

Technological knowledge and its impact on knowledge creation

An analytical study of the opinions of a sample of employees in Zain Telecom Company

Abstract:

The issue of Technological knowledge and knowledge creation in recent decades has received prominent attention by most researchers. That is, the goal of the current study lies in diagnosing the relationship between Technological knowledge and knowledge creation, by identifying the role played by (Technological knowledge) as one-dimensional, in improving the effectiveness of dealing with knowledge creation by its dimensions (socialization, externalization, combination, internalization). As for the second main hypothesis (there is an impact of the Technological knowledge in knowledge creation), and therefore in order to diagnose this relationship, the opinions of 110 employees of the Zain Telecom Company".

were surveyed, and (110) were recovered, valid for analysis, at a rate of (100%). Use SPSS.V24, a set of statistical methods were adopted, such as the arithmetic mean, standard deviation, correlation coefficient Person, regression coefficient, deviation coefficient R^2 and Cronbach's alpha coefficient to test the validity of the study's hypotheses. The study determined the first main hypothesis, which is that there is a statistically significant correlation between the Technological knowledge and knowledge creation. The results were summarized to the existence of a correlation and a statistically significant effect of the Technological knowledge in knowledge creation to indicate the socialization of the employees of the Zain Telecom Company, which improves dealing with knowledge creation in order to ensure the development and balance between the Technological knowledge and the skills of dealing with knowledge creation among the employees of the Zain Telecom Company.

Keywords: *Technological knowledge, knowledge creation.*

Introduction:

The notion of knowledge as a significant entity and analytical unit raises some issues that are no longer limited to philosophers and instead call for the involvement of numerous other experts. This offers a range of ideas, connections, close examination and thorough vocabulary, new vocabulary, definitions of out-of-date terms, and modifications to protocols and processes. While some authors warn against using knowledge as a "new 'emergency' factor for understanding organizational arrangements" or as a predictor of organizational arrangements, others view knowledge as a distinct concept that indicates a change in the way managers think. Few would contest the widely held view that most forms of technology, from blacksmithing to genetic engineering, from Stone Age axes to modern nanomaterials, from learning how to make glue from corpses to constructing nuclear power plants, involve creating or altering organisms for specific purposes as needed or desired. The degree of attention taken in the creation and utilization of artifacts is indicative of technology and knowledge-based activities. We are surrounded by technology. Understanding technology, at least part of it, is essential to understanding modern civilization.

This can lead to the omission of important aspects of technology and the evaluation of technological information from the standpoint of knowledge that is not technological. In order to give technology teachers a strong basis of knowledge, it might be quite beneficial to have a philosophy of technology that is separate from both the natural sciences and traditional crafts. Knowledge development is the most valuable resource for corporate success because it produces the greatest innovations.. To achieve the right level of innovation and knowledge generation, organizations must successfully enhance the skills and knowledge of their personnel. The

purpose of this process is to raise awareness of the critical role that internal information exchange plays inside the organization. The definition of knowledge sharing is "a culture of social interaction, which includes the exchange of employee knowledge, experience, and skills throughout the entire department or organization". More empirical data is still needed to support significant ideas in this field, despite the abundance of literature and several theoretical paradigms that test our comprehension of theoretical production and engagement processes and frameworks. The relationship between knowledge generation and Zain Telecom's technological prowess is examined in this study.

First, the theoretical framework

1. Technological knowledge :

Technology historians are no longer interested in the subject. Samuel Florman's [1992] *Technology & Culture* critique of Vincenti's book serves as one illustration. In his criticism, Florman bemoans Vincenti's excessive focus on epistemological specifics at the expense of organizational and human concerns. Historians left a void that philosophers have taken time to fill. It seems that treating science and technology as distinct, human-made domains of knowledge would be more appropriate for historical records than regarding science as discovered knowledge and technology as a collection of artifacts that were formerly created by trial and error but are now created through the application of science. [Wise, 1985, page 244; emphasis added] "Technology appears, not as derivative from science, but as an autonomous body of knowledge, identifiably different from the scientific" information with which it interacts, according to Wise and a number of other experts, including Barnes and Layton, which Vincenti approvingly mentions. [Pages 1-2, 1990; emphasis added].

In turn, Layton appears to draw this opinion from Alexandre Koyr e's writings, stating that Koyr e believed that technology was a fundamentally distinct way of thinking from science. In the end, technology produced its own autonomous laws that made up a corpus of technical theory. [Page 40 of Layton, 1974], To foreshadow my conclusion, efforts to achieve the strong-emancipation ideal have not only been dispersed and peculiar, but they also grossly underestimate the challenges in creating the ideal, even if the literature on technical knowledge is heavily influenced by it. Although my arguments demonstrate the ineffectiveness of current arguments, they do not prove that strong emancipation cannot be defended. From the perspective of an employee, the Sundqvist study (2016) included a wide variety of technology-focused building tasks that seem pointless. They also cover more complicated topics such as examining the suitability of materials and artifacts, the operation of technical systems and realities, and the components of stable building. The study also demonstrates that workers refer to content that addresses topics other than technology as technical education. Early childhood education's use of technology: staff members' provision of learning opportunities, a single-scale, one-dimensional technological knowledge variable.

2-knowledge creation:

"True, justified faith" was the definition of knowledge (Nonaka and Takeuchi). More precisely, the majority of definitions of knowledge fall somewhere between "more meaningful content and structure" and "the complex, accumulated experience that exists in individuals and is partially or largely indescribable." Nonaka et al. claim that knowledge is produced by the interplay and weaving together of implicit and explicit knowledge in accordance with four distinct modes of convergence, or SECI. According to Nonaka and Kono, the construction of a "bachelor's degree" within an organization is the primary theme of knowledge creation. According to them, a "bachelor" is a typical setting, setting, or area for knowledge creation. According to Focusunaka

and Takeuchi, SECI can be represented by four different kinds of ba. The initial ba type appears. It is a location where individuals share experiences mostly through in-person interactions and by being present at the same moment. The second is interactive ba, which has its roots in the process of socializing to produce knowledge. It might support the externalization approach to knowledge production.

The following are the elements of knowledge integration: where there is interaction, there is tacit knowledge. Interacting with others, Chickering and Gamson created the Good Practices conceptual model in addition to Weidman's undergraduate socialization model to study the socialization process. The frequency with which college students experience the good practices and the impact such practices have on them have been examined by researchers using the good practices as a framework. Positive correlations were found between self-reported college gains in intellectual development, general education, and personal/interpersonal development, and cooperative learning with peers in particular and excellent practices in general.

Peer involvement and exchanges between teachers and students are examples of good practices that have been found to have a good correlation with learning attitudes, graduate school goals, and cognitive growth (Cruce, Wolniak, Seifert, & Pascarella, 2006). It is commonly acknowledged that excellent socialization experiences are implied by good conduct. Externalization Using information from 58 Korean businesses, Choi and Lee (2002) investigated how knowledge management techniques affected four knowledge-generating systems. After classifying knowledge management techniques as either system- or human-driven, they examined how businesses may modify their approach using four knowledge-generating processes. They came to the conclusion that while system technique is more likely to be suitable for combination, human method is more likely to be beneficial for socializing.

Research on knowledge creation and exchange in an online professional community of educators was done in 2008 by Lin and colleagues. They identified the following order as knowledge generation and internalization—cause conditions, action/interaction strategies, consequences, and contextual contexts—under the direction of a grounded theory. The two levels of the causative conditions are the individual level and the collective level. Information technology (IT), collaboration, and methods for knowledge development and exchange are the three action/interaction techniques. The repercussions are taken into account from both an individual and a group perspective.

A- Research Methodology

- Research problem

The main study question is how to produce knowledge with access to cutting-edge concepts from Zain Telecom employees and technological know-how. The study's emphasis can be established as one of the following fundamental issues based on the previously specified research issue:

1. Does the research sample company's expertise of technology influence knowledge creation?
2. How well-versed in technology is the research sample firm really?
3. Does the research sample organization have any barriers to utilizing technical expertise?

Secondly. research importance

The following factors contribute to the research's significance:

1. The significance of the variables in the current study gives it its importance.
2. The study helps to provide scientific libraries with two subjects (knowledge creation and technology knowledge).
3. Drawing emphasis to the role that technology plays in knowledge generation among the corporate authorities in the research sample and the significance of that information.
4. The research findings and suggestions help future investigators carry out more thorough and in-depth

investigations on research variables, particularly crisis management.

- Third: Research Aims

The following are some of the objectives that the current research aims to accomplish:

1. Recognize how the research sample company uses its technological expertise.
2. defining the elements of knowledge development and figuring out how to modify it to fit the objectives of the research sample company.
3. Understanding the relationship between the advancement of knowledge and technological know-how.
4. Provide a concrete illustration of how knowledge generation is impacted by technological knowledge.
5. presenting a list of suggestions that support the college research sample's resolve to advance and strike a balance between technology competence and knowledge-generating features.

-Fourthly. default search form

The type of interaction between the study's variables is illustrated by the hypothetical model for the research, which is shown in Figure 1:

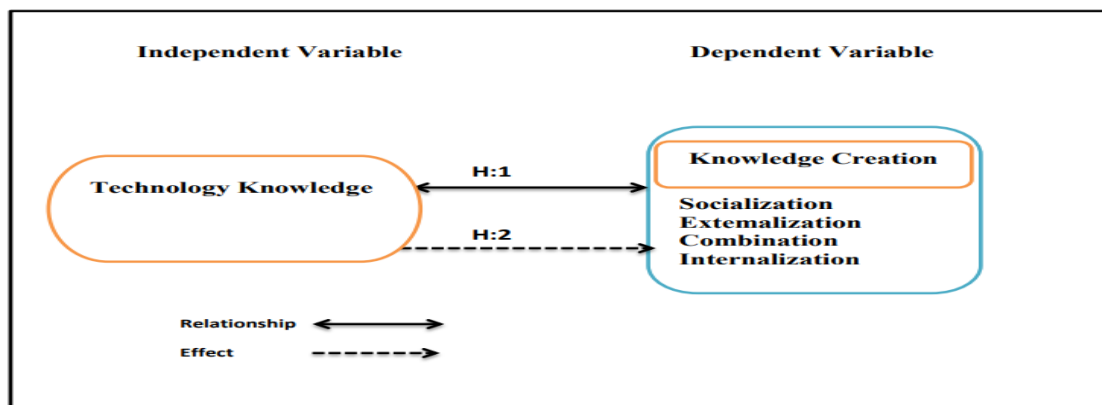


Figure (1) research model

V. research hypothesis

H1: The following sub-hypotheses emerge from the fact that Technology knowledge and knowledge production in all of its facets (socialization, rationale, interconnected group, and internal assimilation) are statistically significantly correlated.

1. Socialization and technology literacy are statistically correlated.
2. The relationship between actualization and technological knowledge is statistically significant.
3. There is statistical correlation between the combination and technological expertise.
4. There is a statistical relationship between internalization and technological knowledge

H2:The following sub-hypotheses flow from the fact that Technology knowledge and knowledge generation in all of its facets (socialization, internalization, combination, and execution) have a statistically significant relationship:

1. Socialization affects technological knowledge morally.
2. Technology knowledge has a moral impact through exernalization.
3. The combination is significantly impacted by technological expertise.
4. When internalized, technological knowledge has a moral impact.

Third: Study methodology and procedures

1. Description of research sample

The sample :

Zain Telecom represented the study population, and the available sample was also represented. After 125 employees answered the survey, 15 questionnaires were returned on the grounds that the cases were either too tiny or too contrite to be used in further investigation. Just 110 types are suitable for investigation and analysis.

Table (1) presents the age and gender-specific demographic characteristics of the research population. To describe the research sample, percentages and frequencies have been retrieved. The results of the table show that, of the research sample, those between the ages of 31 and 40 made up the biggest percentage (43%), while the lowest number (3%) was

Table (2)
Coding and characterization of the questionnaire

No.	Variables	Target categories	Fi	Relative
1	Gender	Males	74	67%
		Female	36	33%
		Total	110	100%
2	Age	- 30	4	4%
		31-40	39	43%
		41-50	36	33%
		51-60	28	25%
		61-	3	3%
		Total	110	100%
3	Career Title	executive	17	15%
		Technical	26	24%
		Engineer	44	40%
		Associate observant	23	21%
		Total	110	100%
4	Academic qualification	Higher	3	3%
		Diploma		
		M.A.	53	48%
		PhD	54	49%
		Total	110	100%

2.- Measurement Tool

The search measurement tool has two main components. Demographic and functional data are included in the first part. The second section contains the research variables, and Table (2) provides a detailed explanation of these measurements.

1. Technology knowledge

A scale was used by the researchers to gauge the one-dimensional technological knowledge variable (Hossini, 2012). Eleven paragraphs make up this five-point Likert scale that goes from (strongly agree) to (strongly disagree). The internal consistency of the research sample's responses on this measure was shown by the Cronbach's alpha coefficient of 0.861 for this variable.

2. Creating knowledge

The four dimensions of the knowledge generation scale (socialization, justification, interconnected group, and internal assimilation) served as its foundation (Akhavan, 2012). This

scale includes 22 items for each of variable's (0.855, 0.821, 0.798, and 0.849), indicating that the research sample's responses to this scale exhibit internal consistency.

-data analysis tools

Among the few appropriate statistical methods used in the study to describe and assess the study data were the arithmetic mean, standard deviation, and basic correlation coefficient data analysis..

Statistical description

Table (2) displays the statistical description of the study variables. The standard deviation demonstrates how consistently the answers were provided to these variables, and the arithmetic mean indicates that all of the variables were around the level of moderation.

Table (2)
Correlation Matrix and Data Summary (N = 86)

Var.	X	Y	Y1	Y2	Y3	Y4
X	1					
Y	.652*	1				
Y1	.765*	.820**	1			
Y2	.711*	.721*	.630*	1		
Y3	.705**	.462*	.651**	.659**	1	
Y4	.674**	.785**	.752	.718**	.734**	1
Means	3.28	3.54	3.77	3.48	3.36	3.54
SD.	1.02	1.34	1.33	1.12	1.34	1.26

* $p < 0.05$; ** $p < 0.01$.

Hypothesis testing :

1-The hypothesis of correlation

The first major premise is supported and accepted by the correlation coefficient matrix in Table (2), which indicates that the majority of the study variables show statistically significant correlations at the (1%) or (5%) level.

2-Impact Their

The second main hypothesis

The findings of the regression analysis show that there are statistically significant relationships between the degrees of technological knowledge and knowledge creation in its dimensions (interconnected group, internal assimilation, socialization, and justification) at the level (0.01-0.05). Consequently, the validity of the hypothesized sub-hypothesis is supported, and the second main hypothesis is accepted.

Table (3)
The results of the second main hypothesis test

regression path			regression coefficients	t	R ²	F
Y1	←	X	.602	5.709**	0.85	45.150**
Y2	←	X	.713	4.953*	0.79	33.207*
Y3	←	X	.722	5.369**	0.77	40.690*
Y4	←	X	.824	4.247*	0.81	38.98**

Discuss the results

The study's conclusions validate the desire of employees in the telecom firms that are the subject of the inquiry to inspire their team members to achieve the goals by understanding how the culture in which they operate is socialized, exemplified, combined, and internalized. In addition to the businesses that are the focus of this research, there is interest in expanding managers' capacities via more autonomy in their work, as this will improve their aptitude and ability to apply unique, creative ideas through education, innovation, and learning new things. Knowledge concepts are generated in a basic manner that supports organizational excellence and aids businesses in achieving their objectives.

According to the report, employees should be encouraged to broaden their technological knowledge and keep abreast of current advancements since doing so will lead to the creation of

REFERENCES: