Web 2.0 for Organizations - Chances and Risks from the Perspective of Knowledge Management

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Overview

- Knowledge Work and Management
  - Knowledge Work
  - Knowledge Management
- Web 2.0
- Designing Knowledge Infrastructures
- Chances and Risks - Conclusion
Relevance of Knowledge Work

- Origin: knowledge worker
  Drucker 1979

- Knowledge workers replace industrial workers as the largest group of the work force.
  Sveiby 1987 and 1997, 26ff

- In 2008, about 80% of workers are employed in the service sector in the United States or about 72% in Germany or 69% in Austria respectively
  U.S. Department of Labor; http://www.statistikportal.de/; Statistik Austria

- “Creative Class”: 62.5% of workers in Copenhagen, 47.1% in Amsterdam, 43.9% in Barcelona and 42% in Vienna are employed in knowledge-intensive areas
  A Roland Berger study, cited from DER SPIEGEL, 20.08.2007, 98-112

- Work is increasingly or exclusively based on information.
## Knowledge Management Focus Areas

<table>
<thead>
<tr>
<th>Intellectual Asset Focus</th>
<th>Enterprise Effectiveness Focus</th>
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<tbody>
<tr>
<td>Maximize Building and Value Reallocation of Intellectual Capital</td>
<td>Maximize Use of Knowledge Assets Operational Effectiveness</td>
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<tr>
<td>Maximize Effectiveness of People-centric Learning Organization</td>
<td>Use IT and IM to Maximize the Capture, Transformation, Storage, Retrieval and Development of Knowledge</td>
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according to Wiig 1999, 158
• Knowledge Work and Management
  • Web 2.0
    – What is Web 2.0?
    – Web 2.0 Success Stories
• Designing Knowledge Infrastructures
• Chances and Risks - Conclusion

A Revolution? … Or Plain Old World Wide Web?

• 1.4 billion Internet users worldwide in 2008.
  www.internetworldstats.com

• >50% of all Europeans are regular Internet users – growing strong
  EU Commission i2010 report

“Web 2.0 is the business revolution in the computer industry caused by the move to the Internet as a platform and an attempt to understand the rules. Chief among those rules is this: Build applications that harness network effects to get better the more people use them.”
  Tim O’Reilly

“I think Web 2.0 is of course a piece of jargon, nobody even knows what it means. If Web 2.0 for you is blogs and wikis, then that was what the Web was supposed to be all along.”
  Tim Berners-Lee

http://www-128.ibm.com/developerworks/podcast/dwi/cm-int082206.txt
Popularity of Web Sites & User-Generated Content (de)

for the time frame 01-06/2008; source: IVW 2008
for the time frame 07/2008; source: IVW 2008

- data is the Intel Inside (Infoware)
- end of the software release cycle (continuous development)
- lightweight programming models (reusability)
- harnessing collective intelligence (network effects)
- rich user experience (Webtop vs. Desktop)
- software above the level of a single device (device-independent)

Web as a platform

people (user-generated content)
technology (e.g., AJAX, RSS, Mash-ups)

also: O'Reilly 2005b
Web 1.0 and 2.0 Compared

Web 1.0
- Publishing (Britannica Online)
- Personal websites (Xims)
- Content management (Xims)

Web 2.0
- Participation (Wikipedia)
- Blogging
- Wikis (project Wiki)
Web 1.0 and 2.0 Compared II

### Web 1.0
- **directories/taxonomies**
  - (Yahoo Directory)
- **stickiness**
  - (www.bbc.co.uk)
- **screen scraping**

### Web 2.0
- **tagging/folksonomy**
  - (flickr)
- **syndication**
  - (iGoogle)
- **service composition**
**Youtube**
- founded in February 2005, launched in December 2005
- Fall 2006: 100 million clips watched a day, 65,000 new clips a day with 60 employees
- November 2006: Google bought Youtube for 1,65 billion US$

**Facebook**
- founded in February 2004
- 60 billion page impressions per month in 2007
- August 2008: 90 million active users*, more than 600 employees

**PlentyofFish**
- created in 2003, largest dating service with 300,000 active users, 600 million page visits a month with 1 employee

* users who have returned within the last 30 days

Carr 2008, 130-132
Facebook 2008

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**Dell**

- low customer satisfaction and negative Blog posts
- community initiative:
  - Blog for customers (IdeaStorm) for product suggestions & problem warnings
  - B2C-Blog (Direct2Dell) to enhance communication to customers
  - community Blog & forum to help fellow customers fix problems
- negative Blog posts dropped from 49% to 22%

**Sun**

- documentation of Comms Suite published on Sun Wiki in 2008
- Wiki comments and direct contributions from customers
- immediate impact on shape, direction & content of documentation
• Knowledge Work and Management
• Web 2.0
• Designing Knowledge Infrastructures
  – Knowledge Maturing
  – Knowledge Types
  – Knowledge Processes
  – Knowledge Services
• Chances and Risks - Conclusion
Knowledge Maturing Process

Investigation

- acquire curiosity, creativity
- explore, experiment
- monitoring

Individuation

- defend self-realization
- appropriate, commit personalization

Interaction

- bond social belonging
- endorse, validate, share networking

Information

- comprehend power
- formalize, approve expressing

Instruction

- pass-on status
- arrange, learn, certify translating

- knowledge map
- idea
- news

- personal knowledge routine
- personal experience

- community artifact
- expert advice

- case debriefing
- lesson learnt
- good / best practice

- learning object
- course
- test

Source: Maier et al. 2008, after Maier/Schmidt 2007
Types – Processes - Services

- Process
  - Investigate
  - Integrate
  - Interact

- Service
  - Find expert
  - Submit idea

- Type
  - Project reports
  - Lessons learnt

Source: Maier 2007, 624
**Examples**

- link in a personal collection, annotation to a resource *
- (online) * note with write-up of personal experience
- skill description
- email or instant message with an idea, proposal, expert’s opinion, solution to a specified problem,
- profile or relationship in social networking platform *
- contribution to forum, newsgroup, Wiki, Weblog, micro-blog or other form of CMS *
- (online) * document with some form of formalized knowledge,
- a prototype in a CAD data base
- a model of e.g., a business or knowledge process,
- a learning object in a learning CMS
- an evaluation or comment to one of these elements *

* related to Web 2.0

Source: Maier 2007, 286-289
**8-I-Services in an Enterprise Knowledge Infrastructure**

**Invocation services**
- authentication, adaptation,
- participant-, role-, process-, project- and situation-oriented access

**Knowledge services**
- **Investigation**
  - exploration, search, presentation, monitoring
- **Individuation**
  - profiling, expression, competence, expertise
- **Interaction**
  - initiation, networking, communication, communities
- **In-formation**
  - capture, annotation, translation, archiving
- **Instruction**
  - enrichment, composition, coaching, evaluation

**Integration services**
- semantic integration
- data integration
- process integration
- function integration

**Infrastructure services**
- store, process, network; extraction, transformation, loading

**Sources**
- **Organisation internal**
  - semi-structured contents from CMS, DMS, file server, Groupware
  - structured data from RDBMS, data warehouses
- **Organisation external**
  - semi-structured WWW contents, newsgroups, SNA
  - structured data from online DBs, geo data

**service improved by Web 2.0**
knowledge-intensive operative business process

externalize knowledge

(value knowledge)

organize & refine knowledge

store knowledge

(apply) distribute knowledge

improve knowledge

knowledge process

search

feedback

apply knowledge

knowledge-intensive operative business process

part of process improved by Web 2.0

source: Maier 2007, 214
Overview

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<th>Pro – Chance</th>
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<td>difficult data protection due to opening of company data</td>
<td>easy access to data (wishes, trends) from customers and partners</td>
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<tr>
<td>Web 2.0 applications introduce new and more complex security risks</td>
<td>company applications benefit from complementary contents on the Web (Mash-ups)</td>
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<td>employees waste time by creating and reviewing content of eventually low quality</td>
<td>employees gain time by efficient internal communication</td>
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<td>accelerated spread of bad reputation e.g., by customers</td>
<td>more accurate perception of own image and appropriate reactions</td>
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<tr>
<td>head hunters get access to company’s experts</td>
<td>efficient recruiting of personnel</td>
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<td>faster transport of information to competitors</td>
<td>faster transport of information to customers, partners and stakeholders</td>
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<td>can cause legal disputes</td>
<td>public exchange of opinions creates trust and credibility</td>
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<td>changing customer behavior may lead to loss of business</td>
<td>flexible adoption of new technologies may create new business</td>
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• Knowledge work is multi-faceted, its systematic design promises substantial productivity improvements.

• Web 2.0 offers a plethora of user-generated content, technologies and services ready for deployment by companies.

• Their composition requires the comprehensive perspective of an enterprise knowledge infrastructures (EKI).

• EKI design demands concepts for knowledge types, processes and services.

• The knowledge maturity framework is a macro-level description of interconnected learning processes creating awareness for chances/risks of Web 2.0.
more about these exciting topics in 

*Master of Information Systems*

starting in October 2008

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### References