

Association for Information Systems
AIS Electronic Library (AISeL)

ACIS 2013 Proceedings

Australasian (ACIS)

2013

Leveraging Enterprise 2.0 for Knowledge Sharing

Diana Wong

The University of Melbourne, dianameilengwong@yahoo.com

Rachelle Bosua

The University of Melbourne, rachelle.bosua@unimelb.edu.au

Shanton Chang

The University of Melbourne, shanton.chang@unimelb.edu.au

Sherah Kurnia

The University of Melbourne, sherahk@unimelb.edu.au

Follow this and additional works at: <https://aisel.aisnet.org/acis2013>

Recommended Citation

Wong, Diana; Bosua, Rachelle; Chang, Shanton; and Kurnia, Sherah, "Leveraging Enterprise 2.0 for Knowledge Sharing" (2013). *ACIS 2013 Proceedings*. 87.

<https://aisel.aisnet.org/acis2013/87>

This material is brought to you by the Australasian (ACIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ACIS 2013 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.



ACIS 2013

RMIT MELBOURNE

Information Systems: Transforming the Future

24th Australasian Conference on Information Systems, 4-6 December 2013, Melbourne

Proudly sponsored by



ACIS 2013 Principal Sponsor



Advancing ICT through Education and Research



Leveraging Enterprise 2.0 for Knowledge Sharing

Diana Wong, Rachele Bosua, Sherah Kurnia, and Shanton Chang
Department of Computing and Information Systems
The University of Melbourne
Victoria, Australia
Email: dianaw@student.unimelb.edu.au

Abstract

Enterprise 2.0 takes on the full benefits of Web 2.0 services and has great potential in delivering business benefits. Many organizations have invested in this platform yet many are still hesitant to the adoption of it. This research paper explores the use of Enterprise 2.0 and how it can be incorporated into the changing business environment. The paper delineates the principles of KM and draw inferences where the appropriate use of Enterprise 2.0 will improve knowledge sharing. The underlying principles of KM and the desired transformation discussed, illustrates challenges and gaps in knowledge sharing. The subsequent discussion explores the identified gaps and proposed the appropriate use of Enterprise 2.0, based on social capital theory. The study will contribute to a deeper understanding of the coherence of Enterprise 2.0 and knowledge sharing and identify the potential areas of improvements through appropriate use of Enterprise 2.0.

Keywords

Enterprise 2.0, knowledge management, organisation-wide knowledge sharing, collaboration, social capital theory.

INTRODUCTION

Enterprise social networking technologies, or more commonly referred to as Enterprise 2.0, is the use of emergent social networking technologies for the realization of business objectives (McAfee 2006). Enterprise 2.0 is developed with the primary aim of promoting collaborations across hierarchical and geographical structures within an organization (Awolusi 2012). In essence, the fundamental of the Enterprise 2.0 is similar to other social networking services but with the emphasis that it is targeted for business use. It consists of integrated social media tools for realization of business objectives such as comments, crowd sourcing, collaboration, blogs, instant messaging, media and file sharing, content management, community of interest group, and tagging (Li, Webber, and Cifuentes 2012). Enterprise 2.0 provides the ability to transverse business messages into social platform content and can be accessed and utilized by the networks of relationships among the employees. It enables employees to connect to each other and utilize applications in an activity stream that is relevant, secure, and collaborative (Sturdevant 2011).

Despite the large uptake of Enterprise 2.0, there are many organizations that are still hesitant to adopt Enterprise 2.0 as they are deeply concerned about the organizations' abilities to capitalize on this transformation and thrive on this transformation (Kopae and Uppal 2011). A Gartner report forecasted in 2015 that 80% of social business efforts will not achieve its intended benefits due to inadequate leadership and overemphasis of technology (Stamford, C., 2013). Furthermore, according to Li et. al. (2012) the initial enthusiasm and usage of Enterprise 2.0 will gradually slow down. The reality of everyday work will push the motivation to use Enterprise 2.0 to the side, causing employees to pull away from their social networking activities and return back to their original work and communication patterns (Li et al., 2012). Other than that, the novelty of Enterprise 2.0 does not lie so much in its technological development but in the values it delivers through the appropriate use of it. The use of Enterprise 2.0 requires careful considerations to align social networking activities to business objectives (McCorvey 2010). It needs to be closely knitted into the business workflow in order to enjoy measurable business benefits (Bughin and Chui 2011). However, up until now, the evidence on the size and the impact of the use of Enterprise 2.0 is anecdotic.

Therefore, there is strong need for empirical research on exploring the effective use of Enterprise 2.0 for business benefits. One of the commonalities of Enterprise 2.0 that is identified through this research is the coherence of business objectives derived from KM strategy. Enterprise 2.0 transforms the way how people work and share knowledge with each other. Coherent to the KM objectives, Enterprise 2.0 poses great potential to support the process of capturing, sharing, and effectively using knowledge (Davenport and Prusak 1998; Levy 2009). Fundamentally, both emphasize strategies for capitalizing on the knowledge of individuals. Furthermore,

there are numerous gaps identified which explains why existing KM strategy, specifically in knowledge sharing, is inadequate and should leverage the use of Enterprise 2.0. Firstly, KM strategies have resulted in too much emphasis on capturing the explicit knowledge while tacit knowledge, which can be created through socialization, is not effectively and efficiently shared (Fahey and Prusak 1998). Secondly, the purpose of managing knowledge is to create a shared context for use and reuse of knowledge. However, knowledge is often viewed as commodity, which lacks localized and socialized context of practice (Fahey and Prusak 1998; Roll 2004). The knowledge sharing process needs to be real-time and incorporated into the flow of business activities. Finally, the KM strategy does not create an environment that encourages knowledge sharing behaviour. Although there are rewards program implemented for knowledge sharing in most organizations, individuals still perceived that knowledge sharing demands time and effort (Hendriks 1999; Lee and Ahn 2005; Riege 2005) and reduces the unique value or power (Riege 2005) that the individual enjoys in the organization. Knowledge sharing needs to be intrinsically motivated. To address these gaps, the primary goal of this research is to illuminate ways to incorporate Enterprise 2.0 to facilitate knowledge sharing for improved KM strategy. Consequently, the research will focus to answer the following question:

How can the use of Enterprise 2.0 contribute to improved knowledge sharing?

Up until now, there is lack of systematic explanation of how Enterprise 2.0 can effectively support knowledge sharing. To answer this question, the study seeks to explore the emergence of Enterprise 2.0, and how it can be strategically linked to knowledge sharing to deliver business benefits. The research will explore the underlying principles of KM and explain the evolution of KM as a result of emergent social networking technologies and the inevitable social business transformation. Based on the identified gaps, the social capital theory will be used as a theoretical lens to study the potential use of Enterprise 2.0 to support knowledge sharing. The emphasis on social capital theory as the basis of understanding provides a foundation for describing and characterizing the organization's set of relationships and removes any bias towards fad of technological intervention. Finally, the propositions will be discussed using the three dimensions of social capital theory - structural, relational, and cognitive (Nahapiet and Ghoshal 1998) to provide a well encompassing view of the discipline.

RELATED WORK

Use and Benefits of Enterprise 2.0

Enterprise 2.0 is a emergent social software platform which shares the same convergence as Web 2.0 in pursuit of business benefits (McAfee 2006; Platt 2007). The term Web 2.0 was coined by Dale Dougherty, vice president of O'Reilly Media Inc. (O'Reilly 2005). Web 2.0 refers to a range of web services that offers dynamic collaborative environment, blogs, wikis, podcasting, tagging and social bookmarking, multimedia sharing, and content syndication (Chui et al., 2012; McAfee, 2009a; O'Reilly, 2005). (McAfee 2009a) explains that the web services are essentially 'social software' that enables people to connect and collaborate through computer mediated communication and to form online communities. The 'platform' describes the digital environment in which contributions and interactions are visible and persistent over time. The expression 'emergent' refers to software that is free of an imposed structure and contains mechanism like search, links, authoring, tags, extensions, and signals. The central principle behind Enterprise 2.0 is to embrace the power of the web services to harness collective intelligence.

Coherent to McAfee's definition, (Doan-Huy et al. 2009) describes the building blocks of Enterprise 2.0 requires the combination of a Web 2.0 framework that includes content management, security, and integration with enterprise applications. The Web 2.0 layer provides a single user interface to access content, process, systems, and people. Content management enables consistent contribution of individual user's experiences across multiple sites and applications ensuring content integrity while minimizing the risk of adoption. Lastly, the security and privacy provides single sign on, authentication, and authorization of content contribution which make Enterprise 2.0 safe, secure, auditable, and controllable. Gartner, Inc. has recently published the magic quadrant illustrating how the various platform providers in Enterprise 2.0 assist organizations in implementing effective social networking business solutions (Drakos et al. 2011). The quadrant assesses the capabilities of the various platforms if it supports employee collaboration and social interaction, and the extension to connect with partners, suppliers and in some cases external customers. Yammer, Chatter, Jive, and IBM fall in the Leaders quadrant, in which it signifies these vendors offer leadership through early recognition of users' needs, continuous innovation, overall market presence, and success in delivering user-friendly and solution-focused suites with broad capabilities.

McKinsey Global Institute conducted a survey on the use of social networking technologies across 4200 global executives of different industries and functional areas. The survey result shown that in 2011, 72% of

organizations surveyed reported using social technologies in their businesses and 90% of those users reported some business benefits from them (Chui et al. 2012). In another survey, AIIM Market Intelligence reported that 54% of organizations consider Enterprise 2.0 to be important or very important to their business goals and success, having considered knowledge sharing, collaboration and responsiveness as the biggest drivers for Enterprise 2.0 adoption (Miles 2009). The survey was conducted across 789 individual members of the AIIM community who use web based tools whereby the respondents represented organizations of all sizes and from various industry sectors. Business organizations are starting to realize the potential of social technologies on building competitive advantages from their network of resources (Paroutis and Saleh 2009).

Establishing Social Networks Relationships - A large organization, IBM's Vice President, Sandy Carter explained that Enterprise 2.0 enables individuals to be more innovative, productive, and more efficient in collaborating with each other via social networking technologies. For example, employees at IBM can customize the corporate address book, called IBM Blue Pages, according to their job needs and professional interests. The updated profile creates visibility and allows others to view their expertise and interest. Users can locate information based on simple searches or tagging and create automatic feeds to receive updates for relevant information about technology trends, competitive information or educational classes ("The Business Value of Web 2.0 Technology" 2007). As a result, employees are better informed and involved (Fidelman 2011).

Communication and Collaboration - In 2008, Booz Allen Hamilton launched its own Enterprise 2.0 platform – Hello.bah.com, and received positive feedbacks from employees' participation which brought forth positive changes to the communication and collaboration within the organization. The platform includes rich user profiles, an integrated user experience (e.g. connection to PeopleSoft), more powerful search, and better contextual information so that content and people can more easily be found. It provides a user-centric dashboard and a content rating system. People, intellectual content, and communities are all integrated via Hello.bah.com to support the firm's core business (Parise et al. 2012).

Knowledge Sharing - Finally, the tax and advisory firm, KPMG, has implemented a variety of Enterprise 2.0 tools integrated into the KPMG Portal to enable geographically dispersed consultants to foster effective knowledge sharing. Ceri Hughes, Director, Global Advisory Knowledge Management/IT/Research explained that it is essential to have a single point of access and provide a platform that is simple, intuitive, and familiar to optimize the use of Enterprise 2.0. The spin-off from this is that the client-facing teams get to experience a broad range or blend of tools that support their business processes and they can then incorporate the knowledge of those tools into future assignments. As apparent, Enterprise 2.0 is evidently used in many organizations and results in multiple business benefits. Organizations that are deriving value from this use are adopting the platform as part of the broader experience (Bughin et al. 2008).

There are numerous evidences that Enterprise 2.0 is making waves in empowering internal and external stakeholders, and ultimately, achieving competitiveness. Organizations can use Enterprise 2.0 to create links to wider pool of knowledge resources from its diverse social capital, foster knowledge sharing and transform the approach to the network of interconnected functional activities – production, operation, research and development, and stakeholder engagement. The unified social platform bridges geographical and functional information silos by shifting communication out of e-mails to a collaborated platform that facilitate easy access of information, serendipitous connections of communities of interest and cultivation of ideas and innovation (Bughin and Chui, 2011). The network of relationships formed enables richer customer insights of products and services, continuous feedback, and perception of market segments. Furthermore, Enterprise 2.0 also facilitates learning and skill development outside formal learning environments by supporting peer-to-peer learning of knowledge and skills, diverse cultural expression, and improves employees' visibility (Ito, et. al., 2006, Jenkins, 2007). The non-exhaustive list of benefits derived from the appropriate use of Enterprise 2.0 implies great potential to be leverage strategically for establishing social network relationships and increased collaboration and communication which leads to improved knowledge sharing. The next section describes the significance of knowledge, and the underlying KM strategy in supporting the business. The paradigm shift to social business indicates the need to reflect on and incorporate emerging social networking technologies as part of organizational KM strategy to improve knowledge sharing.

Knowledge and Knowledge Management Strategy

Knowledge is a competitive resource for organizations (Nonaka and Takeuchi 1995; Grant 1996; Davenport and Prusak 1998; Seufert, Krogh, and Bach 1999; Alavi and Leidner 2001). Knowledge is defined as all factors that have the potential to influence human thought and behaviour (Hall and Andriani 2003). This includes factors such as skills, intuition, experience, reputation, values, and expert insights (Davenport and Prusak 1998). Knowledge is also referred to as the capacity for action, an understanding or grasp of facts, methods, principles and techniques sufficient to apply them in the course of decision making (Senge 2000). Researchers categorized

knowledge as tacit and explicit knowledge (Nonaka and Takeuchi 1995; Polanyi 1967). Explicit knowledge explains knowledge that can be articulated, structured, and documented. Tacit knowledge explains knowledge that resides in the individual’s head which can be in the form of experience, skills, insights, and know-how (Polanyi 1967).

The strength of the organizations lies in its ability to manage these knowledge assets and to be responsive to the changing business environment (Grant 1996; Gold, Malhotra, and Segars 2001). In doing so, organizations are perpetually challenged to effectively identify knowledge, categorizing and storing knowledge, whilst making knowledge useful for the employees (Kogut and Zander 1992). KM is defined as the exploitation and development of the knowledge assets of an organization with a view to furthering the organization’s objectives (Davenport and Prusak 1998). The strategic goal of KM is to make knowledge visible across the value chain, to develop knowledge intensive culture by encouraging knowledge sharing behaviour, and to enhance collaboration between individuals or groups. This involves extensive work of knowledge assessment, developing Communities of Practice and implementation of KM portal, repositories, and experts’ directory that store knowledge assets. Consequently, an effective KM strategy should facilitates the organization in improved decision making, streamlining business processes, increased innovation and enhance employee retention rates by recognizing the value of their knowledge. While there are numerous KM strategies, they predominantly focus around the static approach of collecting, organizing, classifying, and sharing of knowledge.

Looking ahead, many organizations are moving towards a social platform, whereby the emphasis is on creating social presence and unlocking the benefits of collective actions. This leads to the assimilation of social networking technologies to daily work activities, which translates into the connotation of social business. The business transformation necessitated change in business processes, leading to inevitable evolution towards new KM strategy (Dixon 2012). It shifts the focus from documents, project plans and other temporary artefacts, out of the organizational boundary, to the emphasis on people - the source of energy, creativity and decision making that moves the business forward (“The Social Business: Advent of A New Age” 2011). In Dixon’s research, she describes the evolving landscape of KM in three different stages: leveraging explicit knowledge, leveraging experiential knowledge, and leveraging collective knowledge (Dixon 2012). Figure 1 illustrates the various aspect of transformation leading to social business.

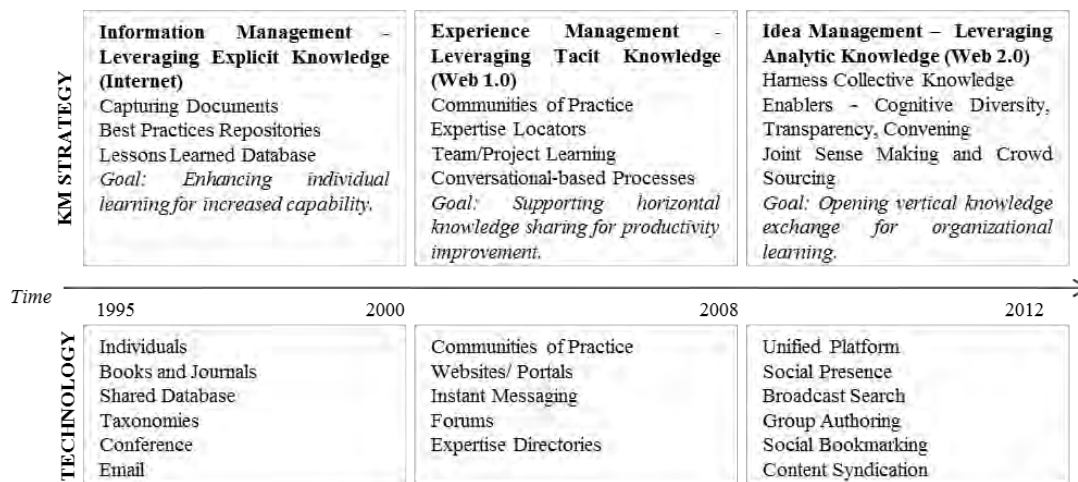


Figure 1: Evolution of Knowledge Management and Technology (Adapted from (Dixon 2012))

The initial phase of KM was driven by the new way of thinking about knowledge that began in the mid-90s. (Drucker 1988) coined the term ‘knowledge workers’ to refer to individuals within the organization that contributes knowledge to their work. Knowledge created is perceived as an organizational asset and should be well managed to achieve competitive advantage. KM strategy was aligned towards developing knowledge repositories to harness and capture the knowledge. The assumption was that with best practices in place, individuals will use the knowledge in the repository to facilitate their daily work activities. The emphasis of technology was minimal at the earlier stage. Employees were relying on conventional textual storage and printing options such as books and journals and the use of filing cabinets to retrieve and store information. With the advent of World Wide Web, emails, database system, and shared network drive were used. Email is arguably knowledge intensive tool managing information with communication among groups of individuals (Roll 2004).

The second phase of KM addresses the limitations of the earlier stage. There are gaps whereby capturing the explicit knowledge was not sufficient as a great deal of knowledge which resides in the employees’ mind, for instance experience, insights, know-how, was not successfully captured. Moreover, the initial phase created

resistance in sharing and using of the knowledge among employees. The second wave of KM came to a realization that technology alone was not sufficient to manage knowledge. This led to the formation of Communities of Practice, to facilitate tacit knowledge transfer among employees. The Communities of Practice describes groups of individuals who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an on-going basis (Wenger, McDermott, and Snyder 2002). The Communities of Practice was a way to break down functional walls to facilitate better networking and sharing of knowledge among employees with similar background and interest. During this phase, there was a strong focus of information technology to facilitate KM. Knowledge is acquired using intranets, extranets, groupware, web conferencing and other knowledge management systems. The storage repositories such as data warehouse were formed as the organizational memory from information drawn from different sources of the organization. This is followed by other advanced technological development such as reporting systems, expert systems and decision making tools for retrieval and analysis of information. Knowledge taxonomy was created during this phase but merely as shared definitions to business processes and best practices.

Finally, the inevitable transformation is described in the third phase which is leveraging collective knowledge. The most untapped resources in most organizations are in its collective knowledge. In this phase, what organization is particularly interested is not the harnessing of existing knowledge, but the creation of new knowledge from the collective learning processes. This is exemplified by the three enablers - convening, cognitive diversity and transparency (Dixon 2012). Convening explains the skills and practice to bring together individuals to understand a complex issue, create new knowledge, and spur innovation. It can also be viewed from a problem solving perspective as the ability to assimilate knowledge to refine its understanding of its environment, increases its absorptive capacity and improves its ability to react appropriately to future stimuli by attempting to solve a problem (Gray 2001). When dealing with rich knowledge as a result of the propagated use of social media, cognitive diversity necessitates the collective effort in scanning, noticing and constructing meaning from individuals with diverse background of experience. Lastly, the transparency describes the willingness of management to support the decentralized, self-organizing structure of knowledge exchange within the highly networked relationships. The use of social networking technologies such as blogs/wikis, social bookmarking, group authoring and broadcast search becomes eminent at this stage. The manifested use of social networking technologies allow unstructured, self-governing ways to transfer, capture, and create knowledge. It alters the dynamic of people, process, and technology in supporting KM strategy.

Change is inevitable. KM is evolving and is taking full advantage of the morphing of the emergent technologies into a vehicle that is less top-down, corporate, monolithic, centric, database oriented, towards a vision based on people participation and emergence (McAfee 2006; Ribiere and Tuggle 2010). The three phases of KM implies the need to design a way that allows new thinking to emerge. The shift in social paradigm explains the opportunity to harness the potential of the social network relationships, and bringing together individuals for improved knowledge sharing. Therefore, the motivation to use Enterprise 2.0 to support KM strategy is imminent in the highly interactive environment (Levy 2009). Through the literature reviews, it is becomes apparent that one of the highly relevant support that Enterprise 2.0 can facilitate is in addressing the predicaments of knowledge sharing which will be addressed later in the gaps and propositions.

KM FROM A SOCIAL CAPITAL THEORY PERSPECTIVE

For this paper, we adopt Nahapiet and Ghoshal's (1998) definition of social capital as the theoretical explanation on the interrelationships between social capital and knowledge. According to the authors (1998), organizations as institutional settings are conducive to the development of social capital. It requires time, interaction, interdependence, and closure. The authors build on the existing theories and apply theories of individual motivations, social capital, cognitive capital, and relational capital to develop a model for examining how individual motivations and social capital foster knowledge contribution. In doing so, they have categorized the understanding of social capital into three different dimensions – structural, cognitive, and relational. The structural dimension refers to networks and connectedness that contribute to cooperation, specifically mutually beneficial collective action, which is the stream of benefits that results from social capital. The cognitive dimension derives from mental processes and resulting ideas, which includes shared language, interpretation and meaning. According to the authors, an essential part of knowledge sharing requires shared context between individuals that can be achieved through shared language and vocabulary, and shared narratives. The structural and cognitive realms are essentially linked by the relational dimension. Norms, values, attitudes, and beliefs, and social cohesion are categorized as the relational dimension which describes the process of linking and bonding individuals and groups. Nahapiet and Ghoshal (1998) emphasized that social capital is an integrative framework

for understanding the creation and sharing of knowledge in organizations in which it is facilitated when individuals are motivated to socialize and engage in its knowledge exchange.

CONCEPTUAL FRAMEWORK

The framework is developed based on the social capital theory which is illustrated in Figure 2.

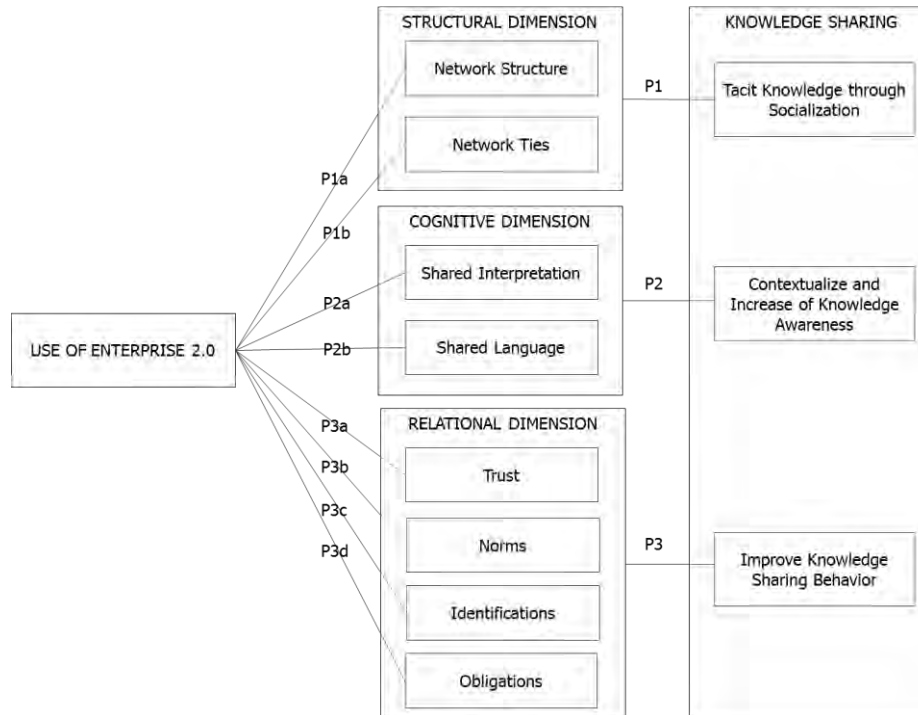


Figure 2: Research Framework

Structural dimension delineates the properties of the social system and the network relations as a whole. The propositions explain that the network ties are significant as it provides the channels for information transmission. Strong network ties are individuals who are closely knitted to the groups. They are advantageous in terms of the rapid information and knowledge diffusion. However, the disadvantage of it is the homogenous information which lacks diversity and new knowledge. On the contrary, the weak ties are extremely valuable to the organization as new source of knowledge and innovation. Nonetheless, the network structure and network ties promote socialization leading to diffusion of tacit knowledge. The intensity of the knowledge exchange is based on the size of the network and the active socialization which requires conforming to norms of the organization, and mutual trust which is elucidated as the relational dimension in the social capital. Other than that, structural dimension also concerns the impersonal configuration of network ties between individuals and groups which defines network homogeneity, constraint, size, density, and hierarchy. The structural dimension has the potential to build the expectation that the socialization will create valuable tacit knowledge. Therefore, we propose:

P1: Tacit knowledge sharing is positively related to the linkage of networked relationships and provision of active socialization derived from the network ties.

Based on the disposition on the impact of structural dimension, Enterprise 2.0 provides the pathways for connecting individuals from diverse background and expertise across different geographic locations. The network of the organization is formed through vertical and lateral association of individuals and groups which includes a wide array of strategic alliances, functional groups, business partners, and more. It acts as a transmission channel that facilitates knowledge exchange through the network ties. As mentioned before, the strength of the network ties that are established will define the level of socialization and the quality of knowledge shared. Consequently, this leads to the following propositions:

P1a: Network structure is positively related to Enterprise 2.0 in facilitating socialization leading to tacit knowledge sharing.

P2a: Network ties (proximity) are positively related to Enterprise 2.0 in facilitating socialization leading to tacit knowledge sharing.

The cognitive dimension explains the significance of sharing of context between individuals to ensure alignment of understanding and good fit with knowledge that already exist in the organization (Adler and Kwon 2002; Inkpen and Tsang 2005; Nahapiet and Ghoshal 1998). Nahapiet and Ghoshal's (1998) highlight that knowledge and meaning is always embedded in a social context, both created and sustained through on-going relationships in the collective actions. The cognitive dimension proposes that shared language (representation) and shared meaning (interpretations) motivates knowledge sharing (Nahapiet and Ghoshal 1998). Individuals' past experiences, stories, observations, and imagination enable creating, exchanging, and preserving sets of meanings. Therefore, we propose:

P2: Contextualization and increased knowledge awareness is positively related to the inclusion of cognitively diverse perspectives into knowledge sharing activities.

In relation to cognitive dimension, Enterprise 2.0 facilitates contextualization of knowledge by enabling individuals to connect to each other and utilize applications in an activity stream that is relevant, secure, and collaborative (Sturdevant 2011). It provides the ability to transverse business messages into social platform content and can be discovered and accessed by the networks of relationships among the employees. Ultimately, Enterprise 2.0 has great potential in contextualizing the knowledge and creating awareness of the knowledge through active community engagement and categorization of information in social context. This leads to the second set of propositions:

P2a: Shared interpretation is positively related to Enterprise 2.0 for increased contextualization and awareness of knowledge.

P2b: Shared language is positively related to Enterprise 2.0 for increased contextualization and awareness of knowledge.

The relational dimension explains the 'why' and 'when' people share knowledge (Huysman and Wulf 2005). It describes the social dynamics of the organization which includes trust, shared norms and values, interpersonal obligations and expectations (Coleman 1988; Prusak and Cohen 2001) which relates to the motivation to share knowledge. Plenty of studies have found that people would share their valuable tacit knowledge when these social dynamics exist (Coleman 1988). Norms represent the degree of consensus in the social network. It is the belief of what is acceptable in the social context. Social norms are rules that exist in the social networks for appropriate and inappropriate values, beliefs, attitudes and behaviours. Norms of cooperation can establish a strong foundation for knowledge sharing (Coleman 1988; Nahapiet and Ghoshal 1998; Putnam 1993; Woolcock and Narayan 2000). Trust is frequently cited as major element of social capital and is central to the networked relationships (Adler and Kwon 2002; Inkpen and Tsang 2005; Nonaka 1994; Prusak and Cohen 2001; Putnam 1993). Trust is a complex notion and it defines how an individual is willing to rely on the actions on another individuals (Misztal 1996). Researchers (Fukuyama 1995; Gambetta 2000) demonstrate that where trust exists, individuals are more willing to engage in social exchange which leads to knowledge sharing. According to (Choi and Scott 2013), identification is the most important antecedent in knowledge sharing. Individuals identify membership with groups and may shares the values and beliefs of the groups or individuals. Despite the argument that trust plays a critical role in the context of knowledge sharing (Tsai and Ghosal 1998), the research identifies that closeness and frequency of interaction was more prominent in influencing knowledge sharing behaviour. Finally, obligations and expectation, which was also highlighted in various researchers' work (Adler and Kwon 2002; Coleman 1988; Fukuyama 1995; Nahapiet and Ghoshal 1998; Uphoff 2000), explains the motivation by feelings and conscience obligation. The strength of the network ties impacts the individual's obligations to reciprocate. (Chiu, Hsu, and Wang 2006)research indicates that individuals are more concerned of the impact to the community outcome expectation than personal outcome expectation. Individuals generally value the social interaction ties and reciprocity of sharing knowledge within the network circle. Therefore, we propose:

P3: Knowledge sharing behaviour is positively related to the components of relational dimension.

Enterprise 2.0 has the potential of strengthening relationships and removing barriers to sharing of knowledge across the social networks. For example, the common aphorism, 'knowledge is power' will no longer be the case with the appropriate use of Enterprise 2.0. This leads to the third set of propositions:

P3a: Trust is positively related to Enterprise 2.0 for improved knowledge sharing behaviour.

P3b: Norms is positively related to Enterprise 2.0 in the transmission of beliefs and practices for improved knowledge sharing behaviour.

P3c: Identifications is positively related to Enterprise 2.0 in facilitating closeness between individuals in the social network for improved knowledge sharing behaviour.

P3d: Obligations is positively related to Enterprise 2.0 for improved knowledge sharing behaviour.

CONCLUSION

The use of Enterprise 2.0 has shown some business benefits, although there is still lack of empirical evidence of how Enterprise 2.0 is supporting the business objectives. There are still many scepticism to the adoption of Enterprise 2.0, having difficulty often in defining the business case and the ability to capitalize on this transformation and thrive. The study provides insights on the inevitable transformation of business and KM strategy which provides the opportunity to leverage on emerging social networking technologies for competitiveness. The research framework as discussed earlier identifies propositions which imply the significant presence of social capital within an organization can be manipulated through the use of Enterprise 2.0 for effective knowledge sharing. Ultimately, Enterprise 2.0 poses significant capabilities in transforming communication practices, opening new spaces and processes of socialization and impacting upon traditional social structures which is eminent for improved knowledge sharing. Nonetheless, the proposed research framework is limited to the study of the appropriate use of Enterprise 2.0 and does not focus on the strengths and capabilities of each of the unique features of Enterprise 2.0. It will be greatly beneficial for future research to map the use of Enterprise 2.0 whilst examining the usefulness of the various integrated tools such as wikis, blogs, really simple syndication (RSS), social bookmarking, and other social networking tools, by breaking down and contextualizing how knowledge is constructed in the unstructured social environment. Other than that, the research also proposes the appropriate use of Enterprise 2.0 through the perspective of social capital theory to improve knowledge sharing. The understanding of the social capital theory helps frame the benefits of Enterprise 2.0. Nonetheless, to provide a well encompassing view of the Enterprise 2.0, future research should also explore the behavioural intentions of employees which influenced the use of Enterprise 2.0 for knowledge sharing. Various researchers have associated the studies of users' adoption of technology in terms of perceived ease of use and usefulness, performance expectancy, effort expectancy, and social influence. Perhaps, this can be combined with the comprehensive study of the strengths of each unique features of Enterprise 2.0 as mentioned before. Finally, Enterprise 2.0 is a cultural paradigm change, not a technical one. Employees are communicating differently using different platforms that facilitate greater collaboration and synergistic view. Cultural changes require changing behaviour. The role of the organization is to develop a "hive-minded" mentality among employees. Many organizations lack social business maturity to be able to understand, appreciate, and leverage Enterprise 2.0. Research shown most organizations are still early in the maturity model (Li, Webber, and Cifuentes 2012). Future research can be done to assess organizations' readiness in adopting Enterprise 2.0 and the required governance to ensure people, process, and technology alignment. It is hope that through this study, business will be able to see the appropriate use of Enterprise 2.0 to enhance its KM strategy leading to business competitiveness.

REFERENCES

- Adler, Paul S., and Seok-Woo Kwon. 2002. "Social Capital: Prospects for A New Concept." *Academy of Management Review* 27 (1): 17–40.
- Alavi, Maryam, and Dorothy E. Leidner. 2001. "Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues." *MIS Quarterly*: 107–136.
- Awolusi, Femi. 2012. "The Impacts of Social Networking Sites on Workplace Productivity." *The Journal of Technology, Management, and Applied Engineering* 28 (1).
- Bughin, Jacques, and Michael Chui. 2011. "The Rise of the Networked Enterprise: Web 2.0 Finds Its Payday." *McKinsey Quarterly* 22 (Spring). McKinsey on Business Technology.
- Bughin, Jacques, James Manyika, Andy Miller, and Michael Chui. 2008. "Building the Web 2.0 Enterprise: McKinsey Global Survey Result". McKinsey and Company.
- Burt, Ronald S. 2000. "The Network Structure of Social Capital." *Research in Organizational Behaviour* 22: 345–423.
- Chiu, Chao-Min, Meng-Hsiang Hsu, and Eric T.G. Wang. 2006. "Understanding Knowledge Sharing in Virtual Communities - An Integration of Social Capital and Social Cognitive Theories." *Decision Support Systems* 42 (3): 1872–1888. doi:10.1016/j.dss.2006.04.001.
- Choi, Jae H., and Judy E. Scott. 2013. "Electronic Word of Mouth and Knowledge Sharing on Social Network Sites: A Social Capital Perspective." *Journal of Theoretical and Applied Electronic Commerce Research* 8 (1). http://www.scielo.cl/scielo.php?pid=S0718-18762013000100006&script=sci_arttext.

- Chui, Michael, James Manyika, Jacques Bughin, Charles Roxburgh, Hugo Sarrazin, Geoffrey Sands, and Magdalena Westergren. 2012. "The Social Economy: Unlocking Value and Productivity through Social Technologies". McKinsey Global Institute.
- Coleman, James S. 1988. "Social Capital in the Creation of Human Capital." *The American Journal of Sociology* 94 (Supplement): 95–120.
- Davenport, Thomas H., and Laurence Prusak. 1998. *Working Knowledge: Managing What Your Organization Knows*. Boston, MA: Harvard Business School Press.
- Dixon, Nancy. 2012. "The Three Eras of Knowledge Management." *Conversation Matters*. <http://www.nancydixonblog.com/2012/08/the-three-eras-of-knowledge-management.html>.
- Doan-Huy, Nam, YiHong Xu, Narshimha Rao Kondapaka, and Melody Wood. 2009. "Building Enterprise 2.0 Applications." *Oracle Fusion Middleware Patterns* (August). <http://www.oracle.com/technetwork/articles/enterprise2/building-e20-applications-101935.html>.
- Drakos, Nikos, Jeffrey Mann, Carol Rozwell, Tom Austin, and Adam Sarner. 2011. "Magic Quadrant for Social Software in the Workplace". G00214779. Gartner, Inc. <http://www.gartner.com/technology/reprints.do?id=1-1C8E0FX&ct=121001&st=sb>.
- Drucker, Peter F. 1988. "The Coming of the New Organization." *Harvard Business Review* (February).
- Fahey, Liam, and Laurence Prusak. 1998. "The Eleven Deadliest Sin of Knowledge Management." *California Management Review* 40 (3): 265.
- Fidelman, Mark. 2011. "Why Every Company Needs To Be More Like IBM And Less Like Apple." *Business Insider*, January 11.
- Fukuyama, Francis. 1995. "Social Capital and the Global Economy." *Foreign Affairs*: 89–103.
- Gambetta, Diego. 2000. "Can We Trust Trust?" In *Trust: Making and Breaking Cooperative Relations*, 212–237. University of Oxford.
- Gold, Andrew H, Arvind Malhotra, and Albert H Segars. 2001. "Knowledge Management: An Organizational Capabilities Perspective." *Journal of Management Information Systems* 18 (1): 185–214.
- Granovetter, Mark S. 1973. "The Strength of Weak Ties." *American Journal of Sociology* 78 (6): 1360–1380.
- Grant, Robert M. 1996. "Toward A Knowledge-based Theory of the Firm." *Strategic Management Journal* 17 (Winter Special Issue): 109–122.
- Gray, Peter H. 2001. "A Problem-Solving Perspective on Knowledge Management Practices." *Decision Support Systems* 31: 87–102.
- Hall, Richard, and Pierpaolo Andriani. 2003. "Managing Knowledge Associated with Innovation." *Journal of Business Research* 56: 145–152.
- Hendriks, Paul. 1999. "Why Share Knowledge? The Influence of ICT on the Motivation for Knowledge Sharing." *Knowledge and Process Management* 6 (2): 91–100.
- Huysman, Marleen, and Volker Wulf. 2005. "IT to Support Knowledge Sharing in Communities Towards A Social Capital Analysis." *Journal of Information Technology* 21 (1): 40–51.
- Inkpen, Andrew C., and Eric W.K. Tsang. 2005. "Social Capital, Networks, and Knowledge Transfer." *Academy of Management Review* 30 (1): 146–165.
- Kogut, Bruce, and Udo Zander. 1992. "Knowledge of the Firm, Combinative Capabilities, and the Replication of Technology." *Organization Science* 3 (3): 383–397.
- Kopae, Reza, and Saksham Uppal. 2011. "Enterprise 2.0: Harnessing Social Media". Deloitte Enterprise Risk Services.
- Lee, Dong-Joo, and Jae-Hyeon Ahn. 2005. "Rewarding Knowledge Sharing Under Measurement Inaccuracy." *Knowledge Management Research and Practice* 3: 229–243.
- Levy, Moria. 2009. "WEB 2.0 Implications on Knowledge Management." *Journal of Knowledge Management* 13 (1): 120–134. doi:10.1108/13673270910931215.
- Li, Charlene, Alan Webber, and Jon Cifuentes. 2012. "Making the Business Case for Enterprise Social Networks". Altimeter Group.
- McAfee, Andrew P. 2006. "Enterprise 2.0: The Dawn of Emergent Collaboration." *MIT Sloan Management Review* 47 (3): 21–28.
- 2009a. *Enterprise 2.0: New Collaborative Tools for Your Organization's Toughest Challenges*. Harvard Business School Press.
- 2009b. "Enterprise 2.0: How a Connected Workforce Innovates." *Harvard Business Review*, December.
- McCorvey, J. J. 2010. "How to Use Social Networking Sites to Drive Business." *Inc. Magazine*, January 25. <http://www.inc.com/guides/using-social-networking-sites.html>.
- Miles, Doug. 2009. "Collaboration and Enterprise 2.0". Maryland, USA: AIIM.
- Misztal, Barbara. 1996. "Trust in Modern Societies." In *The Search for the Bases of Social Order*. Vol. 1. Cambridge: Polity Press.
- Moran, Peter, and Sumantra Ghosal. 1996. "Value Creation by Firms." *Academy of Management* 1: 41–45.

- Nahapiet, Janine, and Sumantra Ghoshal. 1998. "Social Capital, Intellectual Capital and the Organizational Advantage." *Academy of Management Review* 23 (2): 242–266.
- Nonaka, Ikujiro. 1994. "A Dynamic Theory of Organizational Knowledge Creation." *Organization Science* 5 (1): 14–37.
- Nonaka, Ikujiro, and Hirotaka Takeuchi. 1995. *The Knowledge Creating Company: How Japanese Companies Create the Dynamics of Innovation*. New York: Oxford University Press.
- O'Reilly, Tim. 2005. "What Is Web 2.0: Design Patterns and Business Models for the Next Generation of Software." *O'Reilly*. September 30. <http://oreilly.com/web2/archive/what-is-web-20.html>.
- Parise, Salvatore, Patricia J. Guiñan, Eliana Crosina, and Walton Smith. 2012. "Booz Allen Hamilton: Social and Beyond." *Journal of Information Technology Case & Application Research* 14 (1): 55–76.
- Paroutis, Sotirios, and Alya Al Saleh. 2009. "Determinants of Knowledge Sharing Using Web 2.0 Technologies." *Journal of Knowledge Management* 13 (4): 52–63.
- Platt, Michael. 2007. "Web 2.0 in the Enterprise." *The Architecture Journal* (July).
- Polanyi, Michael. 1967. *The Tacit Dimension*. London, Routledge and K. Paul.
- Prusak, Laurence, and Donald J. Cohen. 2001. "How to Invest in Social Capital." *Harvard Business Review* 79 (6): 86–97.
- Putnam, Robert D. 1993. "The Prosperous Community." *The American Prospect* 4 (13).
- Ribiere, Vincent M., and Francis D. Tuggle. 2010. "Fostering Innovation with KM 2.0." *The Journal of Information and Knowledge Management Systems* 40 (1): 90–101.
- Riege, Andreas. 2005. "Three Dozen Knowledge Sharing Barriers Managers Must Consider." *Journal of Knowledge Management* 9 (3): 18–35.
- Roll, Martin. 2004. "Distributed KM - Improving Knowledge Workers' Productivity and Organizational Knowledge Sharing with Weblog-based Personal Publishing." In Vienna, Austria.
- Schumpeter, Joseph Alois. 1961. *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle*. Vol. 55. Transaction Books.
- Senge, Peter. 2000. *The Art and Practice of the Learning Organization*. New York: Doubleday.
- Seufert, Andreas, Georg von Krogh, and Andrea Bach. 1999. "Towards Knowledge Networking." *Journal of Knowledge Management* 3 (3): 180–190.
- Sturdevant, Cameron. 2011. "Socializing in the Enterprise." *eWeek, Tech In-depth*, January 3.
- "The Business Value of Web 2.0 Technology." 2007. USA: IBM Corporation.
- "The Social Business: Advent of A New Age." 2011. USA: IBM Corporation.
- Tsai, Wenpin, and Sumantra Ghosal. 1998. "Social Capital and Value Creation: The Role of Intrafirm Networks." *Academy of Management Journal* 41 (4): 464–476. doi:10.2307/257085.
- Uphoff, Norman. 2000. "Social Capital: A Multifaceted Perspective." In *Understanding Social Capital: Learning the Analysis and Experience of Participation*, 215–249. Cornell University: World Bank Publications.
- Wenger, Etienne, Richard A. McDermott, and William M. Snyder. 2002. *Cultivating Communities of Practice: A Guide to Managing Knowledge*. Harvard Business Press.
- Woolcock, Michael, and Deepa Narayan. 2000. "Social Capital: Implications for Development Theory, Research, and Policy." *The World Bank Research Observer* 15 (2): 225–249.

ACKNOWLEDGEMENTS

I would like to acknowledge the opportunity given and continuous support from the Department of Computing and Information Systems of University of Melbourne, colleagues, reviewers, family and close friends.

COPYRIGHT

Diana Wong, Rachele Bosua, Sherah Kurnia, and Shanton Chang © 2013. The authors assign to ACIS and educational and non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The authors also grant a non-exclusive licence to ACIS to publish this document in full in the Conference Papers and Proceedings. Those documents may be published on the World Wide Web, CD-ROM, in printed form, and on mirror sites on the World Wide Web. Any other usage is prohibited without the express permission of the authors.