Learning to use Web 2.0 and net collaborative practices in SMEs

Marta Mañas
ITURBROK S.L.
Pza. Miguel de Barandiaran, 5-Of.5, 31015 Pamplona, SPAIN
E-Mail: mmanas@iturbrok.com

Ileana Hamburg
Institut Arbeit und Technik, FH Gelsenkirchen
Munscheidstraße. 14, 45886 Gelsenkirchen, Germany
E-Mail: hamburg@iat.eu

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Ileana Hamburg
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Abstract: Small- and medium sized enterprises (SMEs) are socially and economically important for Europe and they have to compete with new challenges, to be sustainable and innovative. They need adequate training and learning methods as well as co-operations supported by new technologies enabling them to operate based on more resources. In this paper after a short presentation of SMEs and Web 2.0 challenges for them, and example within an European project is given how SMEs can learn to use Web 2.0 and networks.

Key words: SMEs, Web 2.0, networks

1. Introduction

Small- and medium sized enterprises (SMEs) represent 99% of all European companies [1] and so they are socially and economically important for Europe. In a complex and dynamic environment they have to compete with new challenges, to be sustainable and innovative. But very often lack of skills, restricted resources and limited knowledge for innovation hinder innovation and sustainability. This fact requires adequate training and learning methods as well as co-operations supported by new technologies enabling them to operate based on more resources.

The rising popularity of user-driven online services, including MySpace, Wikipedia, and YouTube, has drawn attention to a group of technological developments known as Web 2.0. These technologies, which rely on user collaboration, include Web services, peer-to-peer networking, blogs, podcasts, and online social networks. From a technical point of view, such tools could help SMEs to improve their learning processes and to increase productivity but the implementation of Web 2.0 artifacts in SMEs is less realized.

Respondents to a recent McKinsey survey show widespread but careful interest in this trend. Expressing satisfaction with their Internet investments so far, they say that Web 2.0 technologies are strategic and that they plan to increase these investments. But companies aren't necessarily relying on the best-known Web 2.0 trends; "instead, they place the greatest importance on technologies that enable automation and networking" (www.mckinseyquarterly.com, Business Technology Office, Media & Entertainment Practice, 2007).

One problem is that often within SMEs entrepreneurial initiatives are driven by one or two individuals; not all employees can participate in the development of new ideas. Entrepreneurs, managers or supervisory staff are not enough informed about the benefits of Web 2.0 technologies and cooperation.

In this paper after a short presentation of SMEs and Web 2.0 chalenges for them, an example within an European project is given how SMEs can learn to use Web 2.0 and networks.

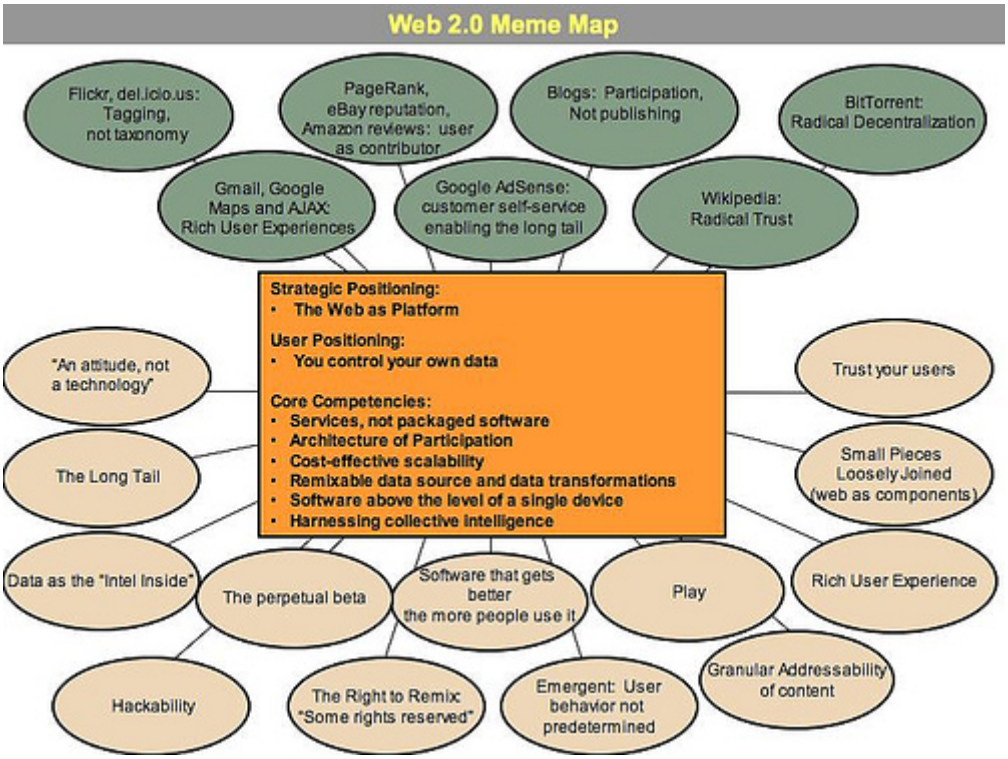
2. Web 2.0 and the challenge of applying it in SMEs

Due to the O'Reilly Media Web 2.0 conference in late 2004, the term is closely associated with Tim O'Reilly [2] and does not refer to an update to any technical specification, but rather to cumulative changes in the ways software developers and end-users use the Web. Web 2.0 is different from prior web technologies; underligned the World Wide Web inventor Tim Berners-Lee, Web 2.0 is intended in its vision as "a collaborative medium, a place where we [could] all meet and read and write". He called it the "Read/Write Web".

John Battelle and Tim O'Reilly outlined their definition of the "Web as Platform", where software applications are built upon the Web as opposed to upon the desktop [3].

In the Figure 1, Web 2.0 is visualized as a set of principles and practices that tie together a veritable solar system of sites and demonstrate some or all of those principles, at a varying distance from that core [3].

Figure 1: Web 2.0 Map



Source: [3]

This aspect of the migration to Web 2.0 as a platform makes possible that customers are building their business and the activities of users generating content (in the form of ideas, text, videos, or pictures) could be "harnessed" to create value. O'Reilly and Battelle contrasted Web 2.0 with what they called "Web 1.0". They associated Web 1.0 with the business models of Netscape and the Encyclopædia Britannica Online [3].

Web 2.0 can be described as follows [10]:

- Rich Internet application (RIA) – defines the experience brought from desktop to browser whether it is from a graphical point of view or usability point of view.
- Service-oriented architecture (SOA) – is a key piece in Web 2.0 which defines how Web 2.0 applications expose their functionality so that other applications can leverage and integrate the

functionality providing a set of much richer applications (Examples are: Feeds, RSS, Web Services, Mash-ups)

- Social Web – defines how Web 2.0 tends to interact much more with the end user and make the end-user an integral part.

Table 1 gives a brief overview on some current Web 2.0 tools, a short description and functions of them.

Table 1: Web 2.0 artifacts

Artifacts	Description	Function(s)
Weblog	Web-based communication medium, that is determined by the following characteristics: • Chronology (time stamp for entries) • Actuality (reference to actual events and subjects) • Interaction (comment-function for readers) internet-relation (links to continuative information, links to other blogs, "trackbacks")	Authoring, Sharing
Wiki	Collection of websites, that can be edited by every user	Authoring, Sharing, Collaboration
Social Tagging	Collective indexing or tagging of existing context to ease the indexing of content	Sharing, Scoring
Social Networking	Maintenance and building of contacts	Networking
Podcast	Broadcast or broadcast series of audio or video content	Sharing

Source: [4]

The Economist Intelligence Unit has an interesting report in 2008 on the use of Web 2.0 tools inside companies ("Web 2.0 goes corporate"). The conclusion is that almost everybody believes these technologies have a potential to increase revenues. In fact, Return of Investment (ROI) is what is stopping these tools from boosting.

Web 2.0 means this for companies:

- Product marketing and development: by creating online communities, is it through Facebook or a blog.
- Share knowledge and learning inside the organization: by opening blogs and wikis.

It is supposed that in future interaction with customers will be done with Web 2.0 tools and intranet: interaction among employees also with Web 2.0 tools. These aspects help acquiring customers, through new marketing tools and techniques; it is cheaper when applied to customer support, customers could help each other and it reduces innovation costs. Getting advice from own customers is cheaper and more efficient than hiring doctors.

3. Learning about Web.20 – an example

The main content of this part is to present the training modules within the on-going innovation transfer Leonardo project Net Knowing 2.0: Web 2.0 Technologies and Net Collaborating Practices to support learning in European SMEs (http://www.netknowing.com) [5], [6], [7].

The project focuses on the development, testing and dissemination of a didactical package to enable managers and directive staff of SMEs to benefit from e-Learning particularly based on Web 2.0 technologies, from Networking and e-Collaborating practices as an instrument for their own personal learning and for the support of corporate informal learning systems in their enterprises.

Two main project products being in the development are a self-learning basic course focused on benefits of informal learning and how to learn using Web 2.0, Social Networks and Net Collaborating Practices and an e-Learning advanced course focused on the implementation of Web 2.0 structured informal learning systems and strategies in SMEs and organizations [8].

The learners of the first course can use a special developed forum within the community developed within the project Net Knowing 2.0, by using social media tool TikiWiki (http://cop.netknowing.eu) if they would like to discuss with others about the course [9], [10]. The modules of this course include

Definition of different forms of learning and explanation of the notions

- Formal, non-informal, informal learning
- E-Learning
- Blended learning
- Web 2.0

Web 2.0 course Web 2.0 Overview

- What is Web 2.0
- Differences Web 1.0, 2.0 and future generations
- What is a Wiki, Editing of Wikis, Wikis at the example of Wikipedia
- How works a Webblog
- How can you spread messages through Webblogs
- Development of an own Webblog (could be an exercise)

Basics of Networks

- Describe how a network works
- Learning and communicating in networks
- Behaviour in networks

The advanced course includes:

Informal Learning and LLL strategies

- Needs of the company: Qualification?
- What wants the company to achieve with Informal learning and the corresponding requirements
- Building a LLL strategy based on Informal Learning. Steps: Concept, Planning, Implementation
- Evaluation (methods)

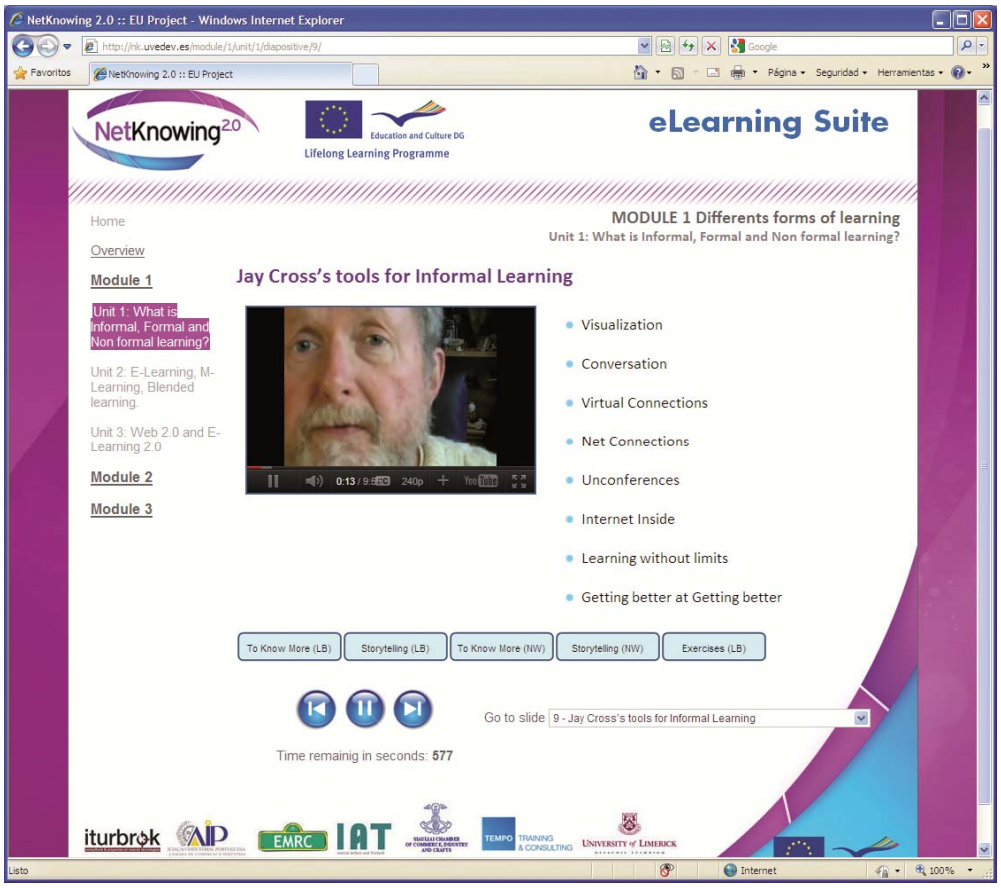
Introducing Web 20 services for knowledge management and learning in SMEs

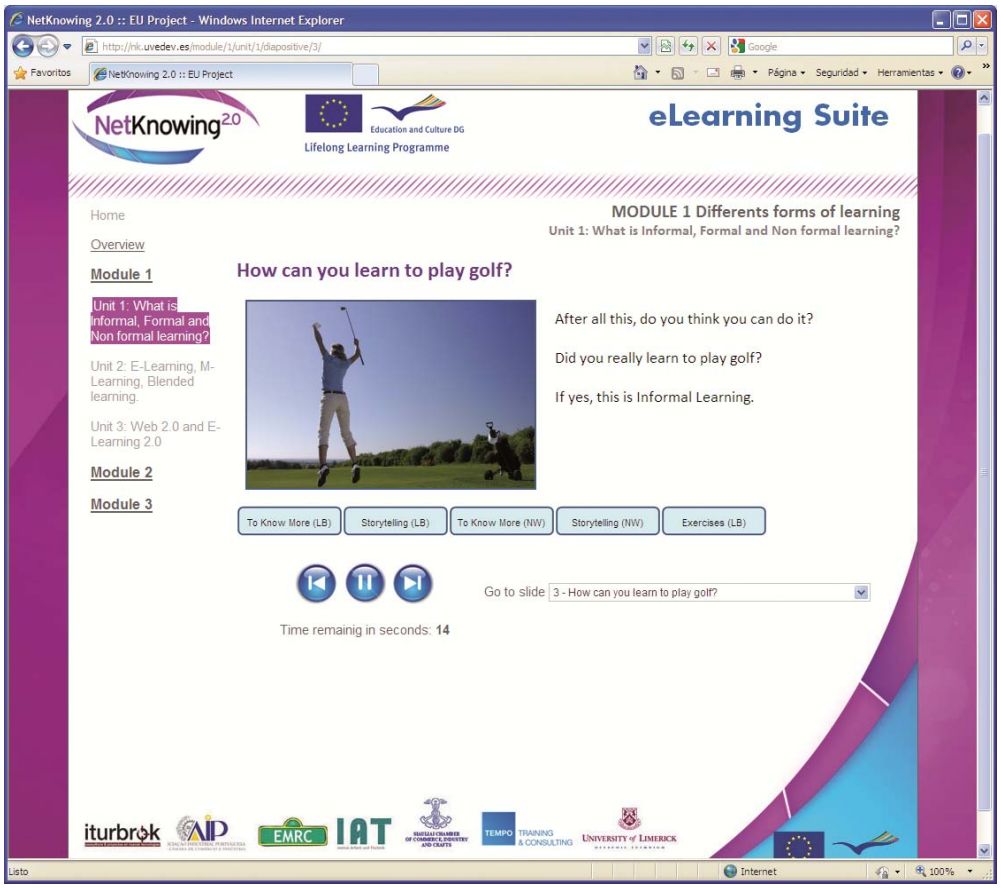
- Shared knowledge Management: fundamentals and practices
- Web 2.0 tools for companies informal learning (internal) and integration with existing tools and platforms in the company (examples)
- Wikis and Webblogs in companies

Business and Social networks, Communities

- Explain how a network can improve learning and cooperation in job
- Understanding and selecting appropriate approaches and tools
- Strategies to motivate others and be facilitator
- Networking by using Web 2.0.
- Impact assessment

In the next Figure are presented some screen shoots from the basic module.





Source: www.netknowing.com.

The advanced course is based on a blended concept. Both trainers and trainees can use the CoP to discuss about the modules, to communicate and solve exercises together.. The training materials are available to be downloaded for the trainees as well as discussion forums. The trainers can build own courses by using the training materials and a lot of exercises stored in a special virtual room within the CoP. An introduction into the functionality of the community for its users is in the development as well as a didactical guide for the trainers including different methods like tests, storytelling, and collaborative working by using the community.

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References

[1] European Commission (2003): The new SME Definition – User guide and model declaration. Enterprise and Industry Publication.
[2] 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.
[3] O'Reilly, T., & Battelle, J. (2004): Opening Welcome: State of the Internet Industry. In: San Francisco, California.

[4] Duschinski, H. (2007): Web 2.0 – Chancen und Risiken für die Unternehmenskommunikation. Diplomica: Hamburg.
[5] Wenger, E. (1998): “Communities of Practice: Learning, Meaning and Identity”. Cambridge MA: Cambridge University Press.
[6] Engert, S./Hamburg, I./Terstriep, J. (2011): Promoting online education for new working environments in companies. In: Demiray, U./Sever, S. (eds.): Marketing online education programs: frameworks for promotion and communication. Hershey, PA: Information Science Reference. Chapter 23, pp. 337-358
[7] Hall, T. & Hamburg, I. (2009): Learning in social networks and Web 2.0 in SMEs' continuing vocational education. In *International Journal of Web Based Communities* 5 (4), pp. 593-607.
[8] Beer, D./Busse, T./Hamburg, I./Mill, U./Paul, H. (eds.) (2006): “eLearning in European SMEs: observations, analyses & forecasting”. Münster: Waxmann.
[9] Kaplan, A.M. & Haenlein, M. (2009): “Users of the world, unite! The challenges and opportunities of Social Media”. In *Business Horizons* 53 (1): pp. 59-68.
[10] Wikipedia. http://en.wikipedia.org/wiki/Tikiwiki. Retrieved 2010-01-03.