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USES OF WEB 2.0 FOR KNOWLEDGE MANAGEMENT IN ORGANIZATIONS: MULTIPLE CASE STUDIES

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ABSTRACT

Web 2.0 is a set of Internet-based applications that harness network effects by facilitating collaborative and participative computing. Despite widespread popularity of Web 2.0 tools at the consumer level, it is still not well understood how Web 2.0 is used by enterprises for Knowledge Management (KM). Using multiple case studies, our research addresses this critical gap in the literature and provides examples of uses of Web 2.0 for KM at the individual, project and group level in three leading IT organizations. Findings of our research will help other organizations to adopt Web 2.0 for KM.

Keywords

Web 2.0, Knowledge Management, Case study, project, wiki, blog

INTRODUCTION

Knowledge management (KM) is the process through which organizations generate value from their intellectual and knowledge-based assets (Levinson, 2006). While KM is not about technology, technology plays an important role in KM as it facilitates the process of capture, representation and exchanging of knowledge (Al-Hawamdeh, 2002). KM tools are technologies that enhance and enable knowledge acquisition, codification, transfer and realization (Ruggles, 1997). Currently, organizations utilize Internet-based technologies as KM tools to manage organizational knowledge. A new generation of Internet-based collaborative tools, commonly known as Web 2.0, has increased in popularity, availability and power in the last few years (Kane and Fichman, 2009).

Web 2.0 is a set of Internet-based applications that harness network effects by facilitating collaborative and participative computing (O'Reilly, 2006). Web 2.0 has the potential to deliver rich peer-to-peer interactions among users, enable collaborative value creation across business partners and create dynamic new services and business models (Ganesh and Padmanabhuni, 2007). Web 2.0 technologies include Wiki, Blog, RSS, Aggregation, Mash ups, Audio blogging and podcasting, Tagging and social bookmarking, Multimedia sharing, and Social networking. Rich user experience is a critical aspect of Web 2.0 and plays an important role in encouraging collaborative information exchange. Web 2.0 attracts a large number of participants by enabling rich interactions between them. These interactions have significant impact on customer-driven innovation, maintaining market orientation, addressing customer concerns and development of the product-service mix (Eccleston and Griseri, 2008). Web 2.0 technologies, through rich peer to peer user interactions to support collaborative value creation, combine the best elements of traditional KM such as suitability for business environment and avoid many of disadvantages like limited opportunities for simultaneous collaboration (Wagner and Majchrzak, 2006).

Traditional KM tools, such as expert systems, essentially capture the explicit knowledge of a single expert or source of expertise in order to automatically provide conclusions or classifications within a narrow problem domain. This is in stark contrast to the Web 2.0 KM paradigm (Lee and Lan, 2007) which enables knowledge communities to share

knowledge of a more practical or experiential nature to enable individuals and groups to arrive at their own conclusions (Richards, 2009). To capture tacit knowledge an effective way is to enable knowledge creation through conversation (Von Krogh, 2000). Web 2.0 technology like Wiki facilitates such required conversational KM through social interactions (Wagner, 2006). For example, through Wiki multiple people with different expertise and different roles can interact “socially” and work towards a common goal (Mindel and Verma, 2006). Hence, Web 2.0 has great potential to solve one of the great challenges of KM-capturing tacit knowledge and converting it into explicit knowledge (Wagner, 2006). Conceptually, Web 2.0, with its ability to combine traditional KM tools’ features with social computing where knowledge is evolved through social interactions (Parameswaran, 2007), has been identified as an effective KM paradigm (Fitch, 2007; Mindel and Verma, 2006). With such capability Web 2.0 technology has the potential to address many of the challenges for KM of the organizations (Minocha and Thomas, 2007; Wagner, 2006).

Realizing this potential for effective KM, a few leading IT organizations have adopted Web 2.0 for KM at different levels in the early stage of the innovation while other organizations are only considering Web 2.0 for KM. The latter organizations are actively seeking information and detail about the innovation to make their decision about the adoption (Jones, 2008). Per Innovation Diffusion Theory (Rogers, 1964), the first group of organizations are “*early adopters*” and the organization in the second group are “*early majorities*”. As Innovation Diffusion Theory (Rogers, 1964) states, the “*early majority*” organizations are in the “*persuasion*” stage of the adoption. Such organizations need information to adopt and implement new technology effectively (Beatty et al., 2001). Hence, like any other technology adoption, organizations that are “*early majority*” adopters of Web 2.0 for KM need information for effective adoption and implementation. However, in the existing literature, there is no clear understanding of how to use Web 2.0 for KM effectively (MISQE call for paper, 2009). Relying on Innovation Diffusion theory, we believe that the “*early majority*” organizations can learn from the “*early adopters*” the ways to adopt and use Web 2.0 for KM effectively, that is the ways use of Web 2.0 affects traditional KM activities and outcomes at different levels. Hence, in our study we want to understand the lessons learned by the “*early adopter*” organizations and inform the “*early majority*” organization about how to effectively adopt Web 2.0 for KM at the individual, project, group and organization level. Based on this goal we derive our research question.

Our research is guided by the following research questions:

How do organizations use Web 2.0 technologies for Knowledge Management at the Individual, Project, and Group level?

Despite the widespread popularity of the Web 2.0 tools at the consumer level, it is still not well understood how Web 2.0 can be effectively managed by enterprises for KM (MISQE Call for paper, 2009). Using multiple case research design, our research will address this critical gap in the literature and we will be able to provide examples of effective use of Web 2.0 for KM at the individual, project and group level. All three organizations in our study are technology intense and use Web 2.0 technology in innovative ways for KM. Our findings will highlight effective uses of Web 2.0 in KM at different levels in those organizations.

OVERVIEW OF THE WEB 2.0 FOR KM LITERATURE

Researchers have identified and emphasized the potential of Web 2.0 technologies for KM in different studies (Overview in Table 11). Most of these studies focus on a particular Web 2.0 technology-Wiki (Kane and Fachman, 2009; Minocha and Thomas, 2007; Mindel and Verma, 2006; Wagner, 2006). Mindel and Verma (2006) suggest that Wiki can be effective in teaching and learning. Minocha and Thomas (2007) found that Wiki can be an effective collaboration tool if there is socialization among participants. Kane and Fachman (2009) suggest using Wiki specifically for IS research collaboration.

Description of Study	Findings/ Outcome	Source
Studied the effectiveness of Wiki as a collaborative learning tool	Wiki is an effective collaborative learning tool. However, socialization among the participants needs to be ensured for effective collaboration.	Minocha and Thomas,2007
Studied the potential of Wiki for IS research collaboration	Conceptually proved that Wiki can effectively facilitate research collaboration	Kane and Fachman,2009
Studied enabling Customer-centricity using Wikis	An examination of three cases where Wiki is in use to promote customer centrality revealed six characteristics that affect customer engagement—community custodianship, goal alignment among contributors, value-adding processes, emerging layers of participation, critical mass of management and monitoring activity.	Wagner and Majchrzak,2006
Conceptually evaluates Wikis potential for teaching and learning	Collaboration in academic courses with Wikis is an experiment worth continuing.	Mindel and Verma, 2006
Evaluates potential of Wiki in diminishing knowledge acquisition bottlenecks through conversational KM	Knowledge acquisition through collaboration and conversation facilitated by Wiki can lead to super-linear knowledge asset growth and continuous quality improvement	Wagner,2006
Studied the acceptance of Blog usage	The results indicated that ease of use and enjoyment, and knowledge sharing were positively related to attitude toward blogging. On the other hand, social factors (community identification) and attitude toward blogging significantly influenced a blog participant's intention to continue to use blogs.	Hsu and Lin ,2007
Developed a theoretical model to argue for potential benefits of sharing deeper structural knowledge in an electronic document repository through social tagging and personal document hierarchies.	Exploratory study confirm the benefits of sharing personal hierarchies in a collaborative knowledge work environment	Wu and Gordon,2009
Studied the Web 2.0 technology as mean to achieve collaborative intelligence	Theoretically proved that Web 2.0 can facilitate collaborative intelligence	Lee and Lan,2007
Studied Web 2.0 for collaborative knowledge engineering	Developed a Web 2.0 approach to collaborative knowledge engineering	Richards ,2009

Table 1: Overview of the Web 2.0 for KM Literature

As our literature review suggests, extant literature have identified and emphasized the potential of Web 2.0 technologies for different aspects of KM. However, in the existing literature, there is no clear understanding of how organizations can Web 2.0 for KM effectively at different level for different purposes. We plan to address this gap in the literature through our research.

RESEARCH APPROACH

We adopt the following definitions of individual, group, and project level KM in our study to conceive scope and goal of Web 2.0 based KM activities:

We conceptualize an individual in an organization as a person who works in that organization. Based on this delineation, we describe individual level Web 2.0 based KM as KM activities that relies on Web 2.0 to reach and support the individuals in an organizations- not necessarily belonging to any particular group and/or project. Such individual level KM can be initiated by upper management of an organization for all the individuals working in that organization, irrespective of any group or project. For example, if the upper management of an organization creates a Wiki to help individuals working in that organization to learn a new technology or work process the organization has adopted then according to our conceptualization, this KM initiative will be categorized as an individual level KM.

We define a project as a series of activities and tasks that (a) have a specific objective to be completed within certain performance specifications (e.g., cost, quality, schedule), (b) have limited Resources (e.g., time, personnel), (c) have defined start and end dates, (d) have a project manager and a project team with the authority and responsibility for accomplishing of the project objectives, and (e) have knowledge needs (Kerzner, 2005). Based on this definition, we describe project level Web 2.0 based KM as Web 2.0 based KM activities to manage knowledge required in a project. This includes the Generation, Codification, Transfer and Realization of knowledge needed for a project.

We define a group as a collection of individuals who have regular contact and frequent interaction, mutual influence, common feeling of camaraderie, and who work together to achieve a common set of goals. (Business Directory, 2009).. Based on this definition, we describe group level Web 2.0 based KM as Web 2.0 based KM activities to manage knowledge for a group, that is Generation, Codification, Transfer and Realization of knowledge required by a group.

It is important to note that, in our conceptualization of project and group, there is a “Many-to-Many” relationship between them. That is, a group could work on more than one project. On the other hand, there could be projects where more than one group is participating.

An organization is a group of people intentionally organized to accomplish a common set of explicit and/or implicit goals (McNamara, 1998). We conceptualize that an organization consists of individuals, projects and groups.

There is a dearth of existing research theory on the use of Web 2.0 technology in the KM literature at organizational as well as project level, group level and individual level. Ideally case study research designs are appropriate for “how” and “why” questions. Hence, we adopt an interpretive exploratory case study strategy in the first phase of our research to identify and understand “how” organizations are using Web 2.0 technology for KM at different levels together with contexts, mechanisms and effects associated with those uses. We follow the guideline suggested by Eisenhardt (1989) the exploratory case study. In accordance with the guideline, we have a strong foundation in the existing KM literature to conduct the exploratory case study and to identify and understand the uses and effects of Web 2.0 facilitated KM at the individual, project, group and organization level.

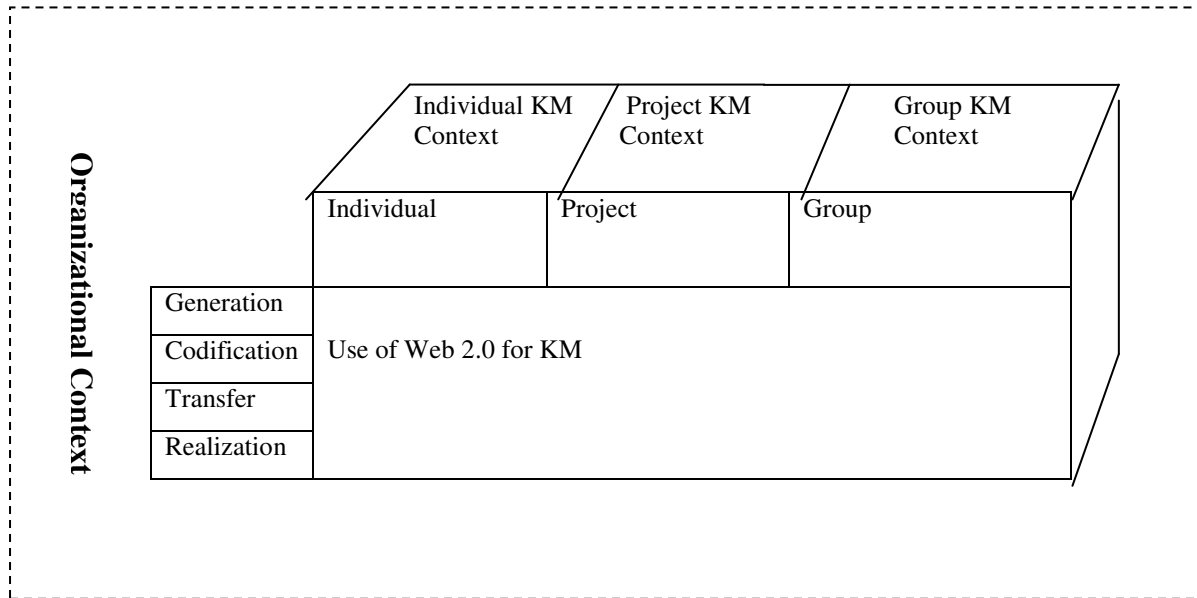


Figure 1: Research Framework

We develop our research framework (shown in Figure 1) by adopting the pragmatic framework for KM research proposed by Grover and Davenport (2001). This framework serves as the theoretical guideline required in our case study. Since the first phase of our research is exploratory, this framework helps us theoretically to identify different aspects that need to be explored and understood to study KM. This framework differentiates between scopes of KM activities such as individual, group and project. This is required in our case study since we are interested in studying uses and effects of Web 2.0 technology on all these levels. As proposed in Grover and Davenport's (2001) framework, our research framework identifies and differentiates between KM activities- Generation, Codification, Transfer and Realization. Each of these activities poses unique challenges in different scopes of KM.

EXPLORATORY CASE STUDY AND FINDINGS

Selection of cases is a very important aspect of conducting a case study. Not only the population defines the set of entities from which the research sample is to be drawn, but also selection of an appropriate population controls extraneous variation and helps to define the limits for generalizing the findings (Eisenhardt, 1989). According to the suggestion by Glaser and Strauss (1967), Yin (2003), George and McKeown (1985) and Eisenhardt (1989) we based the case selection for our study on two factors:

First, theoretical relevance, purpose, similarities and difference across data sources with regard to appropriateness of the data sources for the study. In our case, we want to study uses and effects of Web 2.0 based KM at the individual, project, group and organization level. Hence, we selected three organizations which are using Web 2.0 for KM at different levels long enough, in this case more than 4 years, to identify the effects of Web 2.0 based KM on different aspects. We also made sure that the groups and projects we selected within these organizations have been using Web 2.0 for KM long enough to understand its effects. All three organizations are leading firms in their respective fields in IT industry and have branches/offices in many countries of the world. However, they are different in terms of type of business they conduct in IT industry. Organization A is mainly in IT services, organization B manufactures and sells computer hardware and software with a focus on the latter, and organization C concentrates on networking and communications technology and services. For groups, we selected different functional units such as research, design and testing groups. Similarly, for projects, we selected projects that are different in their goals and team formation. For example, in our selected project teams, we have teams that consist of only people working in that organization as well as teams whose members from different organizations (e.g. offshore vendor).

The second factor, feasibility, was largely determined by each organization's willingness to participate in the study and to provide required information.

Our principal data collection method was semi-structured interviews. We interviewed six managerial level persons from the selected organizations. All interviewees have experience of using Web 2.0 for KM at different levels. Therefore, they were in a position to describe how Web 2.0 is used for KM at the group, project and individual level in their respective organizations and their experience of using it in group(s), project(s) and as an individual working in the organization. Each interview had an average duration of 45 minutes to 1 hour. We recorded all these interviews whenever possible and transcribed all sessions before starting the data analysis. To enhance the validity of the answers, whenever possible, we verified summaries of the major findings with the interviewee after the interview session. Furthermore, to ensure consistency and reliability, we used structured interview guides for all interviews. The interview guide includes several open format questions based on our research framework and the identified effects of KM at different levels from the existing literature. However, to allow the participants flexibility in their responses, we used open ended questions. We also included questions on organizational and interviewee demographics to obtain a more complete understanding of the firms and individuals interviewed. As second data source, wherever possible, we also investigated the Web 2.0 technologies (e.g. blogs, Wikis, social networking platform) that are in use in those organizations for KM. Existing literature suggests that it is preferable to have multiple investigators in such case study. Hence, wherever possible we made sure that in any of the interviews at least two researchers were present.

We present the summary of our findings in the following tables. In table 2 we provide an overview of the Web 2.0 based KM tools that are used in the studied organization. Then we describe the uses at the individual, project and group level in the table 3, 4, and 5 respectively.

Organization A	Organization B	Organization C
<ul style="list-style-type: none"> • Regular Wiki with hierarchical organization of knowledge, search function, history and version control mechanism that facilitates collaborative editing • Third party provided enhanced Wiki-<i>WikiA</i> with additional functions such as: <ul style="list-style-type: none"> (a) Organized uploading of large number of documents (b) Task and associated deadline allocation for a project (c) Calendar Planning function (d) Meeting scheduling function • Blogs • Internal platform to host blogs and Wikis initiated by management or the individuals working in the organization • RSS feeds support for blogs and WikiA • Working on developing a “Facebook” like social networking platform and considering several options. However, nothing is in place yet. 	<ul style="list-style-type: none"> • A sophisticated Wiki like tool-<i>WikiB</i> for KM developed in collaboration with a third party. With regular features of a Wiki, WikiB has <ul style="list-style-type: none"> (a) Advanced search mechanism (b) File sharing support in different formats (c) Open file format i.e. facilitating access to files stored in different formats without having to install additional software • Blogs • Internal platform to host blogs and Wikis initiated by management or the individuals working in the organization • RSS feeds support for blogs and WikiB • An in-house developed “Facebook” like social networking platform FacebookB where all the individuals working in organization B can participate. 	<ul style="list-style-type: none"> • An in-house developed advanced wiki like tool-<i>WikiC</i> for KM. With regular features of a Wiki, WikiC has <ul style="list-style-type: none"> (a) Advanced search mechanism (b) Extensive multimedia file sharing support (c) High Definition Audio/Video format support • Blogs • Internal platform to host blogs and Wikis initiated by management or the individuals working in the organization • RSS feeds support for blogs and WikiC • Working on developing a “Facebook” like social networking platform and considering several options. However, nothing is fully functional and in place yet.

Table 2: An Overview of Web 2.0 Tools

Individual level	Individual Level uses of Web 2.0 for KM		
KM activity	Organization A	Organization B	Organization C
Generation (KM activities for knowledge acquisition and development)	<ul style="list-style-type: none"> ▪ Generation of knowledge on blogs through informal interactions between individuals working in the organization. ▪ Generation of knowledge through collaborative editing on Wiki by the individuals ▪ Generation of Tutorials by experts on Wiki for training purpose that gets enriched by collaborative editing by different individuals working in the organization 	<ul style="list-style-type: none"> ▪ Generation of knowledge on blogs through informal interactions between individuals working in the organization. ▪ Generation of knowledge through collaborative editing on a WikiB and participants in the generation process could be <i>situated in different locations around the world.</i> ▪ Generation of multimedia based tutorials by experts for training purpose that gets enriched by collaborative editing by different individuals working in the organization 	<ul style="list-style-type: none"> ▪ Generation of knowledge on blogs through informal interactions between individuals working in the organization. ▪ Generation of knowledge through collaborative editing on a WikiC and participants could be from <i>different functional units of the organization and from globally dispersed locations.</i> ▪ Generation of multimedia (including High Definition audio/ videos) based tutorials by experts for training purpose that gets enriched by collaborative editing by different individuals working in the organization
Codification (KM activities for knowledge conversion in accessible and applicable formats)	<ul style="list-style-type: none"> ▪ Storing generated knowledge on Wiki that is simultaneously accessible to all the employees ▪ Storing the knowledge generated on the blog in the form of Q&A that is accessible to all the employees ▪ Storing tutorials on Wiki that is simultaneously accessible to all the individuals working in the organization 	<ul style="list-style-type: none"> ▪ Storing generated knowledge on WikiB that is simultaneously accessible to all the individuals working in the organization ▪ Storing the knowledge generated on the blog in the form of Q&A that is accessible to all the employees ▪ Storing tutorials on WikiB in different multimedia formats that is simultaneously accessible to all the employees 	<ul style="list-style-type: none"> ▪ Storing generated knowledge on WikiC that is simultaneously accessible to all the individuals working in the organization ▪ Storing the knowledge generated on the blog in the form of Q&A that is accessible to all the individuals working in the organization ▪ Storing tutorials on WikiC in different multimedia formats, including High Definition audio/video format, that is simultaneously accessible to all the individuals working in the organization
Transfer (KM activities for moving knowledge from the point of	<ul style="list-style-type: none"> ▪ Individuals simultaneously accessing required knowledge stored on Wiki ▪ Gaining appropriate knowledge from Wiki 	<ul style="list-style-type: none"> ▪ Individuals simultaneously accessing required knowledge stored on WikiB in different file formats <i>without installing additional software</i> ▪ Gaining appropriate knowledge 	<ul style="list-style-type: none"> ▪ Individuals in the organization simultaneously accessing required knowledge stored in different file formats on WikiC ▪ Gaining appropriate

Individual level KM activity	Individual Level uses of Web 2.0 for KM		
	Organization A	Organization B	Organization C
generation or codification to the point of use)	through hierarchical knowledge organization and searching based on topic as well as author	from WikiB through hierarchical knowledge organization and searching based on topic as well as author <ul style="list-style-type: none"> ▪Gaining appropriate knowledge from WikiB through subscription of RSS feeds. ▪Transferring knowledge through <i>informal interaction</i> between individuals on FacebookB 	knowledge from WikiC through hierarchical knowledge organization and searching based on topic as well as author
Realization (KM activities for making use of the available knowledge to generate value)	<ul style="list-style-type: none"> ▪Using knowledge generated and stored on Wikis to train oneself a new technology and/or process ▪Using knowledge generated and stored on Wikis and blogs to perform different activities-official as well as non-official, technical as well as non-technical 	<ul style="list-style-type: none"> ▪Using knowledge generated and stored on WikiB in different formats to train oneself a new technology and/or process ▪Using knowledge generated and stored on WikiB and blogs to perform different activities-official as well as non-official, technical as well as non-technical ▪Using tacit knowledge gained through informal interactions with other employee on FacebookB to perform different activities-official as well as non-official, technical as well as non-technical 	<ul style="list-style-type: none"> ▪Using knowledge generated and stored on WikiC in different formats to train oneself a new technology and/or process ▪Using knowledge generated and stored on WikiC and blogs to perform different activities-official as well as non-official, technical as well as non-technical

Table 3: Summary of the exploratory study findings-Individual Level

In our conceptualization of project and group, there is a many to many relationship between them. That is, there were groups working on multiple projects, and there were projects where more than one group in the organization was working together. Hence, in the uses of Web 2.0 for KM at the project and group level we found significant overlap.

Project level KM activity	Project Level uses of Web 2.0 for KM		
	Organization A	Organization B	Organization C
Generation	Generation of knowledge through conversation on WikiA where in many cases project team members are <i>not collocated</i> .	<ul style="list-style-type: none"> ▪ Generation of knowledge through conversation on WikiB where in many cases project team members are <i>situated in different parts of the world</i>. ▪ Generating “Lessons learned” 	<ul style="list-style-type: none"> ▪Generation of knowledge through conversation on WikiC where project team members might be from <i>different functional units/groups of the organization and are from</i>

Project level KM activity	Project Level uses of Web 2.0 for KM		
	Organization A	Organization B	Organization C
		from different projects on WikiB based central repository thorough participation from members of different project teams where creating the repository was an upper management initiative.	<i>globally dispersed locations.</i> ▪ Generating “Lessons learned” from projects on WikiC through contribution from project team members and this is a KM policy in the organization C
Codification	▪ Storing generated knowledge on WikiA that is simultaneously accessible to all the project team members	▪ Storing generated knowledge on WikiB in various file formats (<i>e.g. audio file of conference call, video tutorials, podcasting</i>) that is simultaneously accessible to team members from other projects ▪ Storing “ <i>Lessons learned</i> ” from previous projects on a WikiB based central repository that is maintained by a team of chosen “ <i>Experts</i> ” from the organization B and simultaneously accessible to the team members from other projects	▪ Storing generated knowledge on WikiC in a wide variety of multimedia formats (<i>e.g. video tutorial in High Definition format</i>) that is simultaneously accessible to all the project team members (with some exceptions) ▪ Storing “ <i>Lessons learned</i> ” from project(s) on WikiC that is simultaneously accessible to team members from other projects
Transfer	▪ Project team members accessing required knowledge stored on project Wiki/WikiA ▪ Gaining appropriate knowledge from project Wiki through hierarchical knowledge organization, searching and version control mechanism	▪ Project team members accessing required knowledge stored on project WikiB <i>without installing additional software</i> ▪ Gaining appropriate knowledge from project Wiki through hierarchical knowledge organization, searching and version control mechanism ▪ Transferring “ <i>Lessons learned</i> ” from previous projects stored on the WikiB based central repository to a current project(s) ▪ Transferring and acquiring related knowledge, especially tacit, related to a project from previous similar project(s) through <i>informal interactions</i> on	▪ Project team members searching and accessing helpful and/or required knowledge stored on project WikiC ▪ Gaining appropriate knowledge form project Wiki through hierarchical knowledge organization and search mechanism

Project level KM activity	Project Level uses of Web 2.0 for KM		
	Organization A	Organization B	Organization C
		FacebookB	
Realization	<ul style="list-style-type: none"> Using knowledge generated and stored on WikiA to perform different project related activities that includes but not limited to project planning and scheduling, new product development 	<ul style="list-style-type: none"> Using knowledge generated and stored on WikiB to perform different project related activities such as project planning and scheduling Using “<i>lessons learned</i>” from previous projects stored on WikiB based central repository to plan future projects and to address the problems of a running project Using Individual maintained blogs and “<i>FacebookB</i>” to identify necessary expertise required for a project leading to internal hiring and/or transfer 	<ul style="list-style-type: none"> Using knowledge generated and stored on WikiC to perform different project related activities such as required collaboration among different functional units of organization C which is required in some projects. Using “<i>lessons learned</i>” from previous projects stored on WikiC in a current or active project in order to address a scenario and/or problem.

Table 4: Summary of the exploratory study findings -Project Level

Group level KM activity	Group Level uses of Web 2.0 for KM		
	Organization A	Organization B	Organization C
Generation	Use of group Wiki in generation of knowledge (e.g. idea of new product leading to a project) through conversation based KM	<ul style="list-style-type: none"> Generation of knowledge through conversation on WikiB in virtual groups as well as regular groups i.e. groups in which the group members are co-located. 	<ul style="list-style-type: none"> Generation of knowledge through conversation on WikiC in virtual as well as co-located groups
Codification	<ul style="list-style-type: none"> Storing simultaneously accessible knowledge on Wiki for the group members 	<ul style="list-style-type: none"> Storing simultaneously accessible knowledge on WikiB in various file formats for the group members Storing “<i>Best practices</i>” of group activities identified in different groups in organization B on a WikiB based central repository developed and maintained by a team chosen by upper management. This repository is simultaneously 	<ul style="list-style-type: none"> Storing simultaneously accessible knowledge on WikiC in a wide variety of multimedia formats (<i>including High Definition video format</i>) that is available to the group members (with some restrictions based on the nature of data and a group member’s job description and/or designation)

Group level KM activity	Group Level uses of Web 2.0 for KM		
	Organization A	Organization B	Organization C
		accessible to all the groups' members with some exceptions. For example, in some cases, access to the "Design" groups' Wikis might be limited to some selected groups based on the task and/or functional duties and responsibilities of a group.	
Transfer	<ul style="list-style-type: none"> ▪Gaining and accessing appropriate and/or required knowledge simultaneously from Wiki using the built-in hierarchical knowledge organization of Wiki as well as searching and version control mechanisms 	<ul style="list-style-type: none"> ▪ Simultaneously accessing required knowledge stored in different file formats on group WikiB <i>without installing additional software</i> ▪Gaining appropriate knowledge from group Wiki through hierarchical knowledge organization, searching and version control mechanism ▪Accessing and Learning about "Best practices" of different groups from the WikiB based central repository ▪Gaining knowledge from "knowledgeable" group members through <i>informal interactions</i> on FacebookB 	<ul style="list-style-type: none"> ▪ Simultaneously accessing required knowledge stored on WikiC ▪Gaining appropriate knowledge form group WikiC through built-in hierarchical knowledge organization of WikiC and search mechanism
Realization	<ul style="list-style-type: none"> ▪Using knowledge generated and stored on Wiki to perform different group activities such as development of project proposal(s) that a group want to work and have budget sanction from top management and/or outside sources. 	<ul style="list-style-type: none"> ▪Using knowledge generated and stored on WikiB to perform different activities group activities such as dissemination of a new tool and/or process in a group. ▪ Using central repository of "Best practices" to identify ways to address the identified shortcoming(s) of a group 	<ul style="list-style-type: none"> ▪Using knowledge generated and stored on WikiC to perform different activities of a group such as providing support for the newly hired and/or transferred group members.

Table 5: Summary of the Findings of Exploratory Study-Group Level

CONCLUSION AND FUTURE WORK

The contribution of our research is twofold. First, through exploratory case study, our research does a theory driven systematic investigation of Web 2.0 based KM in the organizations and provides examples of innovative and effective uses of Web 2.0 for KM at different levels in the leading IT organizations. Such theoretically grounded study and knowledge are currently missing in the extant KM literature. Second, the findings of our research will help other organizations in adoption of Web 2.0 for KM effectively. In future, as an extension of this research we would like to empirically test the effects of using Web 2.0 for KM as well as the role of context variables in the effective uses of KM

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