knowledge sharing and its impact on firm performance. Moreover, because of highly competitive in telecommunication world, telecommunication companies need to be developed in order to compete with others, and to get the most possible benefits from them. This is by recognizing that innovation is a decisive enabler for organization to thrive.

As claimed above, Kumar and Rose (2012) and Lin (2007) emphasized that very little theoretical work occurs studying the relationships between knowledge sharing antecedents, and knowledge sharing itself. Also, based on several calls from employees as the researchers piloted different telecommunication companies, gabs in applying knowledge sharing in Jordanian telecommunications firms occur. Therefore, this study tried to fill the gap in this important area of knowledge management. Furthermore, this study addressed the following main questions:

1. Do knowledge sharing antecedents (i.e. enjoyment in helping others, knowledge self-efficacy, top management support, organizational rewards, and ICT use) impact knowledge sharing capability?

2. Do knowledge sharing enablers impact knowledge sharing capability due to demographic characteristics (i.e. age, gender, company type, experience, and educational level)?

The rest of this paper is organized as follows. It begins with the literature review regarding knowledge management, knowledge sharing capability, and knowledge sharing enablers. Next, the methodology in which the research theoretical model, hypotheses, population and sample, data collection and analysis methods, and the validity and reliability of the study are provided. It then presents the results and explanations which show the results of the data analysis of the research hypotheses and explanation of these results. The discussion and conclusion are then addressed and areas for future research are also provided.

2. Literature Review

Knowledge can be considered from several perspectives. It can be viewed as a state of mind, an object, a process, a condition of having access to information and a capability. About perspective on knowledge viewed as state of mind emphasis that enhancing individual's personal knowledge, so they can effectively apply it to the organization's requirements. The objective perspective regards knowledge as a thing or object independent of human action; in this case knowledge can be stored, retrieved and manipulated. The third perspective views knowledge as a process and emphasis on applying expertise. It supposes that knowledge does not exist independent of human action. The fourth perspective on knowledge viewed as a condition of access to information is an extension to the object view. This view argued that organizational knowledge must be organized in a way that it is easy to access and retrieve. Finally, the perspective on knowledge viewed as a capability builds on capability view and asserts that knowledge has a potential to influence future action (Wu and Zhu, 2012).

Knowledge management (KM) is defined as doing what is needed to get the most out of knowledge resources. Although KM can be applied to individuals, it has recently attracted the attention of organizations. KM is viewed as an increasingly important discipline that promotes the creation, sharing, and leveraging of the corporation's knowledge (Becerra-Fernandez and Sabherwal, 2010). Becerra-Fernandez and Sabherwal (2010) argued that the most vital resource of today's enterprise is the collective knowledge residing in the minds of an organization's employees, customers, and vendors, enterprise should learn how to manage their knowledge to be more beneficial These benefits may include leveraging core business competencies, accelerating innovation and time-to-market, improving cycle

times and decision-making, strengthening organizational commitment, and building sustainable competitive advantage. It is making the organization better suited to compete successfully in a much more demanding environment, generally KM focuses on organizing and making available important knowledge, wherever and whenever it is needed. The emphasis in KM has been on knowledge that is recognized and articulated in forms for example (knowledge about processes, procedures, intellectual property, documented best practices, forecasts, lessons learned, and solutions to recurring problems), KM also focused on managing important knowledge that may reside in the minds of organizations' experts.

Tuan (2013) argued that the sharing of knowledge in any forms will be quantitatively and qualitatively enhanced in a sustainably healthy organization. For example, an empirical study was led by Tuan (2013) to exam if corporate social responsibility (CSR) influences trust, which in turn engenders the chain of effects from upward influence behavior through organizational health to knowledge sharing. The research contribution was between ethical CSR and identification-based trust or knowledge-based trust, which positively corresponds to organizationally beneficial upward influence behavior, but negatively corresponds to self-indulgent behavior or destructive behavior. A structural equation modeling (SEM) approach was adopted which contributed to the analysis of 412 responses returned from self-administered structured questionnaires sent to 635 middle level managers. The researcher found that CSR, trust, and upward influence behavior have an impact on organizational health and the direction of the mediated relationship of upward influence behavior and organizational health may work in the reverse; and organizational health is strongly related to knowledge sharing.

According to Sharma et al. (2012), rapid changes due to globalization in the business environment caused by highly competition through organizations which creates competitive business environment, thus knowledge become the key components of competitive advantage and main factor to enhance productivity and improved organizations. Indeed, knowledge sharing is considered as a basic facilitator for knowledge management which helps in achieving organization goals although knowledge sharing barriers can obstruct the effectiveness of KM. Sharma et al. (2012) studied 22 barriers of knowledge sharing including lake of top management, concept of KM is not well understood, lack of integration of KM strategy, lack of infrastructure supporting KS, lack of transparent rewards, lack of organizational culture, emphasis on individual rather than team, lack of knowledge retention, staff defection and retirement, lack of documentation, lack of social network, insufficient analysis of past mistakes, lack of time to share knowledge, fear of job security, lack of trust, age

difference, gender difference, difference in national culture, lack of training, unrealistic expectations of employees, reluctance to use IT system, and lack of integration of IT system. Sharma et al. (2012) found that top management's commitment and their understanding towards the concept of KM play a significant role and work as the main driver in the successful implementation of KM.

Kim and Lee (2006) tested the impact of organizational context and information technology on employee knowledge sharing capabilities. Convenience sample of 322 employees in five public sectors and five private sectors organizations in South Korea was used, a 400 surveys were hand-delivered to the 10 divisions during August 2003, the usable questionnaires was 322 (80 percent response rate). They found that social networks, centralization, performance-based reward systems, employee usage of IT applications, and user-friendly IT systems are a significant variable that affects employee knowledge-sharing capabilities in public and private organizations.

A research conducted by Darroch (2005) to test the role of KM in firms. Mail surveys of 443 CEO's in large New Zealand firms were used to investigate the links among KM, innovation, and firm performance. KM was measured by looking at three main constructs: knowledge acquisition, knowledge dissemination, and responsiveness to knowledge. Seven factors characterized knowledge acquisition: valuing employees' attitudes and opinions and encouraging employees to up-skill; having a well-developed financial reporting system; being market-focused by actively obtaining customer and industry information; being sensitive to information about changes in the marketplace; employing and retaining a large number of people trained in science, engineering, or math; working in partnership with international customers; and getting information from market surveys. Knowledge dissemination was measured by two factors: readily disseminating market information around the organization; and using technology such as teleconferencing and videoconferencing to facilitate communication. Moreover, responsiveness to knowledge was achieved by five factors: responding to knowledge about customers, competitors, and strategies; being flexible with readily-changeable products; using innovation to create new products for the firm; improvements to existing product lines; and cost reduction of existing products. Also, innovation was measured by asking firms the extent to which they add new products to the world and to the firm, how they add to existing product lines, how they improve or revise to existing product lines, how they achieve cost reductions on existing products, and how they reposition existing products. Firm performance was evaluated by accounting measures such as profits, and non-accounting measures like market share and sales growth. Darroch (2005) found that

firms with KM capability that used resources much more efficiently, and in more innovative ways, were achieving higher returns than others.

3. Research Methodology

The major elements of this research are established based on preceding literature, either theoretically or empirically. This section provides the methodology applied in this study. The methodology includes the research theoretical framework, procedural definitions, research hypotheses, research type and scale, research population and sample, besides data collection and analysis procedures. The reliability and validity of the study are also provided.

3.1. Research Theoretical Model

This study used variables that are common in knowledge sharing literature. By reviewing the literature, it was noticed that the following dimensions of knowledge sharing enablers are the most dominant: enjoyment in helping others, knowledge self-efficacy, top management support, organizational rewards, and ICT use. The impact of these variables was tested on knowledge sharing capability. Figure (1) displays the research's proposed model.

3.2. Procedural Definitions

As this research is deductive and quantitative in its nature, one of the important characteristic of deduction is the need to operationalize the variables of the study in a way that facilitate the measurement of facts quantitatively (Saunders et al, 2007). Indeed, the five independent variables of Knowledge sharing antecedents (i.e. enjoyment in helping others, knowledge self-efficacy, top management support, organizational rewards, and ICT use) were adapted from Lin (2007); and Knowledge sharing capability, as the dependent variable, was identified from Kim and Lee (2006) and validated by Kumar and Rose (2012).
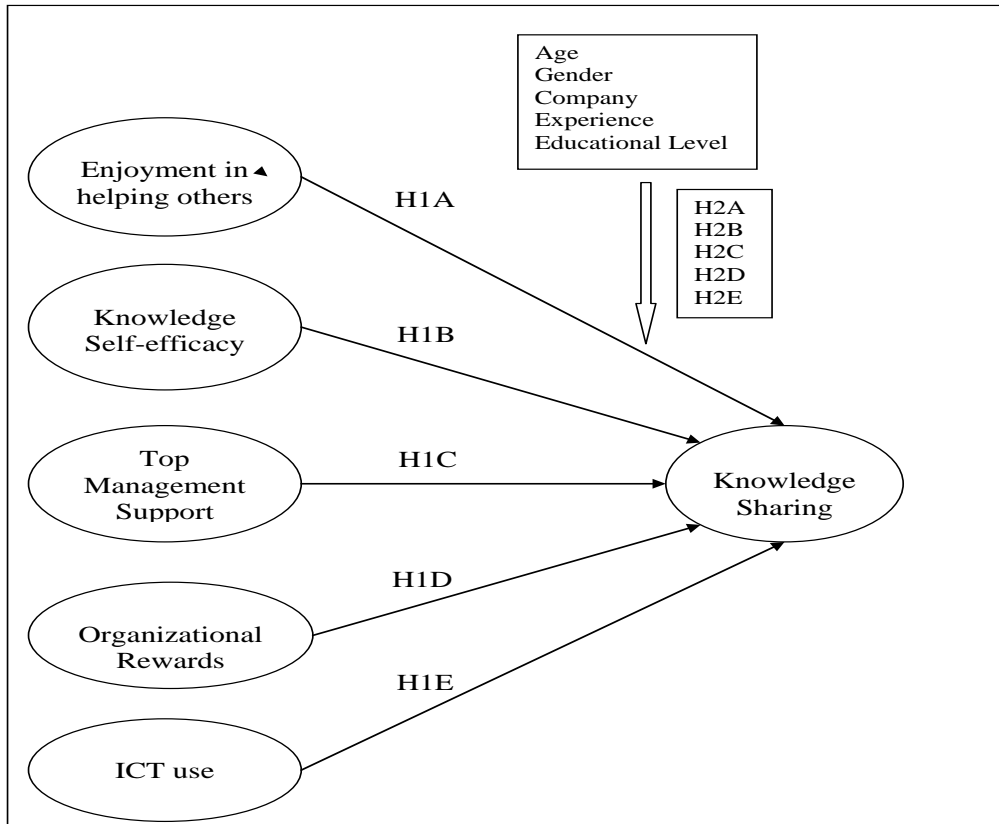
Figure 1: The research model based on Lin (2007) and Kumar and Rose (2012)

Indeed, enjoyment in helping others known as the degree to which employees are motivated by relative altruism owing to their desire to help others; knowledge self-efficacy as the degree to which employees believe that their knowledge can help to solve job-rotated problems and improve work efficacy; top management support as the degree to which top management support occur to create a supportive climate and providing sufficient resources; organizational rewards as the degree to which organizations values shape employee behaviors; ICT use as the degree to which ICT enhance rapid search, access and retrieval of information, and support communication and collaboration among organizational employees; and knowledge sharing capability as the ability of employees to share their work-related experience, expertise, know-how, and contextual information with other employees through informal and formal interactions within or across teams or work units.

3.3. Research Hypotheses

In order to test the causal model of the relationships among knowledge sharing antecedents (i.e. enjoyment in helping others, knowledge

self-efficacy, top management support, organizational rewards, and ICT use), and knowledge sharing capability; the study is hypothesized as follows:

3.3.1. The Main Research Hypotheses

H1: There is a statistically significant impact of knowledge sharing enablers (enjoyment in helping others, knowledge self-efficacy, top management support, organizational rewards, and ICT use) on knowledge sharing capability.

H2: There are significant differences in the impact of knowledge sharing enablers (enjoyment in helping others, knowledge self-efficacy, top management support, organizational rewards, and ICT use) and knowledge sharing capability due to demographic characteristics.

3.3.2. The Research Sub-Hypotheses

H1A: There is a statistically significant impact of enjoyment in helping others on knowledge sharing capability.

H1B: There is a statistically significant impact of knowledge self-efficacy on knowledge sharing capability.

H1C: There is a statistically significant impact of top management support on knowledge sharing capability.

H1D: There is a statistically significant impact of organizational rewards on knowledge sharing capability.

H1E: There is a statistically significant impact of ICT use on knowledge sharing capability.

H2A: There is a significant difference in the impact of knowledge sharing enablers on knowledge sharing capability due to age.

H2B: There is a significant difference in the impact of knowledge sharing enablers on knowledge sharing capability due to gender.

H2C: There is a significant difference in the impact of knowledge sharing enablers on knowledge sharing capability due to company type.

H2D: There is a significant difference in the impact of knowledge sharing enablers on knowledge sharing capability due to experience.

H2E: There is a significant difference in the impact of knowledge sharing enablers on knowledge sharing capability due to educational level.

3.4. Population and Sample

Data should be collected from the people that can provide the correct answers to solve the problem (Sekaran, 2003) and represent the whole people, events or objects the researcher want to study. Therefore, the population of this study consists of telecommunication employees in Jordan (Orange, and Umniah), which counts of 3500 employees. Indeed, the researcher has chosen these companies as they are the largest Internet Service Providers (ISPs) working in Jordan. Also, because of the nature of this research questions, besides the researchers' limited time and budget, and their experience of Jordanian firms' unwillingness to take part in

telephone/postal/email questionnaires, the current research data was conducted by using drop and collect surveys which covers large samples of the population. This technique is less expensive and consumes less time than other methods such as interviews; and covers a wider geographical area than self-administered surveys. As a result, the researchers used this method of data collection in Jordan. Indeed, by using a drop and collect method to Orange and Umniah employees, 367 survey questionnaires were returned, which is adequate for statistical analysis.

4. Data Analysis and Results

Descriptive analysis was used to describe the characteristic of sample and the respondent to the questionnaires. Correlation coefficients were used to determine the relationship between the dependent and independent variables, where the abbreviations of each of the study's variables are as follow: EHO: enjoyment in helping others; KSE: knowledge self-efficacy; TMS: top management support; ORR: organizational rewards; ICT: ICT use; and KSC: knowledge sharing capability. In addition, the multiple regression, T-test and ANOVA test were employed to test the hypotheses.

4.1. Reliability and Validity

According to Sekaran (2003) it is important to make sure that the instrument developed to measure a particular concept is accurately measuring the variable and is actually measuring the concept that it is supposed to measure in the research. Indeed, reliability analysis is related to the assessment of the degree of consistency between multiple measurements of a variable, whereas validity analysis refers to the degree to which a scale or set of measures accurately represents the construct (Hair et al., 1998).

The reliability of the instrument was measured by the Cronbach's alpha coefficient. Further, some scholars (e.g. Bagozzi and Yi, 1988) suggested that the values of all indicators or dimensional scales should be above the recommended value of 0.60. However, the Cronbach's alpha for the independent variables are as follow: enjoyment in helping others has a Cronbach's alpha coefficient of 0.915. Knowledge self-efficacy has a Cronbach's alpha coefficient of 0.804. Top management support has a Cronbach's alpha coefficient of 0.900. Organizational rewards have a Cronbach's alpha coefficient of 0.864. ICT use has a Cronbach's alpha coefficient of 0.755. The dependent variable (knowledge sharing capability) has a Cronbach's alpha coefficient of 0.555. The Cronbach's alpha coefficients of all the independent variables are above 0.60 which suggesting the composite measure is reliable. However, the Cronbach's alpha coefficients of the dependent variable was below 0.60 indicating that the three items (i.e. KSC1, KSC2, KSC3) are measuring something different from the scale as a whole. In such cases, Pallant (2005) suggested to consider removing items with low inter-total correlations (i.e. items with low values

less than 0.30). Therefore, after examining the current dataset, it was found that KSC3 (I can freely access documents, information, and knowledge held by other divisions within the organization) has a corrected item-total correlation of 0.267 (less than 0.30). Consequently, it was needed to eliminate the above item for further statistical considerations. Also, Cronbach's alpha coefficient of the dependent variable after deleting KSC3 was 0.631, which is acceptable.

Convergent validity refers to the degree to which items or measures are correlated with each other to measure the same construct. Therefore, higher correlation shows that the scale is assessing its aimed construct. The closer the values are to 1 the more highly correlated the items are, and specifically the individual item reliability is recommended to be greater than 0.50 (Fornell and Larcker, 1981; Bagozzi and Yi, 1988). It has been noticed that most of the values were close to 0.5 which indicate a positive correlation between items. This leads to a higher level of convergent validity.

Also, before testing the hypotheses, it is important to investigate all data for the assumptions of multivariate analysis in terms of multicollineraity, normality, and linearity. Multicollinearity occurs when a high correlation between independent variables exists in a regression model (Field, 2004). Tolerance and VIF (Variance Inflation Factor) are used to measure the presence of multicollineraity. Someone can state that a problem of multicollinearity is obvious if a tolerance value is less than 0.10 and/or a VIF value is above 10 (Kline, 1998). However, as shown in Table (7), and since all values for all variables were within the acceptable ranges for both tolerance and VIF. Consequently, the assumption of multicollinearity was not challenged.

4.2. Respondents Demographic Profile

As showed in Table (1), the demographic profile of the respondents for this study revealed that they are typically male, hold a bachelor degree, about 54% of them are of ages between 20- less than 30 years old, and about 34% between 30- less than 40 years old. The data also revealed that about 71% of them have experience up to 10 years.

4.3. Descriptive Analysis

In order to describe the responses and thus the attitude of the respondents toward each question they were asked in the survey, the mean and the standard deviation were estimated. While the mean shows the central tendency of the data, the standard deviation measures the dispersion which offers an index of the spread or variability in the data (Sekaran, 2003). In other words, a small standard deviation for a set of values reveals that these values are clustered closely about the mean or located close to it; a large standard deviation indicates the opposite. Table (2) shows the overall mean and standard deviation of the independent and dependent variables.

Table 1: Respondents demographic profile based on the researchers' analysis

Category	Frequency	Percentage %
Name of the Company		
Orange	245	66.8
Umniah	122	33.2
Total	*367*	*100*
Gender		
Male	225	61.3
Female	142	38.7
Total	*367*	*100*
Age		
20 years- less than 30	199	54.2
30 years - less than 40	123	33.5
40 years - less than 50	34	9.3
50 years and above	11	3.0
Total	*367*	*100*
Experience		
Less than 5 years	125	34.1
5- less than10 years	137	37.3
10- less than 15 years	50	13.6
15 years and more	55	15.0
Total	*367*	*100*
Educational Level		
Less than Tawjehi	3	0.8
Tawjehi	8	2.2
Diploma	26	7.1
Higher Diploma	13	3.5
Bachelor	277	75.5
Master	38	10.4
Doctorate	*2*	*0.5*
Total	*367*	*100*

Table 2: Mean and standard deviation of the study's variables

Type of Variable	Variables	Mean	Std. Deviation
Independent Variables	**Knowledge sharing enablers**	3.7283	0.53713
	Enjoyment in helping others	4.2193	0.80358
	Knowledge self-efficacy	3.9707	0.67926
	Top management support	3.3883	0.95909
	Organizational rewards	3.4428	0.99921
	ICT use	3.6206	0.83956
Dependent Variable	**Knowledge sharing capability**	3.6798	0.83245

As presented in Table (2), data analysis results have shown that knowledge sharing enablers are applied to a great extent in the Jordanian telecommunication sector in which the mean score is 3.7283. This indicates

an indicator on the importance of knowledge sharing enablers and the essential role that they play in enhancing the organizational goals and directions, and how such enablers participate in knowledge sharing capability. Moreover, data analysis results have revealed that knowledge sharing capability itself is applied to a great extent in Jordanian telecommunication firms in which the mean score is 3.6798. This high level of presentation denotes a positive attitude regarding knowledge sharing. This sturdily advocates that Jordanian telecommunication firms are currently engaging in information and knowledge sharing activities with their employees. Indeed, it was found that employees practice knowledge sharing as they voluntarily share the know-how, information, and knowledge with each other, and they cooperate or communicate with each other in teams or groups for sharing information and knowledge.

The study also found that enjoyment in helping others is widely practiced by telecommunication firms in Jordan. It has the highest mean value (i.e. mean was 4.2193) over other types of knowledge sharing enablers (knowledge self-efficacy mean's was 3.9707, ICT use mean's was 3.6206, organizational rewards mean's was 3.4428, and top management support mean's was 3.3883).

4.3.1. Independent Variables

Table (3) demonstrates the mean scores for knowledge sharing enablers' items:

Table 3: Mean and standard deviation for enjoyment in helping others

Enjoyment in helping others	Mean	Std. Dev.
I enjoy sharing my knowledge with colleagues.	4.1989	0.92695
I enjoy helping colleagues by sharing my knowledge.	4.2289	0.87274
It feels good to help someone by sharing my knowledge.	4.2943	0.89659
Sharing my knowledge with colleagues is pleasurable.	4.1553	0.90256
Knowledge self-efficacy	**Mean**	**Std. Dev.**
I am confident in my ability to provide knowledge that others in my company consider valuable.	4.1499	0.83102
I have the expertise required to provide valuable knowledge for my company.	4.0272	0.80593
It does really make difference whether I share my knowledge with colleagues.	4.1090	0.81589
Most other employees cannot provide more valuable knowledge than I can.	3.5967	0.96144
Top management support	**Mean**	**Std. Dev.**
Top managers think that encouraging knowledge sharing with colleagues is beneficial.	3.5559	1.05918
Top managers always support and encourage employees to share their knowledge with colleagues.	3.4305	1.07629
Top managers provide most of the necessary help and resources to enable employees to share knowledge.	3.3215	1.09152
Top managers are keen to see that the employees are happy to	3.2452	1.14511

share their knowledge with colleagues.		
Organizational rewards	**Mean**	**Std. Dev.**
Sharing my knowledge with colleagues should be rewarded with a higher salary.	3.2970	1.24863
Sharing my knowledge with colleagues should be rewarded with a higher bonus.	3.1935	1.17959
Sharing my knowledge with colleagues should be rewarded with a promotion.	3.4523	1.20213
Sharing my knowledge with colleagues should be rewarded with an increased job security.	3.8283	1.10659
ICT use	**Mean**	**Std. Dev.**
Employees make extensive use of electronic storage (such as online databases and data warehousing) to access knowledge.	3.8229	1.04475
Employees use knowledge networks (such as groupware, intranet, virtual communities, etc.) to communicate with colleagues.	3.7248	1.02590
My company uses technology that allows employees to share knowledge with other persons inside the organization.	3.6349	1.10027
My company uses technology that allows employees to share knowledge with other persons outside the organization.	3.2997	1.24030

4.3.2. Dependent Variable

Table (4) demonstrates the mean scores for knowledge sharing capability items:

Table 4: Mean and standard deviation for knowledge sharing capability

Knowledge sharing capability	Mean	Std. Dev.
I voluntarily share my know-how, information, and knowledge with other employees.	3.8338	0.96505
I cooperate or communicate with other employees in teams or groups for sharing information and knowledge.	3.5259	0.98278
Total	3.6798	0.83245

4.3.3. The Moderating Variables

The demographic characteristics of employees are the moderating variables in this study. These variables are used in order to identify if there are different patterns between knowledge sharing among respondents. The demographic characteristics in this study include age, gender, company type, experience, and educational level.

4.4. Hypotheses Testing Results

The purpose of this study was to investigate the relationship between knowledge sharing enablers and knowledge sharing capability. Thus, in order to test the hypotheses developed for this study, multiple regression technique was used. Further, this technique defined as "a method of analysis for assessing the strength of the relationship between each of a set of explanatory variables (sometimes known as independent variables, although this is not recommended since the variables are often correlated), and a single response (or dependent) variable" (Landau and Everitt, 2004, p.101).

Indeed, the level of significance (α-level) was chosen to be 0.05 and the probability value (p-value) obtained from the statistical hypotheses test is considered to be the decision rule for rejecting the null hypotheses (Creswell, 2003). If the p-value is less than or equal to α- level, the null hypothesis will be rejected and the alternative hypothesis will be supported. However, if the p-value is greater than the α-level, the null hypothesis cannot be rejected and the alternative hypothesis will not be supported.

4.4.1. Hypothesis 1

H1: There is a statistically significant impact of knowledge sharing enablers (enjoyment in helping others, knowledge self-efficacy, top management support, organizational rewards, and ICT use) on knowledge sharing capability.

The results of testing of the main hypothesis are demonstrated in Table (5) and Table (6).

Table 5: Study model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.529 a	0.280	0.270	0.71116

a. Predictors: (Constant), EHO, KSE, TMS, ORR, ICT

Table 6: Analysis of variance for the study model (b)

Model	Sum of Squares	df	Mean Square	F	Sig.	Result
Regression	71.053	5	14.211	28.098	0.000a	
Residual	182.577	361	0.506			Accept the hypothesis
Total	253.631	366				

a. Predictors: (Constant), EHO, KSE, TMS, ORR, ICT
b. Dependent Variable: KSC

The multiple correlation coefficient R = 0.529 shows that there is a positive correlation between knowledge sharing capability enablers (enjoyment in helping others, knowledge self-efficacy, top management support, organizational rewards, and ICT use) and knowledge sharing capability itself. This means that the independent variables and dependent variable change in the same direction. The multiple correlation coefficient is a gauge of how well the model predicts the observed data. The value of R2 = 0.280 indicates the amount of variations in knowledge sharing capability that is accounted by the fitted model. This is to say that 28% of the variability of knowledge sharing capability has been explained by the variables of knowledge sharing capability enablers. Also, the higher the knowledge sharing capability enablers applicability, the higher the applicability of knowledge sharing itself. In order to generalize the results obtained from the respondents to the whole population, adjusted R2 was calculated. Indeed, adjusted R2 was equals 27%, indicating a low degree of generalizability of

the model. Table (6) showed the Analysis of variance (ANOVA) analysis to test the main null hypothesis. Indeed, F-ratio for the data was 28.098 which is significant at $p < 0.05$ (sig = 0.000). Therefore, there was a statistically significant impact of knowledge sharing capability enablers on knowledge sharing capability itself, and thus reject the null hypothesis and accept the alternative hypothesis.

The sub-hypotheses H1A, H1B, H1C, H1D and H1E stated that there is a statistically significant impact of enjoyment in helping others, knowledge self-efficacy, top management support, organizational rewards, and CT use on knowledge sharing capability, respectively. Moreover, the equation of multiple regression takes this formula:

$Y=\beta_0+\beta_1 X_1+ \beta_2 X_2+ \beta_3 X_3+ \beta_4 X_4+ \beta_5 X_5+\varepsilon_i$

By testing the impact of each predictor included in the model (i.e. using the value of β and α significance level) on the dependent variable, we can infer the acceptability of each of the sub-hypothesis. The β indicates the individual contribution of each predictor to the model if all other predictors are held constant. Table (7) shows that for enjoyment in helping others, top management support, organizational rewards, ICT use; the value of β was 0.296, 0.103, 0.125, and 0.192 respectively; and considered to be high. In addition, t values were above 1.96. However, for knowledge self-efficacy the value of β was 0.081, which is a small value compared with the above β's; and its t value was less than 1.96. Indeed, we can infer from the values of β that the variable that has the highest contribution in the model is enjoyment in helping others; followed by ICT use, organizational rewards, and then top management support. Further, the value of β for knowledge self-efficacy was notably small of 0.081. Thus, as shown in Table (7), this variable did not have a statistically significant impact on knowledge sharing capability.

Table 7: Coefficient of predictors

Model	Unstandardized Coefficients		t	Sig.	Result of hypothesis testing	Collinearity Statistics	
	B	Std. Error				Tolerance	VIF
(Constant)	0.608	0.271	2.240	0.026			
EHO	0.296	0.056	5.280	0.000	Accept the hypothesis	0.682	1.467
KSE	0.081	0.068	1.477	0.141	Reject the hypothesis	0.657	1.523
TMS	0.103	0.044	2.056	0.040	Accept the hypothesis	0.792	1.262
ORR	0.125	0.038	3.254	0.001	Accept the hypothesis	0.940	1.064
ICT	0.192	0.050	3.863	0.000	Accept the hypothesis	0.794	1.259

The findings revealed that enjoyment in helping others is the strongest predictor for knowledge management sharing capability at the studied telecommunication firms in Jordan. This is followed by ICT use, organizational rewards, and top management support respectively.

4.4.2. Hypothesis 2

Hypotheses H2A, H2B, H2C, H2D and H2E argued that there is a significant difference in the impact of knowledge sharing enablers on knowledge sharing capability due to age, gender, company type, experience, and educational level, respectively. Independent Samples T-test was employed in order to investigate if there any significant differences in the impact of knowledge sharing enablers on knowledge sharing capability that can be attributed to gender, and company type. Also, ANOVA test was employed to examine if there any significant differences in the impact of knowledge sharing enablers on knowledge sharing capability that can be attributed to age, experience, and educational level.

Results of T-test, shown in Table (8) and Table (9), indicate that there is no significant difference in the impact of knowledge sharing enablers on knowledge sharing capability that can be attributed to gender, and company type. On the other hand, results of ANOVA test, shown in Table (10), indicated that there is no significant difference in the impact of knowledge sharing enablers on knowledge sharing capability in favor of age; whereas Table (11) and Table (12) indicated that there is a significant difference in the impact of knowledge sharing enablers on knowledge sharing capability in favor of experience, and educational level.

Table 8: T-test of knowledge sharing enablers on knowledge sharing capability attributed to gender

Variables	Male			Female			T	df	Sig.
	N	Mean	Std. Dev.	N	Mean	Std. Dev.			
Enjoyment in helping others	225	4.23	0.82	142	4.19	0.76	0.553	365	0.581
Knowledge Self-Efficacy	225	4.02	0.68	142	3.88	0.65	1.835	365	0.067
Top Management Support	225	3.35	0.96	142	3.44	0.94	0.906	365	0.365
Organizational Rewards	225	3.41	0.99	142	3.48	1.01	0.656	365	0.512
ICT Use	225	3.65	0.83	142	3.56	0.85	0.941	365	0.347

Table 9: T-test of knowledge sharing enablers on knowledge sharing capability attributed to company type

Variables	Orange			Umniah			T	df	Sig.
	N	Mean	Std. Dev.	N	Mean	Std. Dev.			
Enjoyment in helping others	245	4.18	0.81	122	4.28	0.78	1.171	365	0.242
Knowledge Self-Efficacy	245	3.92	0.65	122	4.06	0.71	1.812	365	0.071
Top Management Support	245	3.32	0.92	122	3.51	1.02	1.782	365	0.076
Organizational Rewards	245	3.43	0.98	122	3.46	1.02	0.302	365	0.762
ICT Use	245	3.61	0.80	122	3.62	0.91	0.038	365	0.970

Table 10: ANOVA Analysis of knowledge sharing enablers on knowledge sharing capability attributed to age

Variables		Sum of Squares	df	Mean Square	F	Sig.
Enjoyment in helping others	Between Groups	1.936	3	0.645	0.999	0.393
	Within Groups	234.407	363	0.645		
	Total	236.343	366			
Knowledge Self-Efficacy	Between Groups	1.316	3	0.439	0.950	0.416
	Within Groups	167.557	363	0.462		
	Total	168.873	366			
Top Management Support	Between Groups	2.140	3	0.713	0.774	0.509
	Within Groups	334.529	363	0.922		
	Total	336.670	366			
Organizational Rewards	Between Groups	3.128	3	1.043	1.045	0.373
	Within Groups	362.296	363	0.998		
	Total	365.423	366			
ICT Use	Between Groups	0.306	3	0.102	0.144	0.934
	Within Groups	257.671	363	0.710		
	Total	257.977	366			

Table 11: ANOVA Analysis of knowledge sharing enablers on knowledge sharing capability attributed to experience

Variables		Sum of Squares	df	Mean Square	F	Sig.
Enjoyment in helping others	Between Groups	6.493	3	2.164	3.418	0.018
	Within Groups	229.850	363	0.633		
	Total	236.343	366			
Knowledge Self-Efficacy	Between Groups	2.527	3	0.842	1.838	0.140
	Within Groups	166.345	363	0.458		
	Total	168.873	366			
Top Management Support	Between Groups	0.665	3	0.222	0.240	0.869
	Within Groups	336.004	363	0.926		
	Total	336.670	366			
Organizational Rewards	Between Groups	0.636	3	0.212	0.211	0.889
	Within Groups	364.787	363	1.005		
	Total	365.423	366			
ICT Use	Between Groups	0.208	3	0.069	0.098	0.961
	Within Groups	257.769	363	0.710		
	Total	257.977	366			

Table 12: ANOVA Analysis of knowledge sharing enablers on knowledge sharing capability attributed to educational level

Variables		Sum of Squares	df	Mean Square	F	Sig.
Enjoyment in helping others	Between Groups	11.115	6	1.852	2.961	0.008
	Within Groups	225.228	360	0.626		
	Total	236.343	366			
Knowledge Self-Efficacy	Between Groups	4.519	6	0.753	1.650	0.132
	Within Groups	164.354	360	0.457		
	Total	168.873	366			
Top Management Support	Between Groups	9.253	6	1.542	1.696	0.121
	Within	327.416	360	0.909		

	Groups					
	Total	336.670	366			
Organizational Rewards	Between Groups	7.117	6	1.186	1.192	0.310
	Within Groups	358.306	360	0.995		
	Total	365.423	366			
ICT Use	Between Groups	10.259	6	1.710	2.485	0.023
	Within Groups	247.718	360	0.688		
	Total	257.977	366			

5. Discussion and Conclusions:

The result for the first main hypothesis was supported by the current research data. That is, a statistically significant impact was found of knowledge sharing enablers on knowledge sharing capability. This finding suggests that greater attention to knowledge sharing enablers (i.e. enjoyment in helping others, knowledge self-efficacy, top management support, organizational rewards, and ICT use) would increase employees' knowledge sharing capability. This finding is consistent with what have been evidenced in the literature. Indeed, enablers found to be considered as the mechanisms for fostering individual and organizational learning and also facilitate employee knowledge sharing within or across teams or work units (Lin, 2007). Furthermore, knowledge sharing enablers include the effects caused by employee motivators, organizational contexts, and information and communication technology (ICT) applications. In addition, Wu and Zhu (2012) found a number of factors that are believed to influence knowledge sharing behaviors of individuals, ranged from hard issues such as tools and technologies to soft issues such as motivations and provision of incentives to encourage knowledge sharing; including organizational culture, personal values, national culture, trust and organizational resources like (time, space, access to knowledgeable people in the organization).

The sub-hypotheses H1A, H1B, H1C, H1D and H1E stated that there is a statistically significant impact of enjoyment in helping others, knowledge self-efficacy, top management support, organizational rewards, and ICT use on knowledge sharing capability, respectively. While H1A, H1C, H1D and H1E, were supported; H1B was not. Also, the findings indicate that the enjoyment in helping others dimension was the one that correlated most strongly with employees' knowledge sharing capability, while top management support correlated least with knowledge sharing capability. Consistent with the literature, this research proved that enjoyment in helping others impacted firm's knowledge sharing capability (Lin, 2007; Kumar and

Rose, 2012; Lavanya, 2012). Indeed, they found that employees not just enjoy sharing their knowledge with their colleagues, helping them in solving their work related problems; but also make them feel better besides a great pleasure. ICT use has been found in this study to have an impact on sharing knowledge capability. This is in line with Lin (2007) who found that different aspects of organizational climate are critical drivers of knowledge sharing, such as reward systems, top management support; also the technology dimension, ICT can be effectively used to facilitate the codification, integration, and dissemination of organizational knowledge. In addition, Kim and Lee (2006), Sa´enz et al. (2012), and Sharma et al. (2012) found that on-line discussion forums, blogs, intranets and knowledge repositories, had been considered as facilitators of knowledge sharing capability among employees.

An interesting finding in this research was that knowledge self-efficacy did not have a statistically significant impact on knowledge sharing capability. This lack of evidence for the relationship between knowledge self-efficacy and the dependent variable of knowledge sharing capability was unexpected, as the findings of previous studies provided support for such an association. For instance, Lin (2007), and Kumar and Rose (2012) confirmed that there was a significant positive relationship between knowledge self-efficacy and knowledge sharing itself. However, the lack of the significant relation could be due to the employees who did not believe in their ability to share organizationally valuable knowledge with their colleagues. Consequently, further research is needed to clarify and explain the lack of support for this relationship, bearing in mind that the research field is based on the country of Jordan, and thus a cultural context could be occurring.

Hypotheses H2A, H2B, H2C, H2D and H2E stated that there is a significant difference in the impact of knowledge sharing enablers on knowledge sharing capability due to age, gender, company type, experience, and educational level, respectively. However, the results found that there is no significant difference in the impact of knowledge sharing enablers on knowledge sharing capability due to gender, and company type. Also, there was no significant difference in the impact of knowledge sharing enablers on knowledge sharing capability in favor of age; whereas it has been found that there is a significant difference in the impact of knowledge sharing enablers on knowledge sharing capability due to experience, and educational level.

However, the researcher faced some difficulties in gaining access to the targeted companies. In other words, due to the difficulty of access, this research was applied in two telecommunication companies in Jordan (Orange and Umniah); while others refused to be researched because of privacy and security issues. Moreover, while the response rate of this research was adequate for the condition of statistical analysis, those who did

not respond still observable, thus the research results is reasonable to be cautious in their generalization. In addition, the data and results reported in this study were based on Jordan, and in turn are applicable precisely to the Jordanian context. Therefore, this raises inquiries regarding the generalizability of the findings for other cultures and different contexts.

Furthermore, since the value of R2 for this research was 28%, further researches is needed to test the applicability and impact of knowledge sharing enablers used in this study on another industry to assess and improve the generalizability of the findings. In other words, future studies might add or omit other knowledge sharing enablers and test their effect over knowledge sharing depending on the industry being studied.

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