

ILEANA HAMBURG & EMMA O BRIEN

MANAGING AND USING KNOWLEDGE EFFICIENTLY IN COMPANIES BY USING COOPERATION AND SOCIAL MEDIA

Introduction

With constant changes within the business environment such economic recession, complex client requirements, rapid development of new technologies, and more knowledge. It is necessary for companies to be flexible and fast familiarise themselves with new working environments and technologies.

The only thing that gives competitive advantages to an organization is what it knows, how it uses that knowledge and how fast it can learn something new. Argote and Ingram (2000).

It is estimated that the average manager spends 25% of his time looking for information and trying to use this knowledge for their organisations. But with the ever increasing dependence of the web the body of information is growing exponentially. Traditionally, the web had a structured format with information being available from websites and databases. However with the introduction of social media (Wikipedia, 2012), blogging and other Web 2.0 tools (O'Reilly, 2005), a new population of users and knowledge managers appear; social media is an effective way to look for an answer to a request from a customer by searching in the business partner systems, customers data bases etc. Information is no longer structured. Individuals are becoming responsible for tagging and categorising their own content. Social media is considered as an "open and unstructured knowledgebase". With the growth of unstructured information and knowledge and different ontologies for such how do companies manage their knowledge and integrate it into their companies. The impact of social media in companies forces researchers, experts, managers to rethink knowledge management and create new challenges taking into considerations both behavioural as well as technical issues. More time should be spent analysing all of the new knowledge created through social interactions in communities, business-to-business and business-to-consumer and determining the advantages and disadvantages of using social media.

This chapter will explore traditional approaches to knowledge management and

use and how to exploit social media and Web 2.0 to effectively manage and use knowledge. Scenarios are outlined to give examples of the use of social media in industry.

Traditional approaches to Knowledge management and use

Knowledge management involves the creation use and transfer of knowledge. Knowledge management has roots in management, strategy, technology, innovation and psychology. There have been many approaches to knowledge management but little formal theories developed. Nonaka (2000) is one of the few people to develop a theory for the creation aspect of knowledge management that seems to have stood the test of time. Davenport et al (1997) also created a number of principles of knowledge management and did in-depth studies of knowledge management projects.

Significant research has been conducted in the area of technology and knowledge management with a number of researchers creating knowledge bases or repositories, yellow pages and best practice intranets. Robles-Flores (2005) highlighted that knowledge management system (KMS) are different from information systems. Information systems automate repetitive tasks, KMS “deal with the complex task of facilitating knowledge sharing”.

Knowledge Management projects

Most KM projects have one of three aims:

1. Coding and sharing of best practices e.g. knowledge bases, intranets
2. Creation of corporate knowledge directories e.g. yellow pages
3. Creation of knowledge networks to allow experts to connect to each other e.g. yellow pages.

However there has yet to be a revolutionary breakthrough in this area. There may be a number of reasons for this:

1. Schulze and Leider (2002) question, how much knowledge is enough? Too little leads to inefficiencies, chaotic social relations and expensive mistakes while too much results in stringencies that stifle creativity and knowledge creation resulting in counter-productiveness in a dynamic business environment, silencing diverse perspectives and unwanted accountability. The body of knowledge is exponentially increasing every day and it is difficult to provide the correct balance of information.
2. Furthermore Thomas et al (2001) also emphasise that context plays a large role in KM. They state that knowledge is bound up with human intelli-

gence and social context. Highlighting that the view of knowledge as passive, analytic and atomistic, composed of facts that can be stored, retrieved and disseminated with little regard for new and different contexts in which it can be used is too simplistic. Often KM is concerned with getting the right information to the right people at the right time. What is “the right”? IBM argue that the individual level is the wrong level of granularity, that KM should be aimed at the social level. Thus they advocate the use of social software to support KM.

3. Davenport, et al. (1997) highlighted that because of the human element in knowledge a flexible, evolving structure for knowledge is desirable and the motivational factors in creating, sharing and using knowledge are very important.

Lichtensten et al (2002) tried to combat these issues. She observed the use of email (due to its ubiquity) as a KM tool. She stated that email integrates work with practice and that its content, management and operation are highly personalised and contextualised. Thus it is a prime example of a sustainable KM tool. She identified a six stage approach to the generation of a sustainable KMS [five of the six stages are]:

1. Attention—so much information out there; difficult to catch employees attention; knowledge [therefore] needs to be personalised, emotionally evocative, trustworthy and easy to digest.
2. Integration—must be easily integrated with everyday work practices.
3. Personalisation—what is in it for me?
4. Context – must relate to the context in which it is used.
5. Knowledge development lifecycle—initiation (knowledge seed), crystallisation (knowledge formulated), sharing (disseminated) and application.

With increase in popularity of social media people are becoming more motivated to share and use knowledge in their own personal social networks. This media is being widely adopted by companies for marketing and sales purposes. However companies are slow to integrate this technology into their organisations to facilitate the management of knowledge. This may be due to the fact that it is highly unstructured and cannot be controlled. Furthermore people seem to be slower to share professional knowledge than personal knowledge. Social media can overcome some of the issues above it is highly personalised, contextualised and certainly gains ones attention! The next section will discuss the use of social media for knowledge management

Knowledge management and Social Media

Knowledge Management (KM) in an organisation means a hierarchical, structured view of knowledge to match the hierarchical view of the organization. Knowledge has different origins in the organization, but under knowledge management it is channelled and gathered together in a knowledge base (cistern) where it is distributed based on a predefined set of channels, processes and protocols (Bradly and Mc. Donald, 2011). This process of KM, traditionally, has been closely linked with librarianship—the keepers of structured document repositories.

Social media (SM) i.e. media which supports social interaction (Hamburg, 2011), with many different forms, including internet forums, weblogs, wikis looks chaotic in comparison. There is no predefined index, no pre-qualified knowledge creator and no knowledge managers, ostensibly little to no structure. SM should not kill off KM but bring it to life. So it is to expect that executives, knowledge managers, software firms will seek for tools, processes and approaches to “toughen” social media in order to support employees, customers, suppliers to find information, to create their own knowledge from their opinion.

The use of Web 2.0 in connection with social media facilitates a new level of interaction that makes it easier to collabo-rate and share information (Hall and Hamburg, 2011). Web 3.0 has led to simplification of software develop-ment; whose applications that are relatively small, and duo to the data in the cloud, can be operated on any device like PC, tablet, smartphone; this means rapidity, easy customization and well distribution (particularly by social networks). The Web is moving beyond Web 2.0 and 3.0 but many organisations still struggling Web 1.0 do not make the most of what Web 2.0 and 3.0 offer also for KM.

It seems that social media is forcing creators to provide knowledge to users in consumable amounts, which makes it easier for sharing their knowledge and to stop the huge amount of information. In addition the knowledge is highly personal-ised and contextualised.

Some issues to be considered in connection with the use of SM for KM are the following (Hamburg, 2010):

- Social media technology provides the conduit and means for people to share their knowledge, insight and experience on their terms. It also provides a way for the user to see and evaluate knowledge based on other feedback.
- Purpose is the reason why people share their ideas, experience and knowledge. They participate personally in social media. They do so because they want to, rather than being told to as part of their job.
- In order for a knowledge management system (KMS) to have value, users must enter insight on a regular basis and they must keep the knowledge up-

- to-date.
- It's difficult to organize information in the right manner, make it searchable, and then present it so the most relevant responses are at the top of the search results.
- Public research engines benefit from counting the number of links between items, but unstructured content, which is the king of the public web, can bankrupt enterprises.

Some of the most effective approaches for capturing, sharing and transferring knowledge are listed. One of them refers to Community of Practice (CoPs) (Wenger et al., 2002). CoPs are groups of people working together at solving open-ended questions, learning in social and physical contexts of real-world problems and using collaboration and cognitive tools for KM and learning. Some main characteristics of CoPs are the following (Hamburg, 2010).

- a shared domain of interest of its members, their commitment to this domain and a shared competence.
- Common ideas, joint activities.
- Common practice, members being practitioners with different expertise.

The concept of CoPs has been revisited by several academics; sharing and transferring knowledge and learning seem to be the most relevant aspects of the concept. In CoPs, knowledge is created when people participate in solving a common problem and exchange the needed knowledge for the problem. Sharing knowledge makes more sense in the context of a CoP because its members have common interests in learning and exchanging experience in their specific area of activity and this favours reciprocal trust. Trust is a key facilitator necessary for the effective transfer of knowledge and is important for the creation of a common pool of knowledge that can also be used for a new/innovative product or service. Therefore, CoPs play a critical role in the promotion of learning and innovation in an organisation and can become a powerful tool in generating sustainable competitive advantages for companies. They are an alternative to building teams particularly in the context of an innovation. The tacit knowledge accumulated over years from experience can be processed to invent new products or services that add value to companies. Innovation depends also on how people apply knowledge to produce solutions for old and new problems.

Internet technologies extend the interactions within communities of practice beyond geographical limitations and make possible the building of virtual CoPs (VCoPs) (Hamburg, 2011). These communities free their members from constraints of time and space. In comparison to technical solutions for knowledge management, VCoPs can mark a change from "managing knowledge" to "enabling knowledge." (Krogh et al., 2000).

Short Research Papers on Knowledge, Innovation and Enterprise

In the context of KM, many other virtual communities can be found on the internet, such as social networks and newsgroups. Also VCoPs can be social networks. In the last years, in connection with social media, the requirements for knowledge oriented communities have changed. For example, communication between the community members to reduce geographical and cultural distances and a simplified and effective sharing of knowledge has to be enabled. Also a structured knowledge base is an important step to (re)use common knowledge. The creation of communities involves more than developing technology and telling people to participate. It involves a range of vision, strategy and management actions.

Some tips when using social media and communities, to assist in knowledge management, should be the following (www.tibbr.com/blog/tag/knowledge-management/) Assess the current situation,

- Vision and definition to develop an own custom- or own business-oriented knowledge management strategy for the organisation,
- Plan of action, which should be adaptable.

Scenario of the use of Social media for Knowledge Management

We developed a scenario of social media and knowledge management within the project Net Knowing 2.0 (www.netknowing.eu) targeted to improve the use of informal learning (tacit knowledge use and transfer) and new technologies in companies. The scenario has been tested with companies from Germany.

We applied social knowledge management in the processes of people development and further education. A framework for social learning through technology based mentoring processes has been developed for introducing new staff particularly with disabilities in German companies. This is based on informal learning and trust. A road map has been developed within a workshop for a social efficient mentoring approach. In order to improve knowledge access and sharing and to leverage the benefits of social media in work context a CoP has been developed supported by an ICT platform.

The tool TikiWiki (<http://cop.netknowing.eu>) has been used which support different social media applications. The decision to use TikiWiki was taken after an analysis of some open source tools. The users of the platform can get information about the project and about Web 2.0, informal learning and knowledge management in networks. If the user registers on the CoP, they can use community services like discussion forum, file gallery and particularly the community directory with addresses, competences and interests of social network (community) members.

Two main social learning products of Net Knowing 2.0 are a self-learning basic

course focused on benefits of informal learning for SMEs and how to learn using Web 2.0 and social networks to transfer, share and use knowledge using collaborating practices through technology. An eLearning advanced course was also developed that focused on the implementation of Web 2.0 based informal learning and best practices of KM in networking and mentoring in SMEs and other organizations (Hamburg 2011, 2013).

The experience from this project will be used in the ongoing project DIMENSAAI (www.dimensaai.eu) for applied social knowledge management in the processes of people development and further education in social and care sectors. A social platform has been developed to support KM, social learning and mentoring (<http://www.platform.dimensaai.eu>).

Conclusions

Social media will be a boon for knowledge management in the organisations, which should mean that many of the benefits we experienced in the consumer web space will become basic features of enterprise solutions, but it's likely that social-media-driven knowledge management will require much less of the "management" component. In the future much more time will be spent on analysing all the new knowledge that is being created through social interactions instead of spending too much time cleaning up the data, validating and categorizing it like in traditional KM.

Acknowledgment

This paper describes work within the transfer innovation projects NetKnowing 2.0 and DIMENSAAI partially supported by the Leonardo da Vinci LLP.

Correspondence

Dr. Emma O'Brien, LLCC
University of Limerick
Plassey, Limerick, Ireland.
Email: emma.obrien@ul.ie

Dr. Ileana Hamburg, IAT, Westfälische Hochschule Gelsenkirchen,
Gelsenkirchen, Germany.

References

Argote, L. & Ingram, P. (2000). Knowledge transfer: A basis for competitive advantage in firms. *Organizational Behaviour and Human Decision Processes*, 82(1), pp. 150-169.

Davenport, T., Long, D.W., Beers, M. (1997) *Managing the Knowledge of the Organization: Building Successful Knowledge Management Projects*, Centre for Business innovation working paper 1997

Bradley A.J. , McDonald, M.P. (2011) Social Media versus Knowledge Management - HBR Blog Network. blogs.hbr.org/cs/2011/10/social_media_versus_knowledge.html | 9:27 AM October 26, 2011.

Hamburg, I. (2011). Supporting cross-border knowledge transfer through virtual teams, communities and ICT tools. In: Howlett, Robert J. (ed.): *Innovation through knowledge transfer 2010*. Berlin: Springer, pp. 23-29.

Hall, T., Hamburg, I (2011) Readiness for knowledge management, methods und environments for innovation. In: O'Brien, Emma / Clifford, Seamus / Southern, Mark (eds.): *Knowledge management for process, organizational and marketing innovation: tools and methods*. Hershey: Information Science Reference, p. 1-15

Hamburg, I (2010). "eLearning 2.0 and social, practice-oriented communities to improve knowledge in companies". In: Ortiz Bellot, G., Sasaki, H., Ehmann, M., Dini, C. (eds.) *ICIW, The Fifth International Conference on Internet and Web Applications and Services*; 9-15 May, 2010, Barcelona, Spain. Barcelona: CPS, 2010 (411-416).

Hamburg, Ileana. "Learning solutions and social media based environments for companies". In: *Life long learning for competitiveness, employability and social inclusion: international conference*, 11.-13. Nov. 2011, Craiova, Romania. Editura Universitaria, pp. 31-37, 2011.

Hamburg I. (2013) Knowledge transfer through diversity coach and mentoring partnership. In: Howlett, Robert J. / Gabrys, Bogdan / Musial-Gabrys, Katarzyna / Roach, Jim (eds.): Innovation through knowledge transfer 2012. Heidelberg: Springer, p. 107-119

Hamburg, I (2013) Facilitating learning and knowledge transfer through mentoring. In: CSDU 2013: 5th International Conference on Computer Supported Education; Aachen, Germany, 6-8 May, 2013. Lissabon: Science and Technology Publications, 4 p.

Krogh, G., Ichijo, K. & Nonaka, I. (2000). Enabling Knowledge Creation. How to Unlock the Mystery of Tacit Knowledge and Release the Power of Innovation. New York. Oxford University Press.

Lichtenstein, S and Swatman, P M. C. 2002, *Sustainable knowledge management systems : integration, personalisation and contextualisation*, Deakin University School of Information Systems, Geelong, Vic.

O'Reilly, T. (2005). What is Web 2.0. Design patterns and Business models for the next generation of Software. <http://www.oreillynet.com/lp/a/6228>.

Robles-Flores J.A., Kulkarni, U. (2005) Knowledge Management Systems: A Business Value Model. 01/2005; In proceeding of: Pacific Asia Conference on Information Systems, PACIS 2005, Bangkok, Thailand, July 7-10, 2005

Schultze, U., Leidner, D. (2002) Studying Knowledge Management in Information Systems Research: Discourses and Theoretical Assumptions, MIS Quarterly Vol. 26 No. 3, pp. 213-242/September 2002

Thomas, J.C., Kellogg, W. A., and Erickson, T. (2001) The knowledge management puzzle: Human and social factors in knowledge management, IBM White paper, 2001

Wenger, E., McDermott, R. & Sydner, W. (2002). Cultivating communities of practice: a guide to managing knowledge. Boston: Harvard Business School Press.

Wikipedia. <http://en.wikipedia.org/wiki/Tikiwiki>. Retrieved 2010-01-03.
Wikipedia http://en.wikipedia.org/wiki/Social_media