THE DEVELOPMENT OF A STORYTELLING FRAMEWORK TO SUPPORT KNOWLEDGE MANAGEMENT PROCESSES

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ABSTRACT

In knowledge management (KM), storytelling is used primarily as a tool to capture and transfer knowledge that has tacit qualities. Knowledge with tacit qualities is best represented through storytelling. However, the idea of using storytelling in KM settings is less understood by organizations. Numerous academic and non-academic literatures have been published in the area of storytelling and knowledge management. From the literature survey that has been conducted, a gap in the area of storytelling and knowledge has been identified. From the literature survey, there seems to be a lack of studies conducted on a framework that integrates the storytelling elements (i.e structure, components and attributes) and KM. This paper presents the development of a KM storytelling framework that guides the construction of a knowledge-embedded story. Workshop sessions were conducted to understand how knowledge embedded stories are constructed. Data from the workshop were collected qualitatively through interview sessions. The interviews were transcribed and analyzed using an interpretive approach. This study contributes to the area of storytelling in knowledge management by bridging the gap between the concept of storytelling and its practical use in knowledge management. The outcome of this study is a framework that guides organizations constructing knowledge embedded stories hence, contributing in KM storytelling implementation in organizations.

Keywords: *Knowledge Management, Knowledge Management Processes, Knowledge Capture, Storytelling Framework, Knowledge Embedded Story,*

1. INTRODUCTION

In today's society, organizations are rapidly moving into a direction where its survival is essentially determined by the ability to use knowledge wisely. Knowledge is widely recognized as a strategic resource and also a source of competitive advantage which makes it important for organization to create ways to identify valuable knowledge and also manage it [1].

Storytelling has emerged as an excellent tool to exchange and consolidate knowledge in various professions [2]. There is a growing interest in the use of stories to transfer knowledge in organizations [3-4]. Seth Kahan, a renowned organizational storyteller, that storytelling is recognized as a legitimate field for exploration, and experiments in its use are ongoing in businesses around the world. More recently, the use of story in an organizational setting has grown exponentially [5]. As a knowledge management (KM) tool, storytelling is used to elicit [6-8] and transfer

knowledge [9] however, it is unclear what are the attributes of these stories and how can it be constructed.

Storytelling requires business subject matter experts that are able to tell good stories using text, video, audio and images [10]. However, it cannot be assertive all people can write a story or tell a story in front of an audience because there is a tendency for a person to be nervous and experiencing stage fright [11]. This could affect the story delivery. Without a framework to guide the writers, story can be written without control. For example, uncontrolled vividness and detail could cause the listeners to not be able to relate the story to their own experience and critically evaluate the story in their own context. An unskilled storyteller might not understand the audience, thus telling irrelevant stories to the audience [12].

The main objective of this paper is to present a framework that guides organizations in understanding KM storytelling and developing

knowledge embedded stories (KES). This framework includes the necessary components such as the process, the roles to execute the process and also the outcome. In order to develop the framework, two major areas were examined. The first area is on the characteristics of KES in terms of its structure and content. The second area focus on the how KES is constructed based on the structure and content that has been identified.

This paper is organized as follows. The second section of the paper presents the concept of KM and its importance for organizations. The third section discusses on the use storytelling in KM. The fourth section discusses the related work of the study. The fifth section of the paper presents the research methods of the study. The KM Storytelling Framework is presented in the sixth section. The seventh section presents the conclusion of the study.

2. KNOWLEDGE MANAGEMENT

Knowledge-based view of the firm regards knowledge as an important strategic asset in organization [13]. Knowledge is the most important element for economic growth [14] and the only meaningful resource in the knowledge society [15].

Examples of knowledge in organizations are manuals, handbooks, blueprints and the experiences of the employees through stories, anecdotes, insights or rules of thumbs. [16] stated that the performance and survival of an organization is determined by the quality of knowledge and the productivity of knowledge. This indicates that knowledge is critical to any organizations, thus, makes it crucial for organizations to manage it.

The term 'knowledge management' or KM has been used since the 1980s, but the act of managing knowledge has been practiced long before the term KM itself is coined [17]. KM is defined as the exploitation and development of the knowledge assets of an organization with a view to furthering the organization's objectives [18]. KM makes organizations to strongly focus on organizing, creating, transferring, searching, sharing knowledge [19]. The awareness of the importance of knowledge to be managed and maintained has led organizations to seriously considering KM and starting to initiate their own KM programs. With the advent of information and communication technologies (ICT), knowledge can be shared and disseminated with ease throughout the organization.

Nonetheless, one of the main challenges of KM is to capture tacit knowledge [20]. Tacit knowledge is important to organizations because tacit knowledge resides in a person's mind and relates to experience and heuristics. Examples of tacit knowledge in organizations are the experience of a project team members in managing and executing major projects or insights and ideas on how to improve a business process. If the experts or the experienced employees leave the organization, they will bring with them all the tacit knowledge that they have acquired. One of the ways to capture tacit knowledge is through storytelling.

3. STORYTELLING IN KM

Storytelling is considered as an old skill, but in a new context: Knowledge Management [21]. Stories are useful in KM because people learn things easily from stories which make it capable of externalizing tacit knowledge [22-24]. Storytelling in KM is used as a technique to describe complex issues, explain events, understand difficult changes, present other perspectives, make connections and communicate experience. Storytelling is defined as orally communicating ideas, beliefs, personal stories and life-lessons [21]. This definition reflects the tacit knowledge that only resides in the head of an individual.

Storytelling in KM context is seen as a powerful management tool to communicate tacit knowledge in organizations. [25] cited Larry Prusak, the founder of and executive director of the Institute of Knowledge Management, keynote address at a national conference on knowledge management in the United States where he distilled what was important about KM in a single word: storytelling. Prusak also said that knowledge is not in a database and it is not in computer applications but it is in our stories

A great deal of research has been dedicated to the role that storytelling plays to support KM processes. This can be seen from the work on the role of stories among disparate project members [21], the role of stories in representing tacit knowledge [22] and also the tools used to create and construct organisational stories [26-27] [20]. In the context of knowledge transfer, tacit knowledge can be transferred through highly interactive orally-shared experience, brainstorming, storytelling, and freedom to express fully formed ideas [28] [30].

Stories told in organisations are most effective when they focus on teaching, inspiring, motivating, and adding meaning [22]. Stories work best when they evolve from personal experience, ideas, and questions that relate to the issues at hand [12].

Research suggests that sharing experiences through narrative builds trust, cultivates norms and transfer tacit knowledge facilitates unlearning and generates emotional connections [2]. Sharing knowledge through stories allows people to listen to other people's approaches to problems [30].

4.   RELATED WORK

In KM literature, there seems to be a lack of dedicated literatures on constructing knowledge story. While literatures on traditional story construction are many, knowledge story construction is only mentioned in storytelling applications literatures. Even so, the story construction aspect of these applications is not being emphasized. The following section discuss three knowledge story applications namely TellStory [31], StoryMapper [32] and The Well [33].

4.1. TellStory

[31] presented a storytelling application called TellStory built under the Zope platform. TellStory supports group storytelling technique in which stories are created to collectively, thus help in the elicitation and the building of a shared context. The contextual information related to the stories are also made explicit. When stories are told in groups, it is important to ensure that the contexts are shared by each of the group members. The stories are seen as a sequence of events that are tied to each other. The features of TellStory with regards to story construction are inclusion, edition, exclusion, union and fragmentation of events. TellStory helps in externalizing the context from the events in two ways. The first one is informally through the users' events and the comments that they posted on other events. The second way is through a Context Framework. The framework helps the tellers to structure their thoughts and giving the events more depth through the six questions namely who? when? where? what? how? and why? The stories are in written form. Individuals can participate on a story by performing the following roles: moderator, teller, editor and commentator.

4.2. StoryMapper

StoryMapper externalizes tacit knowledge from the members of a group using group storytelling techniques which is supported by conceptual maps [32]. The uses of concept maps provide the stories in a structured form and also represent the knowledge in visual representation. They developed a prototype called StoryMapper. The authors regard stories as a sequence of events. In StoryMapper, the events are told through a predefined worksheet. The worksheet contains information such as date, time, place and the events itself. This worksheet represents a node in the concept map. The nodes are linked to at least another node with its corresponding semantics. The activity ends with a graph representing each of the story events. The time sequence of events is included in the graph

4.3. The Well

[33] presented the design of a video storytelling application that is located in a booth for a festival organization. The purpose of the video storytelling booth is to make volunteer festival workers' roles visible by recording personal accounts of their work within the organization on video. The video storytelling booth is called The Well. The user enters The Well and confronts with a computer screen and a decorative sculpture of a face. The user communicates with an animated monkey on the screen. The role of the animated monkey in the design was to induce a playful atmosphere for the user to communicate. After the user has finished with the story, the clips are recorded. However, the Well does not require any roles to control and monitor the stories. As such, there is doubt whether personal stories told through the Well are really knowledge-worthy stories.

5.   RESEARCH METHODS

The main objective of this study is to develop a KM storytelling framework that could assists organizations in understanding KM storytelling and also act as a guide to develop KES. This study adopts a qualitative approach in collecting and analyzing data. The final sample consists of fifteen (15) students majoring in KM from Universiti Teknologi PETRONAS, a private university located in the pstate of Perak. The participants were selected because of their familiarity with KM concepts. The participants are also available to meet at any time or place which makes it convenient to conduct data collection activities.

The formulation of the interview questions was based on the literature review on story construction. The interview questions were reviewed to enhance the understandability of the questions and to ensure that the response obtained is up to expectation. The questions were also revised in terms of sentence construction and choice of wordings to enhance the understandability of the questions. The following is

the research process taken to develop the framework.

1. Conduct first meeting with the participants. In the first meeting, participants construct KES and participants were interviewed on KES constructing approach in groups.
2. Conduct the second meeting. In the second meeting, group interview sessions were conducted to assess KES.
3. Upload interview transcripts from the first and second meeting into NVivo.
4. Perform the coding process.
5. Develop the components of the framework by integrating important categories.

Data were collected using group interview sessions in a workshop. The fifteen participants are gathered into 5 groups. The workshop was conducted in five sessions with one group occupying a session. In each session, two meetings were held with the group. All fifteen participants participated in both meetings.

In the first meeting, the participants were required to construct KES. In the second meeting, the participants regroup to assess the KES that have been constructed. The data were collected with the purpose of understanding the following:

1. The approach in constructing KES.
2. The characteristics of KES.
3. The role of KES in supporting KM processes.

In the first meeting, the participants were briefed on the nature of the study, the purpose of the workshop, expectation from the session and the tasks that participants need to perform. The meeting begins with grouping the participants into pairs. Each pair was given a task to write a KES based on a knowledge source. The pairs were then instructed to construct a story that demonstrates the knowledge source. Table 1 shows the five groups and its participants and the KES that they constructed. Each participant was assigned a number and is referred with the prefix I- followed by the number assigned to the member.

Table 1: Participants and the KES Constructed

Group	Knowledge Source Type	KES Title	Participants
G1	Declarative	Knowledge	I-21,I-22
		Transfer in an IT Company	
G2	Declarative	The Empire - Knowledge Transfer Factors	I-23,I-24
G3	Experiential	Outward Bound School Experience	I-26,I-27
		My Final Year Project Experience	I-28
		Student Internship Experience	I-29,I-30
G4	Procedural	Student Internship Experience	I-31,I-32
		Factors in Choosing Internship Companies	I-33,I-34
G5	Declarative	Convofair	I-36,I-37

After the stories have been constructed, the participants were gathered as a group and were interviewed to obtain information about their experience in constructing the story and the process that they have gone through. After all groups have been interviewed, the appointment of the second meeting was set up with the groups. The second meetings were conducted to get insights on the KES that has been constructed. This includes the characteristics and attributes of the story. The stories were analyzed based on the structure, narrative types, mode of narration and its knowledge elements. Both first and second meeting took about 1.5 hours to complete. Further discussions were also conducted to gather feedbacks on the constructed stories.

Qualitative data analysis software, Nvivo 8, assists the researcher in organizing and analyzing the data. The qualitative analysis of this research is based on the views of [34]. [34] divide data analysis into three stages: data reduction, data display and conclusions and verifications. The analysis starts with the transcribing of the interviews. Once the transcription is completed for an interview, the coding process begins by assigning codes to chunk of texts with little

interpretation on the meaning of the text. This process of transcription of interviews and coding process was performed with the assistance of qualitative data analysis software NVivo 8.

In this study, the coding process loosely follows the steps by [35]. The coding process consists of three passes. The first coding pass was performed after transcribing the interviews was completed. The first pass coding concerns with the development of a set of descriptive codes. The outcome of the first pass is the initial set of codes and concepts about KM storytelling in the organization and KM story construction. The second pass concerns with the categorization of data. For the second pass coding, the descriptive codes from the first pass that share similar characteristics were grouped together to form categories or themes. Then, categories that overlapped or redundant were eliminated hence reducing the number of categories. In the third coding pass, the categories were further revised and refined. This could be by seeking relationships among the categories or combining similar categories or linking related categories.

The coding process adopts an interpretive approach. The foundation assumption for interpretive research is that knowledge is gained, or at least filtered, through social constructions such as language, consciousness, and shared meanings [36]. Interpretive studies assume that people create and associate their own subjective and intersubjective meanings as they interact with the world around them. Interpretive researchers thus attempt to understand phenomena through accessing the meanings participants assign to them [37]. During group interview sessions, memos and reflective remarks were taken and the sessions were video recorded. The memos and the videos of the interview sessions assist the researcher with interpreting participant's responses more effectively. Memos were written to take note on participant's context and also their gestures and facial expressions when providing responses to a question. The purpose to write the memo is to clarify the idea and to reflect the interviewee's context, thus ensuring that the data make sense and stay within the context of the subject. Memo writing becomes a platform to provide meaning to the raw data. Reflective remarks are important because it provides insights in preparing for subsequent interviews and also provide the researchers with more data, thus assisting the

researcher in interpreting the data more effectively [38].

6. KM STORYTELLING FRAMEWORK

Figure 1 shows the KM storytelling framework. The framework is derived from the results of the data analysis. The framework consists of three major components, namely knowledge in the organization, the construction process and the characteristics of KES.
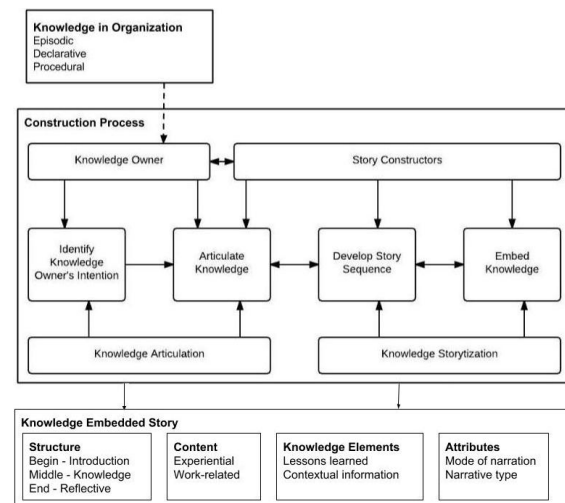

Figure 1: KM Storytelling Framework

6.1. Knowledge in Organization

The process of storytizing knowledge begins with identifying existing knowledge. Examples of knowledge in the organization are the knowledge about customers, business processes, policies, tasks, products and services and competitors. The process starts with the knowledge source. The knowledge source is either a procedural, declarative or episodic in tacit or explicit form. Procedural knowledge is know-how that involves a series of steps. In this study, an example of a procedural knowledge type that was used was the steps in applying for internship placement at the university. Declarative knowledge is based on facts and concepts. In this study, examples of declarative knowledge used to construct KES are knowledge transfer factor and factors in selecting an internship company. Episodic knowledge is based on events that happened in the past. In this study, examples of episodic knowledge are the experience of students in doing final year project and also the experience of students in doing internship projects. Most of

the KES constructed in the workshop are based on the author's experience.

6.2. KES Construction Process

The KES construction process assists in transforming the knowledge source into a narrative form. This process is also seen as a control mechanism to ensure that the stories told in organizations are effective in transferring knowledge. The process model consists of two major activities: Knowledge Articulation and Knowledge Storytization. Knowledge Articulation consists of two phases, namely Identify Knowledge Owner's Intention and Articulate Knowledge. Knowledge Storytization concerns with the blending of knowledge with narrative. Knowledge Storytization consists of two phases which are Develop Story Sequence and Embed Knowledge. Knowledge owners and story constructor's work together to ensure that the story is properly constructed and that the objective of sharing the story is upheld.

6.3. Knowledge Articulation

The knowledge articulation activity consists of two phases: identifying the intention of the knowledge source and articulating the knowledge source. The intention of the knowledge source sets the knowledge that the story is intended to transfer. The introduction section of a KES highlights the purpose of the story, which denotes the knowledge in the story. When assessing a KES, a participant mentioned,

I don't know what he (the author) wants to say when I read the first sentence. The problem is that the author didn't write explicitly the introduction or the background of the situation (I-22, Line 260-263).

It is the purpose of beginning section of a story to establish the context, provide the readers with the necessary background and settings and indicate the purpose of the story. The purpose, whether explicitly or implicitly stated, is an indicator to determine whether the story is of interest to the knowledge recipient.

Preliminary discussions between participants involve understanding the knowledge source. This is noticeable for participants who constructed stories based on an explicit knowledge regardless whether it is a procedural or declarative. They got together and discuss on their perceived understandings of the knowledge source. They attempted to familiarize themselves with the subject of the knowledge and to comprehend the content of the knowledge source. The participants used the term understanding and described how they try to obtain a clearer picture of the subject matter. The following responses imply the understanding of knowledge before stories can be constructed.

The first thing before we met, we read first. Then we come into the meeting. Firstly, we talked about her understanding of the knowledge. Then I will tell my opinion. Then we discuss. (I-21, Line 28-30)

We need to understand the knowledge transfer factors so we highlighted some keywords. This is to ensure that we understand the same concept (I-25, Line 62-63).

The understanding of the knowledge source allows most of the participants to identify key items (i.e keywords, concepts or factors) which forms the layout of the story structure.

6.4. Knowledge Storytization

The knowledge storytization activity consists of two phases: develop story sequence and embed knowledge. From the findings, most of the stories are sequenced chronologically, regardless of the knowledge source. The articulation of the knowledge source yielded a list of key concepts or events. This allows the participants to arrange the flow of events, hence producing a skeletal structure of the story. The events are elaborated further by creatively combining it with a fiction or non-fiction events. The participants use the term 'points' and 'main points' to denote events. G4 provides the following response on story writing.

First we lay out the points. Our knowledge source is procedural based so we start of what is the first step.. For example, we went to briefing first, the fill out forms and so on. Then we transform and expand it into stories. (I-31, Line 19-23)

We write the points on a piece of paper to see the flow of events. We organize it and then we write the story. (I-32, line 20 -23)

The flow of a story can be arranged chronologically. From the discussion, it is evident that participants determine the flow of events based

on the occurrence of the events and items such as concepts and phases. This subsequently produces the plot structure of the story.

The phase Embed Knowledge is an integral phase in the knowledge story construction process. Knowledge is embedded in story in two ways. Firstly, knowledge can be wrapped in the form of lessons learned in which the story includes undesirable settings or events that the readers can learn from it. Secondly, stories provide knowledge with context. Context is presented in a story through the use of examples or through the use of Kipling's 5W1H framework. The Kipling Society stated that the Kipling's 5W1H method uses the six keywords to form questions. Those six keywords are *who*, *what*, *where*, *when*, *why* and *how* [39]. One participant who constructed her knowledge story stated that,

We decided to use bad situation settings so that there is a lesson learned in the story. For example in the story, I prepare my resume a bit late. So, people who read this can learn from it and prepare resume early.(I-29, Line 106-107)

Knowledge is embedded in the story in the form of lessons learned and contextual information with the purpose of enhancing understanding and awareness. The story constructors and the knowledge owners ensure that the knowledge is encapsulated in the story and ensures that there is a link that connects the purpose of the knowledge source to the story.

7. KES CHARACTERISTICS

KES is generally based on experiences or occurrences shared within organizational social settings. The content of a KES is about work practices. The content of a KES should be realistic and revolves around lessons learned and providing contextual information to knowledge. A realistic setting allows the context to be communicated effectively this enables the listeners to visualize the story. [40] stated that a story for the purpose of learning does not have to be truthfully. Thus, a realistic story can make the story believable, even though the story is half-truth.

The introduction section of a KES clearly specifies the purpose of the telling the story. The purpose of the story needs to be in line with the intention of the knowledge source and the

knowledge recipient. This gives the story a certain degree of relevancy to the knowledge recipient. The title of a story provides the first impression of relevancy of the story to the audience. Potential audience evaluates the topic or synopsis to determine its applicability to their needs. The origin of the story is less relevant, but it is important to ensure that the content to be credible and relevant [39].

The content of a KES is the experience that concerns a person's job or department's function. Stories are used as a tool to facilitate the sharing of organizational philosophies, business, processes and directions. This enhances shared understanding among members in the organization and provides knowledge recipients with the necessary knowledge to make decisions.

8. DISCUSSION

The significance of this study is that the KM Storytelling framework conceptualizes KES and its role in KM. This conceptualization includes the definition and the characteristics of KES. The findings indicate that KM storytelling involves interaction between members in a group and that storytelling happens in social and informal settings. The content of a knowledge-embedded story is experiential and work-related. KES is used to facilitate problem solving, prompt an immediate response in a group, depict lessons learned and simplify complex concepts. This findings enhance our on the understanding of KES further. Apart from conceptualizing KES, this study contributes to the development of future KM storytelling application by presenting the construction process. The process assists story constructors to construct the KES. The process framework can be a part in a KM storytelling application as the story construction feature.

The approach in constructing KES differs between knowledge types. Table 2 shows a comparison summary of the elements in story construction against the 3 types of knowledge namely episodic, declarative and procedural.

Table 2: KES Construction Based on Knowledge Source Type

		Knowledge Source Type		
		Episodic	Declarative	Procedural
Story construction	Description	experiential	conceptual, know-what	process, stages, phases, know-how
	Knowledge role	source	complement	complement
	Difficulty	easy	depends on complexity	depends on complexity
	Point of view	1st person	3rd person	3rd person
	Embedded knowledge	conflict, lessons learned	contextual information	contextual information
	Structure	Begin – conflict Middle – events End – solutions, actions taken	Begin – purpose Middle – events End – reflection	Begin – purpose Middle – events End – reflection

From Table 2, it can be seen that the level of difficulty to storytize an episodic knowledge is low. Episodic knowledge is knowledge about specific events that happens in a person's life. Episodic knowledge is generally experiential and already in a narrative form. Typically, the episodic knowledge is the actual knowledge source to be transferred. This can be seen from the episodic knowledge-embedded stories in which the experience of the knowledge source is the actual knowledge.

On the other hand, the declarative and procedural knowledge need to be repackaged into a narrative form. The purpose of sharing declarative knowledge and procedural knowledge is determined by the knowledge owner. Therefore the KES plays a complementary role to the actual knowledge source. Furthermore, the construction of a story based on procedural and declarative knowledge is dependent on the level of complexity of the knowledge. In one of the workshop sessions, the participants were commenting on a story that was written based on a procedural knowledge. When commenting the story, the participants feel that the knowledge can be shared directly without using a story to facilitate the knowledge sharing process. It seems that the use of stories is unnecessary for knowledge with a low complexity level.

9. CONCLUSION

Storytelling in KM context is seen as a powerful management tool to capture knowledge in organization. This study presents a process framework to construct a knowledge story. Data are gathered through workshop sessions and analyzed using qualitative methods. The process framework developed in this study modifies the generic knowledge transfer process by integrating stories as the medium of knowledge. Stories are used most naturally in communicating experiential knowledge regardless the form and type of knowledge. In the workshop, participants write stories based on different types and forms of knowledge source. Based on the knowledge source, the participants begin to construct the story. From the interviews and discussions, the participants follow a series of steps before finalizing on the knowledge story. The participants also assume a number of roles when writing the story. The purpose of these roles is to ensure that the knowledge story not only follows the conventional way of story writing, but also maintaining the knowledge aspects of the story. This framework can be used by KM managers as a guideline to produce knowledge stories. Furthermore, this framework can also be used as part of the story construction features in a computer-based KM storytelling application.

For future research, it is proposed that real organizational settings are used to elicit KES. Thus the researcher could listen to actual KES that are related to the organization and study these stories for a better understanding. Future works may include the study on the impact of KM storytelling initiatives in organizations. Nonetheless, researchers should select organizations that are already implementing formal KM storytelling initiatives in their KM strategy. Storytelling sessions are evaluated to see the efficacy of these sessions. The evaluation of the story can include parameters such as audience size, duration, and receptivity of the audience, knowledge learned.

With regards to knowledge source type, this study only focuses on three knowledge sources, namely episodic, declarative and procedural knowledge. Among the many types of knowledge, demonstrating technical knowledge via storytelling is a challenge. It is recommended that future works on KM storytelling focuses on the use of stories in technical environment such as in ICT or engineering. By pursuing this recommendation, potential researchers could also study techniques in repackaging of other types of knowledge, such as technical knowledge and its applicability in a technical environment. Potential researchers can look in the area of awareness, perception and acceptance from the perspective of users and application development environment.

REFRENCES:

[1] T.S. Bhatti, R.C. Bansal, and D.P. Kothari, "Reactive Power Control of Isolated Hybrid Power Systems", *Proceedings of International Conference on Computer Application in Electrical Engineering Recent Advances (CERA)*, Indian Institute of Technology Roorkee (India), February 21-23, 2002, pp. 626-632.

[2] B.N. Singh, Bhim Singh, Ambrish Chandra, and Kamal Al-Haddad, "Digital Implementation of an Advanced Static VAR Compensator for Voltage Profile Improvement, Power Factor Correction and Balancing of Unbalanced Reactive Loads", *Electric Power Energy Research*, Vol. 54, No. 2, 2000, pp. 101-111.

[3] J.B. Ekanayake and N. Jenkins, "A Three-Level Advanced Static VAR Compensator", *IEEE Transactions on Power Systems*, Vol. 11, No. 1, January 1996, pp. 540-545.

[4] C. Van Winkelen, and J. McKenzie, *Knowledge Works: The handbook of practical ways to identify and solve common organizational problems for better performance*, 2011, Wiley.

[5] D. Sole, and D. G. Wilson, *Storytelling in organizations: The power and traps of using stories to share knowledge in organizations*. 2002, LILA, Harvard, Graduate School of Education

[6] S. Tietze, L. Cohen and G. Musson *Understanding organizations through language*. 2003, London: Sage Publication.

[7] V. Ward and K. Sbarcea, "The power of voice: Why storytelling is knowledge management", *Inside Knowledge*, No 5, 2001.

[8] S. Lelic, (December, 2001). *Fuel your imagination: KM and the art of storytelling*. [Online] Available:

[9] http://visionaryleadership.com/innovation-fuel-your-imagination-knowledge-management-the-art-of-storytelling/.

[10] E. Ferneley and P. Sobreperez, "An investigation into extracting and analysing stories", *International Journal of Organizational Analysis*. Vol. 17 No. 2, 2009, pp. 121-138.

[11] T. Gavrilova and T. Andreeva, "Knowledge elicitation techniques in a knowledge management context", *Journal of Knowledge Management*. Vol. 16 No. 4, 2012. pp. 523-537.

[12] G. Whyte and S. Classen, "Using storytelling to elicit tacit knowledge from SMEs". *Journal of Knowledge Management,* Vol. 16, No. 6, 2012, pp. 950-962.

[13] S. Holland and R. Dawson, "Classification and selection of tools for quality knowledge management", *Software Quality Journal*. Vol. 19, No. 2, 2011, pp. 393-409.

[14] S. Rubel, (2010, October 11) *The rise of the corporate transmedia storyteller*. [Online]. Available: http://www.forbes.com/2010/10/11/google-eric-schmidt-bieber-facebook-social-networking-storytelling-steve-rubel-cmo-network.html.

[15] H. Shekari, A. Afshari, and S. Veyseh, "Story and Storytelling in Organizations". *Social Science Letters*. Vol. 1, No. 1, 2012. pp. 40-46.

[16] P. Yoder-Wise and K. Kowalski, "The power of storytelling". *Nursing Outlook*. Vol. 51, No. 1, 2003, pp. 37-42.

[17] R. M. Grant, "Toward a knowledge-based Theory of the Firm". *Strategic Management Journal*. Vol. 17, No. S2, 1996, pp. 109-122.

[18] M. Bogdanowicz, and E. Bailey, "The value of knowledge and the values of the new knowledge worker: Generation X in the new economy", *Journal of European Industrial Training*, Vol. 26, 2002, pp. 125-129

[19] P. Drucker, "The new society of organizations", *Harvard Business Review*, Vol. 70, 1992, pp. 95-104

[20] P. Drucker, "Theory of the Business", *Harvard Business Review*, September - October, 1994, pp 95-106.

[21] K. Dalkir, *Knowledge management in theory and practice*, 2005, Burlington, MA: Butterworth-Heinemann.

[22] T. H. Davenport and L. Prusak, *Working knowledge: How organizations manage what they know*, 1998, Harvard Business School Press.

[23] P. Hildreth and C. Kimble, "The duality of knowledge", *Information Research*. Vol. 8, No. 1, 2002.

[24] Linde, C. 2001. Narrative and social tacit knowledge. Journal of Knowledge Management. Vol. 5, No. 2, pp. 160-170.

[25] R. Groce, "An experiential study of elementary teachers with the storytelling process: Interdisciplinary benefits associated with teacher training and classroom integration", *Reading Improvement*. Vol. 41, No. 2, 2004, pp. 122.

[26] S. M. LeBlanc and J. Hogg, J. "Storytelling in knowledge management: an effective tool for uncovering tacit knowledge". *Society for Technical Communication processing, Atlanta*.2006.

[27] T. Post, "The impact of storytelling on NASA and EDUTECH", *Knowledge Management Review*, Vol. 5, No. 1, 2002, pp. 26-29.

[28] C. Valle, W. Prinz, W. and M. Borges, "Generation of group storytelling in post-decision implementation process". *The 7th International Conference on Computer Supported Cooperative Work in Design*, 2002, pp. 361-367.

[29] T. Bailey, (2005). *The story of JPL stories*. [Online] Available:

[30] http://askmagazine.nasa.gov/issues/11/special/index.html

[31] P. Appan, H. Sundaram, and D. Birchfield, "Communicating everyday experiences", *Proceedings of the 1st ACM Workshop on Story Representation, Mechanism and Context, New York*, 1999, pp. 17-24.

[32] E. Bradner, W. Kellogg, and T. Erickson, "The adoption and use of BABBLE: A field study of chat in the workplace", *Proceedings of the Sixth European Conference on Computer Supported Cooperative Work*, Copenhagen, Denmark. 1999, pp. 139-158.

[33] J. Brown and P. Duguid, P. "Mysteries of the region: Knowledge dynamics in silicon valley". In C. Lee, W. Miller, M. G. Hancock & H. S. Rowen (Eds.), *The silicon valley edge: A habitat for innovation and entrepreneurship*, 2000, California:Stanford University Press.

[34] M. Zack, "Managing codified knowledge". *Sloan Management Review*. Vol. 40, No. 4, 1999, pp. 45-58.

[35] L. Baker-Eveleth, S. Sarker, and D. Eveleth, "Formation of an online community of practice: An inductive study unearthing key elements", *Proceedings of the 38th Annual Hawaii International Conference on System Sciences*, 2005, pp. 254b-254b.

[36] F. M. Santoro and P. Brezillon, "Towards the narrative approach to collect group knowledge and context", *Proceedings of the 16th International Workshop on Database and Expert Systems Applications*, 2005, Copenhagen, Denmark

[37] C. E. Acosta, C. A. Collazos, L. A. Guerrero, J. A. Pino, H. A. Neyem, and O. Motelet, "StoryMapper: A multimedia tool to externalize knowledge". *International Conference of the Chilean Computer Science Society*, 2004, pp. 133-140.

[38] C. Katzeff and V. Ware, "Video storytelling as mediation of organizational learning", *Proceedings of the 4th Nordic conference on Human-computer interaction: changing roles. ACM*, 2006, pp. 311-320

[39] M. Miles and M. Huberman, *Qualitative data analysis: An expanded sourcebook*. 1994, Thousand Oaks: SAGE.

[40] D. Thomas, "A general inductive approach for analyzing qualitative evaluation data". *American journal of evaluation*. Vol. 27, No. 2, 2006, pp. 237-246.

[41] H. Klein and M. Myers, "A set of principles for conducting and evaluating interpretive field studies in information systems" *MIS Quarterly*. Vol. 23, No. 1, 1999, pp. 67-93

[42] W. Orlikowski, and J. Baroudi, "Studying information technology in organizations: Research approaches and assumptions",

Information Systems Research. Vol. 2, No. 1, 1999, pp. 1-28.

[43]   M. Patton, *Qualitative research and evaluation methods*, 2002, SAGE Publications

[44] R. Mazin, (2011, May 27). Reinforce Learning Through Storytelling, [Online] Available:

[45] https://www.mindflash.com/blog/2011/05/reinforce-learning-through-storytelling/

[46] S. Denning, *The springboard : How storytelling ignites action in knowledge-era organizations,* 2001, Boston: Butterworth-Heinemann.