

Enterprise 2.0 Knowledge Management Development Trends

Dimiter Velev¹⁺ and Plamena Zlateva²

¹ University of National and World Economy, Sofia, Bulgaria

² Institute of System Engineering and Robotics - BAS, Sofia, Bulgaria

Abstract. The paper attempts to summarize the latest and future trends in the development of knowledge management particularly in the Enterprise 2.0 technology. A short description of the technology and its features are given. The classical definition of knowledge management is presented which is further related with its position in the area of Enterprise 2.0. The observed current problems in knowledge management are discussed. Several major trends have been identified and analyzed regarding the knowledge management transformation of into social business. The use of the Cloud Computing technology as a natural extension of the development of the Enterprise 2.0 knowledge management is proposed.

Keywords: Web 2.0, Enterprise 2.0, Knowledge Management, Cloud Computing

1. Introduction

In recent years the Enterprise 2.0 technology has undergone significant enhancements and many companies have embraced as an efficient way of managing their internal information systems. On the other hand the generated data and resulting information have increased their volumes immensely. The process of knowledge management of such IT structures experiences new and miscellaneous problems. There is a need for a significant shift in how the knowledge management is done.

The paper attempts to point out current problems in Enterprise 2.0 knowledge management. Based on analytical research performed through different Web resources, the article tries to show the latest developments in the knowledge development and to offer new possibilities for enhancing the process of managing IT resources within the Enterprise 2.0 technology.

2. Enterprise 2.0

Enterprise 2.0 is the use of Web 2.0 technologies within an organization to enable or streamline business processes while enhancing collaboration - connecting people through the use of social-media tools. Enterprise 2.0 aims to help employees and customers collaborate, share and organize information [1]. Professor Andrew McAfee describes Enterprise 2.0 as "the use of emergent social software platforms within companies, or between companies and their partners or customers". The main Enterprise 2.0 features can be summarized as follows [2]:

- The technology facilitates the application of Web 2.0 into the enterprise.
- The technology enables people to collaborate and/or for online communities and provides for a higher level of collaboration.
- It is a new set of technologies, models and methods used to develop and deliver business software.
- The technology offers a new way for knowledge management within the organization. Large corporations use idea management systems to solicit ideas from their customers and employees. Idea generation in some cases fuels the product pipeline.

⁺ Corresponding author. Tel.: + 359 2 8195 694; fax: +359 2 962 39 03.
E-mail address: dvelev@unwe.acad.bg.

- The technology enables business agility by putting together the ability to deliver various software services in the organization.
- It facilitates transparency by making information available to all who need it and for development of content-centric systems. Information is readily available and with suitable search engines, the users can locate the information they need.
- The technology adopts an approach that is user-centric and facilitates developing and accessing content.
- It enables the use of social networking platforms either within the organization or between companies. Different blogs can be organized depending on the particular engaged community.
- The technology leverages collaboration to include not only employees but also business partners.

In his blog Professor Andrew McAfee describes how organizations use emergent social software platforms to capture and share knowledge, identify and leverage expertise, generate and refine ideas, and harness the wisdom of crowds [3]. Since then the intelligence community has deployed new 2.0 tools including launching an internal Wikipedia, encouraging blogging within strict guidelines, and developing a search function to improve access to shared information.

McAfee sees two hurdles most organizations must overcome to take advantage of these new tools. First, leaders are not aware of how the tools work and how the new tools can improve internal knowledge management. Second, they're afraid that using the tools will make it impossible to control confidential information.

3. Knowledge Management

Knowledge management (KM) can be broadly defined as how a company harnesses innovation, brainstorming, and creativity. KM distinguishes itself from pure administration in the way that it purposefully attempts to incorporate the experience of its employees in relation to business specific processes.

Companies with established KM policy tend to be able to innovate more quickly than companies that rely on a purely hierarchical decision making structure. While companies that use KM still rely on managers to make decisions, KM tends to foster greater sharing and participation than in traditional businesses.

From a practical perspective, knowledge is defined as information in action [4]. Until people take information and use it, it isn't knowledge. In a business context, knowledge is what employees know about their customers, products, processes, mistakes and successes, whether that knowledge is tacit or explicit.

APQC defines KM as a systematic effort to enable information and knowledge to grow, flow and create value [4]. The discipline called KM is about creating and managing the processes to get the right knowledge to the right people at the right time and help people share and act on information in order to improve organizational performance. Organizations implement a KM program promote knowledge-sharing practices. An enterprise KM program is usually a centralized, organization-wide effort to standardize KM. Enterprise does not have to be the entire corporation.

Within such a program, organizations implement KM approaches such as communities of practice, expertise location systems, and wikis to formalize and enable knowledge sharing. KM activities are all of the things KM professionals do to support planning and design, change management, communication, training and budgeting. Through these activities and approaches, KM programs should:

- connect employees to each other in order for them to excel at their jobs;
- connect employees to knowledge assets (just enough, just in time, and just for them);
- connect those with experience or know-how with those who need it.

Enterprise knowledge workers use social computing tools to get their work done. They blog, create podcasts and produce content for wikis [5]. They subscribe to RSS feeds, join social networking sites such as LinkedIn and Facebook, and employ shared content tagging. All of this is done to overcome the barriers to efficient collaboration posed by a distributed workforce that spans geographies and time zones.

Collaboration is absolutely necessary to the work of the enterprise. It is hard to control and sensitive to the constraints of time and distance. Knowledge workers have been using e-mail for collaboration. Shared digital workspaces that feature services such as document sharing, calendaring, task tracking allow groups of authenticated individuals – employees, customer, suppliers, and partners – to increase productivity, improve decision making, and improve the efficiency of collaborative team efforts.

Within a corporate social network, it is possible securely to coordinate, manage and monitor employee processes, interactions and activities, including [6]:

- creating the connections employees require to find and utilize information to drive business results;
- increase recruitment and on boarding programs by reaching into your workforce on prospective candidates;
- deliver just-in-time learning based on readily available employee content, collaboration, and interactions;
- more effectively manage the talent within your organization by creating a culture of collaboration and career development.

4. Trends in Enterprise 2.0 Knowledge Management 2.0 Development

Any organization adopting the Enterprise 2.0 model should provide for [6]:

- Managing the accuracy, integrity, reliability, timeliness, security, confidentiality of data, information, and knowledge;
- Making needed data and information available to employees, suppliers and customers;
- Managing organizational knowledge;
- Ensuring that hardware and software are reliable, secure and user-friendly.
- Ensuring the continued availability of information systems during emergencies;
- Identifying what information users need to improve performance;
- Collecting and transferring knowledge and identifying, sharing and implementing best practices.
- Backup of critical data and information and storing it offsite in case of an emergency.

One of the most vexing problems facing organizations for years has been the KM. In the past, the task of capturing, organizing and disseminating valuable information so it could be properly utilized by end-users and business executives was a hard to perform task that produced limited results.

Traditional content management and database access products were often complex and complicated to deploy and administer, and they were too inflexible to meet the varying needs of corporate users.

The technological challenges translated into significant planning, design, implementation and operational costs which created financial hurdles that were too high and derailed many knowledge management projects.

Nowadays many companies of any size struggle with [7]:

- vital corporate knowledge being trapped in information silos like email inboxes (knowledge) and need to cope effectively with an enormous – and rapidly growing – volume of information;
- a limited understanding of organizational expertise (talent) and the need to support streamlined collaboration among a dispersed and global workforce (relationships);
- the need to control the information under its stewardship for compliance and corporate governance purposes;
- the right information either is not collected or is not distributed to the right people when it can be useful;
- knowledge is lost when employees leave the company;
- no processes exist to identify the organization's knowledge assets or to collect and use that knowledge;
- the organization does not pursue, value, or share best practices.

The biggest problem with KM is it is too widely defined. A lot of knowledge management professionals offer their own version of KM and as a result, KM is pulled in different directions.

On the other hand several major trends have been identified and analyzed regarding the transformation of KM into social business [8]:

- Proliferation and rapid adoption of social technology, e.g. Facebook, Twitter, Microsoft SharePoint.
- Proliferation and rapid adoption of miscellaneous mobile platforms and other tablet devices.
- Application of massive volumes of data to Business Intelligence. Social technology and mobile platform make collection of big data possible.
- The rise of Generation Y in organizations. This generation was born digital. Basically they know what social business is and they are bringing the concept to life in their workplace.
- Globalization. Many multinational companies have offices in different locations, scattered around the globe with different time zones.
- Downsizing. Organizations downsize to survive and when they downsize, some organizational knowledge would be lost.
- Increased Complexity. To manage complexity a proper way is to harness collective intelligence so that organizations could sustain continuous innovation.
- Increasing adoption of cloud technology. To reduce cost, many organizations are moving their intranets to the cloud. This speeds the adoption of social media and mobile gadgets.

Most enterprises need a KM portal that allows various employees to share best practices and other knowledge-related content and ensure that the knowledge obtained by a few employees is kept in a common repository. The following are the typical components of an enterprise KM portal [9]:

- This front end will be enabled with a web portal accessible to the employees based on standard authentication options.
- There will be an option to load the content in various standard formats.
- There will be a workflow to validate the content and approve the content to be usable for a large audience.
- Depending on the needs of the organizations, the search features could vary.
- At a simple level of implementation, searches could be allowed based on document title or internally generated numbers.
- Advanced social networking features like sharing, tagging and other features can also be part of it.

This particular use case of KM is a natural fit for a cloud platform. However, the following aspects are aligned to the Cloud model:

- KM systems may have large storage needs and can utilize a cloud storage model.
- Search patterns may vary and may experience sudden spikes and better to be supported with an elastic computing model.
- Most of the KM workflow and search capabilities are generic in nature and a SaaS application can easily fit that for a majority of enterprises.

In the world of KM systems, the last several years have seen a widespread migration away from Intranet systems into web-based knowledge-sharing systems, in which all information is stored on a server and accessed by logged-in users over a standard web connection. Today there is a strong shift in the way knowledge is managed and stored - on servers in the cloud [10]. This has many important implications for organizations that rely on KM systems.

4.1. Benefits of cloud-based knowledge management

The main benefit of cloud-based computing is that information and even software can be accessed from virtually any network-enabled device at any location. Knowledge stored in the cloud can be instantly accessed. This is good for organizations in which many individuals are not tied down to a single location. It

can be predicted that in the near future a large number of companies will have no central offices at all but instead will consist of individuals scattered around the world all plugged into the cloud.

Cloud-based KM systems have a built-in redundancy. Since the information is typically stored across many servers and computers instead of in one place, one server outage cannot bring the whole network down. Cloud-based KM in many cases is cheaper than the alternatives. Rather than installing hardware and software on every computer that needs access to the network, companies can just store it all in the cloud and have people access it through a browser.

4.2. Drawbacks of cloud-based knowledge management

However, there are some potential concerns inherent to cloud-based KM systems of which security is the most important one. This risk can be lessened by advanced measures to hide and protect the most security-sensitive information.

Another drawback is that setting up a cloud-based management system often requires additional tech staff, which can be expensive for some companies. Cloud networking is usually quite simple from the user's perspective, but infrastructurally it can be complicated. There are cloud-computing consultancy services that can help companies get their systems online, but these can be expensive.

5. Conclusions

Evidently Enterprise 2.0 knowledge management has evolved a lot in recent years, but on the other hand it has brought in new problems of managing IT resources. The paper has shown new emerged trends in the knowledge management and in particular it proposes the adoption of the Cloud Computing technology as a viable option for its natural and immediate enhancement.

6. Acknowledgments

The authors express their gratitude to the Science Fund of the University of National and World Economy, Sofia, Bulgaria for financial support under the R&D Grant NID 21.03-21/2009, titled "Research of the Capabilities of the Enterprise 2.0 Business Model for Increasing the Competitive Efficiency of the Bulgarian Companies".

7. References

- [1] Enterprise 2.0, http://en.wikipedia.org/wiki/Enterprise_2.0.
- [2] S. Balasubramanian, Enterprise 2.0, *IT Knowledge Exchange*, 2012, <http://itknowledgeexchange.techtarget.com/information-technology-management/enterprise-20>.
- [3] A. McAfee, Enterprise 2.0: The Book and the Blurbs, 2012, <http://andrewmcafee.org/>
- [4] C. O'Dell, C. Hubert, *The New Edge In Knowledge: How Knowledge Management Is Changing the Way We Do Business*, John Wiley & Sons, N.Y., 2011, 256 p.
- [5] *Business Management*, Social Computing and Collaboration in the Enterprise, 2011, <http://www.busmanagement.com/article/Social-Computing-and-Collaboration-in-the-Enterprise/>
- [6] *Baldrige*, Baldrige Model: How do you manage information, knowledge and information technology?, 2011, http://www.baldrige.com/baldrige/baldrige_process/baldrige-model-how-do-you-manage-information-knowledge-and-information-technology/.
- [7] J. Kaplan, The Cloud's Answer to the Knowledge Management Challenge, 2010, <http://www.ecommercetimes.com/story/The-Clouds-Answer-to-the-Knowledge-Management-Challenge-70363.html?wlc=1278951103>.
- [8] R. Yong, Knowledge Management in 2012? Probably Dead, 2012, <http://www.cmswire.com/cms/social-business/knowledge-management-in-2012-probably-dead-014352.php>.
- [9] S. Rajan, Cloud Computing: Knowledge Management as a Service, 2011, <http://cloudcomputing.sys-con.com/node/2088734>.
- [10] *Knowledge Management Systems*, Should Your Knowledge Management System Be in the Cloud?, 2011, <http://www.knowledgemanagementsystem.org/should-your-knowledge-management-system-be-in-the-cloud/>.