

Knowledge Sharing Scenario Capture: A Case Study in IT Department of Public Higher Education Institution

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Abstract— Knowledge is increasingly being recognized as a vital organizational resource and intellectual capital in organizations. The tacit and explicit knowledge of employees is crucial to any organizations. Knowledge sharing in organizations is important as it impedes the transfer of knowledge among employees. This paper aims to capture on how people share their tacit and explicit knowledge with each other in an IT department of a public higher education institution. This research is able to capture the behavior of how people share knowledge, identify the methods or enabling scenario for knowledge sharing among employees in the IT department. Data collection was done from in-depth interview sessions called Knowledge Sharing Scenario Capture (KSCC) with five selected employees. The interview questions were constructed from previous literature and case study, and the data were grouped into five sections with an attempt to answer the “why”, “where”, “when”, “what” and “how” questions. The answers were then mapped to the research objectives. The output shows that the employees share their tacit knowledge through the medium of social media, discussions, during incident handling, training classes, on the job training, troubleshooting and problem solving. The employees of this organization prefer to share explicit knowledge such as configuration settings, technical drawings and coding templates via face to face meetings, instant messaging, development servers and emails.

Index Terms—explicit knowledge, knowledge sharing, tacit knowledge

I. INTRODUCTION

This study examines empirically the interaction effects on employees’ tendency to share knowledge with co-workers, as well as the need to capture tacit and explicit knowledge of employees. This case study was done in an IT Department that has about 200 IT staff which provides services to 20,000 staff all over Malaysia. The IT Department has four main units which are system development, IT services, application management, network and infrastructure. With more than 20 campuses

to maintain its IT system, infrastructure and services, the IT department heavily relies on its staff to be able to solve issues and manage IT services on its daily operations.

In order to maintain such operations, knowledge is important for problem solving. A quick, fast and accurate decision is needed to solve issues and this depends on the tacit and explicit knowledge of the IT department staff. Staffs who are experts are needed to pass on or to teach their knowledge to a younger generation or new employees to the IT department. Hence, the need of knowledge sharing is needed. To give better service to the public, employees should have knowledge about what they are providing to the people. It is impossible for employees to deliver good service without having relevant knowledge. Furthermore, employees are able to acquire knowledge if they share their knowledge with colleagues [1]. Knowledge sharing takes place when organizational members share organizational related information, ideas, suggestions and expertise with each other [2]. In the public sector, effective knowledge sharing among employees is a significant management challenge [3]. The utmost importance in knowledge sharing is how to motivate people to share valuable information so that the intellectual capital of companies can be leveraged. Knowledge is created purely through information transfer and the consequence is whether the knowledge sharing is successful or not [4]. In [5], stated that the most serious and distinctive problem an organization face in using tacit knowledge is the risk of losing such knowledge due to loss of employees.

II. LITERATURE REVIEW

Knowledge sharing has been categorized as activities of transferring or disseminating knowledge from one person, group or organization to another [6]. Tacit knowledge includes intuitions and unarticulated mental models, whereas explicit knowledge refers to articulated information in clear language [7]. The explicit may be transferred through electronic communication device

whilst the tacit part requires face-to-face interaction [8]. Difficulty issue concerning tacit knowledge is that, an organization could not store tacit knowledge beyond the mind of individuals without any process of articulation; it is difficult to communicate to others [9]. There is a reluctance to share tacit knowledge due to fear of losing power and status [10]. Explicit knowledge on the other hand, is easily communicable and easy to store. There is little chance of losing explicit knowledge due to employee turnover because such knowledge is articulated, codified and available in the repositories of the organization [11]. There are people who are characterized as knowledge hoarders who do not share their knowledge. Knowledge hoarders feel that they are at risk in sharing knowledge because they might lose power, at risk for credit stealing and misunderstanding or misuse of knowledge by the recipient [12]. Potential risks which involve negative performance appraisals, intellectual property rights, access rights and power are also reasons to withhold knowledge sharing.

Interaction methods in sharing knowledge comprise of communication skills, include documentation, unmediated face-to-face, technology mediated face-to-face and organizational environment. Knowledge sharing is important to organizational success. The need for knowledge sharing is even more desired in knowledge-intensive organizations like public higher education institutions [13].

As this case study focuses on IT Department, the employees are familiar with IT capabilities. IT enables the searching, storing, manipulating, and sharing of huge amount of information per unit of time, by minimizing the limitations of time and space. As individuals in organization interact with others using technology, they are likely to understand and share their views of the same situation in a different light. Information technology (IT) is considered as one of the decisive factors in knowledge sharing especially with the growing recognition of knowledge work, the increase of job complexity and also occurrences and speed of changes [14]. IT based organization is also highly dependent on the ability to communicate, form and maintain dense networks of supportive relationship which constitute new sources of knowledge [15]. This interaction process is helpful in developing a holistic view of the realities by facilitating the integration of knowledge in the organization [16]. Technologies can be used to increase the efficiency of the people and enhance the information flow within the organization, while social systems such as communities of practice improve on interpretations, by bringing multiple views on the information such as through face-to-face interactions and discussions.

III. METHODOLOGY

The case study approach is being used as to intensively investigate one or a few situations similar to topics that need to be explored [17] and when to conduct an extensive or in-depth description of some social phenomenon [18].

A. Data Sampling and Data Collection

The subjects of this case study are five identified employees, selected based on their experience and department they are serving. Furthermore, the selection covered all four major units in IT department aims to give a generalization about knowledge sharing activities in this organizational setting. Candidate A has been serving for the university for more than 40 years, focusing on cabling and networking. Candidate B is a hard-core programmer and currently in his 4 years of service. Candidate C is a web administrator and her experience is capped 10 years to this date. Candidate D has served the university for 8 years as an application programmer. Candidate E has 30 years of experience with extensive knowledge in various domains like programming, web hosting, multimedia and video streaming.

Data collection for this study was collected from in-depth interviews with five selected employees. This interview session called Knowledge Sharing Scenario Capture (KSSC) aims to capture on how employees share their tacit and explicit knowledge with each other. Each selected employee was interviewed separately by two researchers. One researcher was appointed to ask questions whilst the other took notes throughout the interview session. All five interview sessions were videotaped recorded by the technical team for later transcription process. The interview questions were constructed from instruments gathered from previous literature and case study. The barriers to knowledge sharing identified as lack of trust, competition among employees, insecurity [19] and also availability of infrastructure and resources [20]. Factors to stimulate knowledge sharing are known as the nature of knowledge, working culture, attitude, motivation and opportunities, solidarity [13], management support, rewards, mentoring and knowledge sharing as part of the work process [21]. Statement of instruments provides freedom for researcher to probe the "why", "where", "when", "what" and "how" questions to interview candidates.

IV. FINDING AND ANALYSIS

A. Findings

The analysis of data was governed by the objective that focuses on identifying methods or enabling scenario for knowledge sharing in IT organization. After transcribing the interview, the researchers grouped the data into five sections with the attempt to answer five crucial questions: "why employees share knowledge?", "when employees share knowledge?", "where employees share knowledge?", "what knowledge is usually being shared?" and "how employee share knowledge?".

Why employees share knowledge? Three respondents agreed that they do not feel threatened when sharing knowledge with colleagues. Furthermore, majority of respondents stated that they share knowledge because they want to help junior colleagues during learning process and to learn something from them. The element of respect exists when respondents shared their knowledge and they believe knowledge will be enriched

during knowledge sharing session. Therefore, respondents think monetary reward is not necessary for knowledge sharing to take place instead reward from God is only what they count for. Only one respondent stated that willingness to share knowledge is to avoid the knowledge walkout phenomenon from happening.

Where employees share knowledge? All respondents shared common answers with regard to places for knowledge sharing activities. In daily basis, they share knowledge at workplace using collaboration tools for instance email and instant messaging. Respondents have utilized development server to share coding template where they have the access to upload and download coding template which they think might be useful for others. The training room is used when employees request to learn about something in common and basically is voluntary done by internal expertise. Employee in networking and IT service department normally shares their knowledge in work field when completing tasks or dealing with troubleshooting request.

When employee share knowledge? Respondents from this interview stated their preference to share their tacit and explicit knowledge during discussions, during job training, doing problem solving, system deployment, troubleshooting, joint venture project with the vendor or when being requested by colleagues or management.

What knowledge is usually being shared? During task completion and discussions, employees from this organization exchange various form of tacit and explicit knowledge ranging from configuration settings, technical drawings, installation guides, line of codes, technical documentation, command lines, tips and tricks in troubleshooting, cause of problems, proper programming techniques, development framework, screen templates.

How employees share knowledge? Knowledge sharing among respondents and employees in this organization happens in a form by using email, telephone, collaboration tools, face to face discussion, during job training and training classes. They also share knowledge by referring to senior colleagues, existing coding templates and configuration settings, blog post and technical documentations.

B. Analysis

Data gathered from five questions were mapped to research objectives is shown using diagram for better visualization. The researchers grouped the findings into two categories of knowledge sharing; tacit and explicit, followed by identification of methods or enabling scenario for each category. The diagram draws a conclusion where employees share tacit knowledge in social media and training class as well as during discussion, during incident handling, on the job training, troubleshooting and problem solving. The employees of this organization prefer to share explicit knowledge such as configuration settings, technical drawings and coding templates via face to face meetings, instant messaging, development server and email. Visualization of knowledge sharing method can be seen in Fig. 1.

The use of physical infrastructure such as development server, instant messaging and email are preferable

because this was found to be conducive. However, employees of this organization prefer face to face communication such as formal and informal discussion and meetings when the topic or issue becomes bigger and complex. Surprisingly, rewards and recognition is not considered as a priority to motivate employees in this organization to share knowledge. This is because they naturally like in helping colleagues to solve work related problem which may be facilitated by the trust and positive relationships in the network ties. In addition, employees of this organization believe that knowledge sharing help building bonding between colleagues. Besides that, this study acts as preliminary investigation to identify critical knowledge exists in this organization. It indicates that most of the knowledge circulated in this organization is the know-how knowledge and similar methods of knowledge sharing were found influenced by common culture and organizational climate.

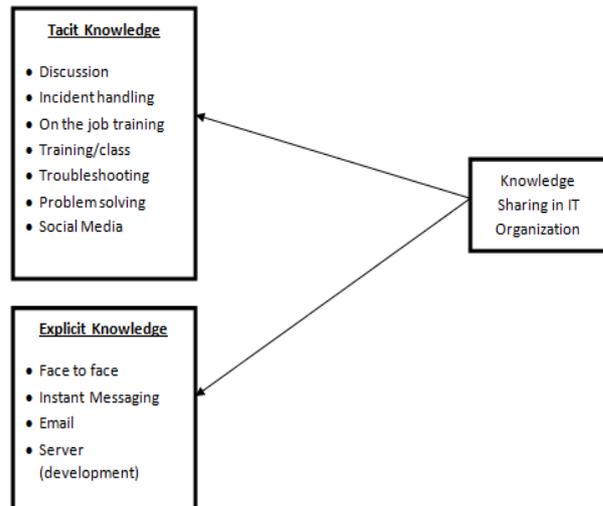


Figure 1. Method for knowledge sharing in IT organization.

V. CONCLUSION

Knowledge Sharing Scenario Capture session provide basic understanding about the behaviors and methods of knowledge sharing that exists in this IT organization. This case study was able to capture that the employees do share knowledge for different purposes and as an IT organization, they prefer using collaborative tools such as emails, instant messaging to share knowledge. However, the knowledge sharing activities and the knowledge itself is not centrally located at one place for easy retrieval and utilization. Future work will be done in terms of detailed study with a greater number of participation and structure procedure such as knowledge audit will be conducted to supply information about types of critical knowledge that is valuable to this IT organization. The requirement will help setup knowledge repository for this organization to capture its knowledge and improve the organizational productivity.

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