

Association for Information Systems

AIS Electronic Library (AISeL)

ICEB 2009 Proceedings

International Conference on Electronic Business
(ICEB)

Winter 12-4-2009

The Use of Social Media in Gathering and Sharing Competitive Intelligence

Vilma Vuori

Jaani Väisänen

Follow this and additional works at: <https://aisel.aisnet.org/iceb2009>

This material is brought to you by the International Conference on Electronic Business (ICEB) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ICEB 2009 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

THE USE OF SOCIAL MEDIA IN GATHERING AND SHARING COMPETITIVE INTELLIGENCE

Vilma Vuori¹ and Jaani Väisänen²

Department of Business Information Management and Logistics

Tampere University of Technology, Finland

vilma.vuori@tut.fi; jaani.vaisanen@tut.fi

Abstract

Utilizing social media in the business context is an issue of growing interest. This article discusses how social media can contribute to information gathering and to information and knowledge sharing within a company in the context of competitive intelligence. The research is conducted as a systematic literature review. The results show that so far only a few journal articles have been published discussing these issues. They propose that social media applications can contribute to competitive intelligence activities more in sharing than gathering information and knowledge. The common benefit received from using different social media applications seems to be the added value compared to using more traditional knowledge sharing tools.

Keywords: Social Media, Competitive Intelligence, Identifying Information Sources, Information Gathering, Information Sharing, Knowledge Sharing

Introduction

Social media (sometimes referred to as web 2.0) is a hot topic in competitive intelligence. Competitive intelligence professionals are keen to find out ways to use Twitter, LinkedIn, Facebook, blogs and other social media applications to competitive intelligence purposes. [1] [2]

There seems to be two approaches to social media in the competitive intelligence context. First one is the information gathering approach. It considers how social media applications can advance information source identification and information gathering from the company's external business environment. This is based on the basic default of having a competitive intelligence unit or suchlike centralized personnel responsible for the company's competitive intelligence process. The focus is on how their work can be made more efficient with the use of social media.

The other perspective is the information sharing approach. It looks at social media as a means to share information and knowledge and enabler of collaborative competitive intelligence throughout the company. This approach sees competitive intelligence as a united effort of the whole organization: social media is considered as a way to empower employees and getting them to participate

in the competitive intelligence process as information sources, refiners and users.

While companies can utilize social media according to either of the approaches described above, it is the authors' understanding that the former way is more common. This is possibly due to the fact that the continuously increasing amount of available information creates additional pressures for companies to gather as much of this information as they possibly can in order to gain competitive edge over their competitors. While many social media applications, such as automated RSS feeds actually save time and effort when monitoring the competitive environment, the authors hypothesize that without an effective way to process or disseminate that knowledge to the workforce, the end result will be information overflow, or at least information that is not used to its full potential.

Therefore, harnessing the social media applications to share the captured information and knowledge throughout the company to the correct personnel is as imperative as capturing the information in the first place.

Since social media as a phenomenon is rather new [3], the academic literature on the subject is still relatively scarce. The authors conducted a systematic literature review on how both these approaches to social media have been utilized in the competitive intelligence context. Based on the reviewed literature, a set of potential benefits for utilizing social media as enhancer of information gathering and an enabler for internal information and knowledge sharing are derived.

Social media makes its way from leisure to business

Web 2.0 is a buzzword that has been increasingly hyped since its introduction in 2004 [3]. Although web 2.0 is often used as an adjacent term with social media, they are not synonyms. Web 2.0 refers to the technological features of the new generation of Internet, whereas social media is used to describe the actions enabled by web 2.0 applications. Social media is closely related to human interaction, social networking and publishing information. The term web 2.0 itself does not necessarily include the media aspect or any social activity [4].

Web 2.0 uses several technologies that enable

features referred to as SLATES, short for Search, Links, Authorship, Tags, Extensions, Signalling [5]. These features are the technological building blocks of social media and its activities listed in Table 1.

Table 1. Social media genres, activities and examples of their application. (Adapted from [4])

Genre	Activity	Applications
Content creation and publishing tools	Production, publishing and dissemination	Blogs, wikis, podcasts (e.g. Blogger, Wikipedia, Flickr, del.icio.us, YouTube)
Social networks	Keeping up the old and building new social networks, self promotion etc.	Social network sites (e.g. LinkedIn, Facebook, MySpace)
Virtual worlds	Play, experience and live virtual environments	Virtual worlds (e.g. Second life, Warcraft)

People are accustomed to use social media in leisure activities. They are blogging about their hobbies, sharing vacation photographs in Flickr, updating their status in Facebook and uploading music videos in YouTube. Most of the young people entering job markets today can be called “digital natives”, people who have grown up with computers, internet and mobile phones [6]. For them digital technology is part and parcel of life, and it can be assumed that they are willing and even eager to adopt the use of social media also in the job context. This view is supported by a recent survey revealing that professional and work-related blogging is growing and that professional blogging has a positive impact on the career [7].

Companies are more careful with adopting social media. Social media is acknowledged to have potential in the business context, but companies do not quite seem to know how to realize the potential [8]. Marketing and communication departments have been the first functions in the frontiers of using social media in business. Despite the rather modest adoption rate of social media, the benefits of harnessing social media to promote products and reaching to customers and consumers are evident [9]. Other parts of business could benefit from social media as well, such as competitive intelligence

Using social media in competitive intelligence

Gaining competitive advantage from information

Companies use information in generating their

products and services. In addition to the know-how needed to produce them a company also needs to understand to whom, at what price, where, when and how the products and services should be sold in order to get the best possible profit. This understanding is built on experience and knowledge that already exists within a company, but in order to see the whole picture and new possibilities and threats a company also needs information from its external business environment.

Competitive intelligence is a process aimed to acquire this information, filter and refine it to a suitable form and deliver it to the users within the organization. The goal is to make sure that all the needed and useful information and knowledge regarding competitive issues makes its way to the users. At the same time another goal is to prevent excess and unreliable information from blurring the decision making process. Implicitly social media would seem to have potential to be a valuable aid helping competitive intelligence to reach these objectives. There are indications of social media already being used in competitive intelligence context (see e.g. [1]), and the following sections of this article will discuss the issue from two different viewpoints.

Information source identification and information gathering

The competitive intelligence process uses multiple sources and methods to gain the information needed in the organization. Some of the information is published and easy to reach either for free (e.g. companies' statutory financial information) or against money (e.g. consultant reports). Some unpublished information may be very hard or even impossible to get (e.g. competitor's plans of entering new market areas, possible upcoming changes in legislation), but finding the right sources might make it reachable. For example, a person working in a customer company may have valuable information concerning a certain competitor. Or an employee in a government department could be of assistance when pondering the impacts of a new regulation to the company.

How to identify these possible sources in order to contact them is often a difficult and time consuming task. Social media can be of assistance in information source identification. Carpe [10] has listed and graded networking sites with information about people i.e. possible human sources of competitive intelligence. Sites such as LinkedIn, Wink.com and Jobster.com are examples of business social networks, where people list their professional information. This enables extensive searching for company employees, locations, organizational charts, titles and specialties. Making a search in such a professional social network may produce company

specific information such as headcount, revenue, employees by function, direct phone numbers and email addresses [10]. The networks help to locate a possible information source and may even give his/her contact information. The information is given by the individuals using the network, and sometimes they upload company specific information that obviously should not be made public. This makes these networks even more interesting for a competitor's competitive intelligence personnel, because in addition to helping to identify possible personal information sources the network site itself can also act as a primary information source.

Another resource consuming part of information gathering is searching information from internet and keeping up with constantly updating pages. Web 2.0 technology called RSS (i.e. Real Simple Syndicate or Rich Site Summary) enables filtered data delivery from selected web pages whenever the contents are changed or new content is added (see e.g. [11] [12]). Many web sites, blogs, news services and other online publications are increasingly offering RSS feeds. Using RSS feeds brings advantages to everyday information search and retrieval tasks regarding competitive intelligence. According to Johnson [13] these advantages are e.g. saving time and increasing productivity, lower information subscription and technology costs and fewer concerns on security issues. For example, subscribing feeds by using an RSS reader helps to access the updated contents of several sites in one place.

Information and knowledge sharing within the company

Competitive intelligence process does not end when the information has successfully been acquired. The information has to be shared within the company. The engaging employees in the competitive intelligence process as analyzers and sharers of information and knowledge adds value to the original information [14] [15] [16].

Liu and Liu [17] found that employees who have acquired knowledge from external sources are quite eager to share it to others in the company. They (ibid.) state that knowledge sharing is more efficient in small-group setting, because then it is possible for the source and the receiver to interact in a two-way manner. Face-to-face knowledge sharing is the most natural and often also preferred setting for interactive knowledge sharing. This however is not always possible, and even less so in a geographically dispersed company. When people are located in different places globally, the possibilities for face-to-face meetings are few. The prevailing economical recession has decreased the possibilities of face-to-face meetings between different locations from before by making companies to reduce or even ban internal business traveling altogether (see e.g.

[18]). Therefore information and knowledge needs to be shared some other way, independent of geography and time zones.

Traditional groupware, such as video meetings and multi-participant phone meetings have become more popular, but they do not meet all the information sharing needs regarding competitive intelligence. One central problem is that only a limited amount of people are actually able to participate the meetings: the individuals having the best up to date knowledge concerning the issue discussed may not be in those meetings, or them being possible information sources in the issue may even not be known. Therefore it would be advantageous to have a medium via which all essential employees could share their information about competitive issues and accumulate the company's competitive intelligence assets.

The potential of social media applications in enhancing information and knowledge sharing is implicit considering the purposes they are used in leisure: communicating, publishing information and networking [4]. Corporate blogs and management blogs are often focused on promoting corporate image for customers and other external parties [19], but they can also be used in internal communication. Siemens Information and Communication Networks Division pioneered in web-based knowledge sharing network already in 2002 [20], and since then the path towards collaboration in social networks and wikis has grown into a highway.

Systematic literature review

Despite the implicitly understood potential and thus growing interest of getting social media to support competitive intelligence activities in companies there seems to be quite little academic evidence of the issue. In order to find relevant academic research regarding the subject a systematic literature review was performed.

Systematic literature review is a useful method when the objective is to identify, assess, and synthesize all the essential studies of a given topic in order to get an overall picture of the studies and their indications. In addition the method minimizes the risk of bias caused by the human factors. [21] [22] The process of the systematic literature review is illustrated in Figure 1.

The aim of this systematic literature review was to study how social media has been utilized in information gathering and sharing information and knowledge in competitive intelligence context. The source of the reviewed articles was EBSCOHost Research Databases provided by EBSCO Information Services. The search was restricted in two databases in EBSCOHost: Academic Search Elite and Business Source Elite because they were

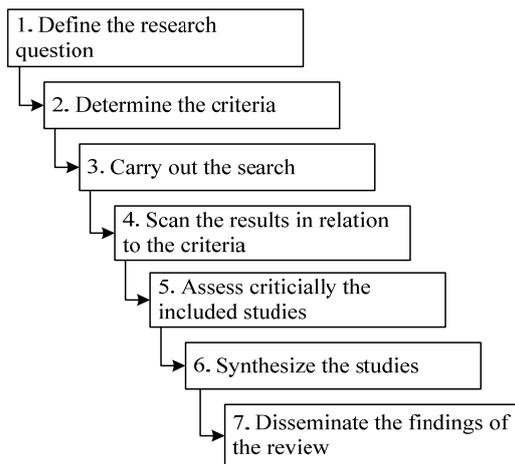


Figure 1. The process flow of systematic literature review. (Adapted from [21])

considered to hold the most relevant and good quality articles concerning the research topic. Restrictions had to be made in order to find articles of good quality and significance to the subject among the tens

of thousands of articles within these databases.

First the time scale of the articles was determined to start from January 2004. This time period was chosen because the term “Web 2.0” was first introduced in 2004 [3] and subsequently the wider discussion of social media was launched. The time period ends in August 2009 since the search was conducted in September 2009.

The academic quality of the research was enhanced by excluding all non-scholarly (i.e. not peer reviewed) articles. Another restriction aimed at enhancing the scientific credibility of the research was to take to account only those articles that were available in full text format. Abstracts do not always describe accurately the actual substance of the article and may therefore mislead the reader. Including only full text articles into this study made it possible for the authors to actually read through the articles in whole and thus determine whether they in fact were relevant to the study. These basic criteria of the search in EBSCOHost databases are summarized in Table 2.

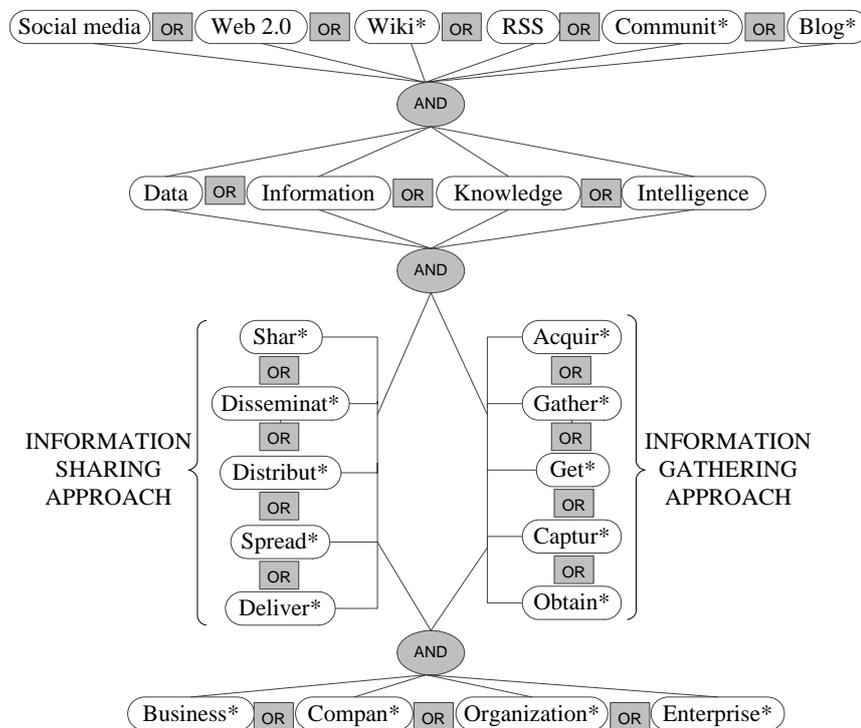


Figure 2. The set of key terms used in the systematic literature review.

Table 2. The basic criteria of the search.

Criteria of the search	
Databases	Academic Search Elite Business Source Elite
Time scale	January 2004–August 2009
Articles	Available in full text Peer reviewed In English

The search was refined by using relevant key terms. The key terms helped to filter articles discussing the issues of interest. The set of key terms is presented in Figure 2.

Figure 2. The set of key terms used in the systematic literature review.

The key terms were used as combinations of several terms, Boolean operators AND and OR (marked with grey in Figure 2). Asterisk was used to truncate the search term where necessary.

Results

The search for using social media for information gathering and sharing in competitive intelligence context yielded altogether 143 results. 86 articles discuss the issue from information sharing point of view and 57 from information gathering point of view. When these results were checked for relevance, one notable fact emerged. The term “community” is rather commonplace in business literature, and many of the results did, in fact, discuss the roles of knowledge or learning communities or so-called communities of practice. Such communities may indeed have an important role in spreading or disseminating knowledge throughout the company. In most of these articles, however, social media applications were not discussed and therefore they were dropped from the results.

After the initial screening, 13 articles were found to discuss at least one social media application and its relationship to the business world. However, the focal point of this literature review is the competitive intelligence context, which means that the articles included in the final stage will have to discuss the impact of the social media application to knowledge gathering, analysing or distribution within the company.

The final examination of the articles produced five results that fit into the authors competitive intelligence schema categorized by the nature of the social media application. Four of the articles fell under the information sharing approach, and only one discussed social media from information gathering point of view. The occurrences of different social media applications discussed in the resulted articles

is illustrated in Table 2. Wikis were discussed in one article, while blogs and social networks were both discussed two times.

Table 3. Social media applications discussed in the articles.

Approach	Blogs	Wikis	Social networks
Information gathering	0	0	1
Information sharing	2	1	1

Both of the blog-related articles emphasized the use of blogs in facilitating knowledge transfer, but also the issue of knowledge refining was evident. Wang and Wang [23] suggest that a blog-based knowledge-sharing model would improve the knowledge flow between companies’ data mining and business intelligence processes. Kaiser and Müller-Seitz [24] propose that software developers engage in writing blogs not only because of the actual knowledge transfer function, but because there are other intrinsic and extrinsic stimuli that provide added value. Such added value can be the feeling of having an impact, engaging in social exchange, signalling one’s competence, or getting support [24]. These examples suggest that blogs are not used just as extensions of traditional bulletin boards, but rather a tool that adds value to both the writer of the blog and the reader as well.

Wikis are a common and useful tool in teaching (see e.g. [25] [26]) that allow students to participate and collaborate on various educational projects. However, only one article considering the use of wikis emerged with the authors’ search criteria. McKelvie et al. [27] describe how a wiki-based system has been successfully implemented in a research company. The implementation of the wiki tool has been a success producing a vessel for delivering news articles, conference minutes, important emails or project notes. Basically, the same items could have been delivered through blogs or corporate Intranet as well, but they were rejected at the implementation stage for being too complex or hard to use. [27] Another benefit of the wikis was reported that the users were very satisfied with the fact that they could edit and add material to the system, thus having an individual impact on corporate knowledge creation.

The advantage the wikis seem to have over blogs is their centralized structure. With a wiki application, every user is using the same system, and

every user has the possibility to edit the articles the system contains. On the other hand in the blogosphere – a term used to describe the system of connected blogs – the structure is much more decentralized, as every blogger writes his/her own texts, which are linked to one another in a seemingly arbitrary fashion.

Social networks, such as MySpace, Facebook, or LinkedIn are being used in knowledge sharing all around the world for every minute of the day, every day. Sometimes the exchange is between colleagues within the same organization, and sometimes between different organizations. These activities usually take place because the individual users are doing it rather than because of a corporate policy. In fact, in many cases, organizations ban their employees from using social networks such as Facebook on company time (see e.g. [28]).

Cooke and Macfarlane [29] present an alternate view, where the social network/virtual world Second Life has been used while building communities of practice in training fresh market researchers, who can be seen as the people carrying out the competitive intelligence process. According to Cooke & Macfarlane (2008), four main benefits can be achieved by utilizing virtual worlds in such programs.

- developing personal skills
- recruiting talent
- starting new lines of businesses
- transferring best practices

Obviously, all four items are of great importance to any company, but only the last one fits within the realm of knowledge sharing. However, it can be argued that using social media in training market researchers also gives them knowledge on how to utilize social media in their competitive intelligence related work later on.

Once again, it seems that while the social media applications can and are being used to share information and knowledge within organizations, there is always the concept of added value that is linked to such activities compared with “traditional” knowledge sharing tools such as emails, company newsletters and bulletin boards.

The only article falling under information gathering approach discussed a virtual community: Casaló et al. [30] describe how a company can motivate its customers to participate virtual brand communities. They (ibid.) find that in addition to increasing consumer loyalty, product promotion and communication to customers, the advantages of such communities is better understanding customer needs and desires. [30] In other words, this kind of virtual

community can produce vital information about customers that helps a company in developing and marketing products that satisfy their desires.

Conclusions

When person A informs person B of something, a transfer of knowledge has taken place. In a corporate setting, the number of such persons and their different combinations can be overwhelming. By utilizing user-generated content, social media applications try to facilitate knowledge transfer in a wider scale. The articles reviewed in this paper present clearly, how social media applications can enhance knowledge transfer activities within a company. However, the benefits of social media go beyond the basic setting of knowledge transfer (such as A telling B something).

The main added value of social media applications that was found in the reviewed articles was the fact that virtually anyone can act as knowledge provider and similarly anyone can act as knowledge receiver. This would result in a setting where there would no longer be employees who have to go through perilous crusades in order to find the one tiny bit of information that only one other employee is in possession of. In an ideal setting this would provide a situation where all the knowledge within a company could be harnessed to every employee in the company. Naturally, the authors realize that such a situation is a utopian one (not every employee would contribute to the corporate social media, some knowledge is hard to encode, some knowledge is for managerial personnel only...), but in theory, such a setting could be a possibility. Other benefits from using social media in CI context have been recorded as well in the reviewed articles (see Table 4.).

Table 4. Possible benefits of using social media in CI.

	Benefits by application
Information gathering approach	Blogs
	<ul style="list-style-type: none"> - Enhance knowledge sharing between business processes. - Provide added value for both writer and reader.
	Wikis
	<ul style="list-style-type: none"> - Beat intranet and blogs in delivering information. - Enable employees to corporate knowledge creation

	and feel satisfaction about it.
	Social networks
	- Using in training enables transferring best practices and enhances the skills to use social networks in future tasks.
Information sharing approach	Social network
	- Motivating customers to participate in company's virtual community may produce important information about customers and products.

Even though the authors' presumption was that there is so far rather little of academic research on the issue, the number of articles meeting the search criteria was even lower than anticipated. The relatively small amount of research articles published can be explained through the novelty of the phenomenon: the use of social media in other context than leisure and fun is yet rather unfocused. Companies understand that there may be synergy found in adopting social media in business, but for now they are still fumbling in the dark not quite sure of what they actually are trying to reach.

Since the companies actually using social media in competitive intelligence context (or at least the ones feeling confident enough to talk about it) are scarce, it is self-evident that empirical case research on the subject is consequently fairly lacking. The benefits of social media, as presented in this article, are nevertheless worthwhile and the overall diffusion of social media seems to go on indefinitely. At the same time the academic research on combining social media and competitive intelligence is almost a virginal area. In addition to practical experiences and case studies basic research on theoretical implications of how social media could benefit competitive intelligence is considered needed and desirable.

References

- [1] Competitive Intelligence Magazine, 12(8), March/April 2009.
- [2] Society of Competitive Intelligence Professionals, SCIP Connecticut/Southern New England Chapter: Tapping Social, <http://www.scip.org/Training/EventsDetail.cfm?itemnumber=8832>; visited October 22, 2009
- [3] Wikipedia 2009a. Web 2.0 (http://en.wikipedia.org/wiki/Web_2.0); visited September 15, 2009
- [4] Lietsala, K. and Sirkkunen, E. Social Media. Introduction to the tools and processes of participatory economy. Hypermedia Laboratory Net Series 17, Tampere University Press, Tampere, 2008.
- [5] McAfee, A. Enterprise 2.0: The Dawn of Emergent Collaboration, MIT Sloan Management Review, 47(3), 2006, pp. 21-28.
- [6] Wikipedia. Digital native (http://en.wikipedia.org/wiki/Digital_native); visited October 20, 2009
- [7] Technorati. The State of the Blogosphere 2009, Day 2: The What and Why of Blogging - SOTB 2009 (<http://technorati.com/blogging/article/day-2-the-what-and-why2/>); visited October 22, 2009
- [8] Avana.de. Most companies avoid integrating social media despite evidence of benefits (http://www.avanade.com/us/_uploaded/pdf/pressrelease/uscrmandsocialmediarelease090808653447.pdf); visited October 20, 2009
- [9] eMarketer, B2B Checks Out Marketing 2.0 (<http://www.emarketer.com/Article.aspx?R=1005860>); visited October 22, 2009
- [10] Carpe, D. How the Social Internet Simplifies Source Identification, Competitive Intelligence Magazine, (10)5, 2007, pp. 29-33.
- [11] WhatIs RSS. What Is RSS? RSS Explained. (<http://www.whatissrss.com/>); visited October 18, 2009
- [12] Wikipedia. RSS (<http://en.wikipedia.org/wiki/RSS>); visited October 18, 2009
- [13] Johnson, T. Why Is RSS Important to You, Competitive Intelligence Magazine, (9)6, November-December 2006, pp. 35-37.
- [14] Vitt, E. Luckevich, M. Misner, S. Business Intelligence - Making Better Decisions Faster. Redmond, Microsoft Press. 2002.
- [15] Choo, C. W. Information Management for the Intelligent Organization. The Art of Scanning the Environment. 3rd Edition. Information Today, Inc., Medford, 2002.
- [16] Drott, M. C. Personal Knowledge, Corporate Information: The Challenges for Competitive Intelligence, Business Horizons, 2(44), 2001, pp. 31-37.
- [17] LiuM.-S. and Liu, N.-C. Sources of knowledge acquisition and patterns of knowledge-sharing behaviors - An empirical study of Taiwanese high-tech firms, International Journal of Information Management, 28, 2008, pp. 423-432.
- [18] The Chartered Institute of Personnel and Development. Employers experience budget cuts, escalation of workloads and higher stress levels to cope with recession, according to latest CIPD/KPMG quarterly survey (http://www.cipd.co.uk/pressoffice/_articles/LMOfocus23)

- 0209.htm?IsSrchRes=1; visited October 20, 2009)
- [19] Wyld, D. C. Management 2.0: a primer on blogging for executives, *Management Research News*, (31)6, 2008, pp. 448-483.
- [20] KnowledgeBoard. Case Study: The Siemens ICN Knowledge Management Challenge: ICN/ICM ShareNet. (http://www.providersedge.com/docs/km_articles/Siemens_ICN_KM_Challenge.pdf; visited October 19, 2009)
- [21] Petticrew, M. and Roberts, H. *Systematic Reviews in the Social Sciences: a Practical Guide*, Blackwell Publishing Ltd., Malden, 2006.
- [22] Cook, D. J., Mulrow, C. D. and Haynes, R. B. Systematic Reviews: Synthesis of Best Evidence for Clinical Decisions, *Annals of Internal Medicine*, 126(5), March 1997, pp. 376-380.
- [23] Wang, H. and Wang, S. A knowledge management approach to data mining process for business intelligence, *Industrial Management & Data Systems*, 108(5), 2008, pp. 622-634.
- [24] Kaiser, S. and Müller-Seitz, G. Leveraging Lead User Knowledge in Software Development - The case of weblog Technology, *Industry and Innovation*, 15(2), 2008, pp. 199-221.
- [25] Kane, G. and Finchman, R. The Shoemaker's Children: Using Wikis for Information Systems teaching, research, and publication, *MIS Quarterly*, 33(1), 2009, pp. 1-17.
- [26] Mindel, J. L. and Verma S. Wikis for Teaching and Learning, *Communications of the Association for Information Systems*, 18, 2006, pp. 1-23.
- [27] McKelvie, G., Dotsika, F. and Patrick, K. Interactive business development, capturing business knowledge and practice - a case study, *The learning organization*, 14(5), 2007, pp. 407-422.
- [28] BBC, Facebook banned for council staff, http://news.bbc.co.uk/2/hi/uk_news/england/hampshire/8231234.stm; visited October 20, 2009)
- [29] Cooke, M. and Macfarlane, P. Training the next generation of market researchers. *International Journal of Market Research*, 51(3), October 2008, pp. 341-361.
- [30] Casaló L., Flavián C. and Guinalú M. Promoting Consumer's Participation in Virtual Brand Communities: A New Paradigm in Branding Strategy, *Journal of Marketing Communications*, 14(1), February 2008, pp. 19-36.