Semantic Web Awareness
Barometer 2008:
From Research to Application

Berlin, 20.03.2009

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## Background

| Project partners   | • Semantic Web Company, Vienna  
|                   | • Corporate Semantic Web, Berlin  
|                   | • Know Center, Graz  |

| Method            | Online-Survey  
|                   | viral distribution / validity!  |


| Response          | 531  
|                   | Drop Out: 51,6%  |

| Valid Datasets    | 257  
|                   | Application-oriented: 96 // Research-oriented: 161  |

| Colour legend     | **Application-oriented**  
|                   | **Research-oriented**  
|                   | **Application & Research**  |
Research Questions

Awareness about and application of Social Software

Awareness about and application of Semantic Web

Differences between application-oriented and research-oriented actors

Differences deriving from region, IT competence & Semantic Web familiarity

Who participated?
Good coverage of Austria, Germany and Switzerland

![Graph showing the percentage of research-oriented and application-oriented approaches in different regions.

- Austria, Germany, Switzerland: 61.5%
- Rest of Europe: 16.7%
- USA & Canada: 16.7%
- Asia & Pacific: 3.1%
- Rest of World: 2.1%

The graph indicates that Austria, Germany, and Switzerland have the highest percentage of research-oriented approaches, followed by the USA & Canada. Regions like Asia & Pacific and Rest of World have lower percentages.]
The Web is in its 30s!

Age distribution:

- Application-oriented:
  - younger than 20: 1.0
  - 20 - 29: 17.7
  - 30 - 39: 36.5
  - 40 - 49: 32.3
  - 50 - 59: 8.3
  - older than 60: 3.1
  - not specified: 3.1

- Research-oriented:
  - younger than 20: 1.0
  - 20 - 29: 3.1
  - 30 - 39: 29.2
  - 40 - 49: 0.0
  - 50 - 59: 16.1
  - older than 60: 0.0
  - not specified: 11.8

High level of IT competence

![Bar chart illustrating IT competence levels for different approaches.

- Application-oriented:
  - Certified IT-expert: 46.9
  - IT-expert (without certificate): 29.2
  - Regular IT-user: 24.0

- Research-oriented:
  - Certified IT-expert: 70.2
  - IT-expert (without certificate): 21.7
  - Regular IT-user: 8.1

The Web has reached the decision makers

![Bar chart showing professional roles and research approaches.]

- **Manager / CEO**
- **Head of Department**
- **Head of a Project**
- **Member of a Project Team**
- **Technical Expert**
- **External / Freelancer**
- **Currently in training**
- **Other**

**Professional Role**

<table>
<thead>
<tr>
<th>Professional Role</th>
<th>Application-oriented</th>
<th>Research-oriented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager / CEO</td>
<td>19.8</td>
<td>27.3</td>
</tr>
<tr>
<td>Head of Department</td>
<td>18.8</td>
<td>19.3</td>
</tr>
<tr>
<td>Head of a Project</td>
<td>17.7</td>
<td>16.1</td>
</tr>
<tr>
<td>Member of a Project Team</td>
<td>14.6</td>
<td>3.7</td>
</tr>
<tr>
<td>Technical Expert</td>
<td>11.5</td>
<td>2.5</td>
</tr>
<tr>
<td>External / Freelancer</td>
<td>10.0</td>
<td>14.9</td>
</tr>
<tr>
<td>Currently in training</td>
<td>7.3</td>
<td>6.3</td>
</tr>
<tr>
<td>Other</td>
<td>7.5</td>
<td>6.3</td>
</tr>
</tbody>
</table>

**Approach**

- Application-oriented
- Research-oriented
Small & large organisations dominate!

Size of Organization

<table>
<thead>
<tr>
<th>Application-oriented</th>
<th>Research-oriented</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Size of Organization</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2 - 19</td>
<td>2 - 19</td>
</tr>
<tr>
<td>20 - 49</td>
<td>20 - 49</td>
</tr>
<tr>
<td>50 - 249</td>
<td>50 - 249</td>
</tr>
<tr>
<td>250 - 499</td>
<td>250 - 499</td>
</tr>
<tr>
<td>500 - 1000</td>
<td>500 - 1000</td>
</tr>
<tr>
<td>more than 1000</td>
<td>more than 1000</td>
</tr>
<tr>
<td>don’t know</td>
<td>don’t know</td>
</tr>
</tbody>
</table>

Awareness & Use of Social Software
Wikis are king! Social Bookmarking stays behind.

Social Software already introduced to the Organization

<table>
<thead>
<tr>
<th>Approach</th>
<th>Application-oriented</th>
<th>Research-oriented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wikis</td>
<td>77.3</td>
<td>82.3</td>
</tr>
<tr>
<td>Discussion Fora</td>
<td>56,754,5</td>
<td>56,350,6</td>
</tr>
<tr>
<td>Weblogs</td>
<td>45,1</td>
<td>49,4</td>
</tr>
<tr>
<td>RSS Feeds</td>
<td>39,8</td>
<td>35,4</td>
</tr>
<tr>
<td>Social Networking</td>
<td>35,2</td>
<td>31,0</td>
</tr>
<tr>
<td>Virtual Environments</td>
<td>35,4</td>
<td></td>
</tr>
<tr>
<td>Podcasts/Videocasts</td>
<td>35,4</td>
<td></td>
</tr>
<tr>
<td>Social Bookmarking</td>
<td>35,4</td>
<td></td>
</tr>
</tbody>
</table>

Differring applications & usage patterns

Intense Use of Social Software

- Application-oriented
- Research-oriented

Approach
- Wiki
- RSS
- Blogs
- Integrated Environments
- Discussion Fora
- Social Networking
- Social Bookmarking
- Podcasts/Videocasts
- Virtual Environments
Differing motives for the use of Social Software

Benefits of Social Software

<table>
<thead>
<tr>
<th>Access to information / knowledge quickly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Networking with others easily and staying in touch</td>
</tr>
<tr>
<td>Access my documents / data anywhere and anytime</td>
</tr>
<tr>
<td>Combine information and communication</td>
</tr>
<tr>
<td>Maintaining a better overview of relevant documents / information resources</td>
</tr>
<tr>
<td>Longterm benefits that are generated for me or the company</td>
</tr>
<tr>
<td>The immediate benefit that is generated for me or the company</td>
</tr>
<tr>
<td>Ease of use of available tools</td>
</tr>
<tr>
<td>Because it’s fun</td>
</tr>
<tr>
<td>Being able to contribute / present myself</td>
</tr>
</tbody>
</table>

Application-oriented

- Access to information / knowledge quickly: 59.4
- Networking with others easily and staying in touch: 41.7
- Access my documents / data anywhere and anytime: 39.6
- Combine information and communication: 41.7
- Maintaining a better overview of relevant documents / information resources: 5.6
- Longterm benefits that are generated for me or the company: 6.9
- The immediate benefit that is generated for me or the company: 22.5
- Ease of use of available tools: 20.0
- Because it’s fun: 15.6
- Being able to contribute / present myself: 14.6

Research-oriented

- Access to information / knowledge quickly: 61.9
- Networking with others easily and staying in touch: 42.5
- Access my documents / data anywhere and anytime: 28.1
- Combine information and communication: 49.4
- Maintaining a better overview of relevant documents / information resources: 6.9
- Longterm benefits that are generated for me or the company: 20.0
- The immediate benefit that is generated for me or the company: 22.5
- Ease of use of available tools: 15.6
- Because it’s fun: 6.9
- Being able to contribute / present myself: 11.5
Differing notions about barriers

Barriers to Social Software

- Amount of time that is required
- Redundancy with regard to other systems
- Losing control over one's data / knowledge
- Complexity / lack of usability of the system
- The benefit is not clear
- The feeling to be monitored / surveilled
- Too few contributions, or of low quality
- If contributing is mandatory / compulsory
- The costs of implementation
- Effort it takes to learn to use the systems
- Strict terms of use
- Other reasons

Approach

- Application-oriented
- Research-oriented
Semantic Web

- Experience, Expectations & Readiness
Semantic Web is something familiar!

Familiarity with Semantic Web

- **Application-oriented**
  - very good: 25.3%
  - good: 23.2%
  - the basics: 4.2%
  - not at all: 2.1%
  - don’t know: 0.6%

- **Research-oriented**
  - very good: 54.7%
  - good: 30.4%
  - the basics: 14.3%
  - not at all: 0.0%
  - don’t know: 0.0%
Application-oriented catch up - but where are the young academics?

Experience with Semantic Web since ...

- haven't started yet
- about 6 months
- about 1 year
- 1 to 3 years
- more than 3 years

<table>
<thead>
<tr>
<th>Approach</th>
<th>Experience with Semantic Web</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application-oriented</td>
<td>haven't started yet: 13.5%</td>
</tr>
<tr>
<td></td>
<td>about 6 months: 14.6%</td>
</tr>
<tr>
<td></td>
<td>about 1 year: 16.7%</td>
</tr>
<tr>
<td></td>
<td>1 to 3 years: 26.0%</td>
</tr>
<tr>
<td></td>
<td>more than 3 years: 29.2%</td>
</tr>
<tr>
<td>Research-oriented</td>
<td>haven't started yet: 3.7%</td>
</tr>
<tr>
<td></td>
<td>about 6 months: 5.6%</td>
</tr>
<tr>
<td></td>
<td>about 1 year: 14.3%</td>
</tr>
<tr>
<td></td>
<td>1 to 3 years: 26.1%</td>
</tr>
<tr>
<td></td>
<td>more than 3 years: 50.3%</td>
</tr>
</tbody>
</table>
“I taught myself about the Semantic Web.”
No doubt ... Semantic Web has a corporate relevance!

Corporate Relevance of the Semantic Web

- Application-oriented
  - Extremely relevant: 44.8%
  - Rather relevant: 8.3%
  - Rather irrelevant: 7.3%
  - Completely irrelevant: 3.1%
  - Don't know: 0.6%

- Research-oriented
  - Extremely relevant: 45.3%
  - Rather relevant: 14.3%
  - Rather irrelevant: 3.7%
  - Completely irrelevant: 0.6%
  - Don't know: 3.7%

Search - the killer app! Integration costs & data control might be important aspects.
Differring notions about the barriers!

Barriers to the Semantic Web

- The organizational culture is not ready for the Semantic Web
- Lack of experts who maintain the system
- Lack of success stories
- Lack in quality or availability of software
- Problem to quantify the benefits
- Lack in training of users
- Costs of implementation
- Heterogeneity of information in general

Approach: Application-oriented vs. Research-oriented
Competencies and collaboration will change...

Changes the Semantic Web brings along

<table>
<thead>
<tr>
<th>Approach</th>
<th>Competencies of the knowledge worker</th>
<th>Forms of company-wide collaboration</th>
<th>Forms of teamwork</th>
<th>Forms of organization</th>
<th>Models for the protection of personal data</th>
<th>Models for the protection of intellectual property</th>
<th>Business, collecting and licensing Models</th>
<th>Job skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application-oriented</td>
<td>72,0</td>
<td>62,4</td>
<td>36,6</td>
<td>33,3</td>
<td>33,3</td>
<td>32,7</td>
<td>31,2</td>
<td>23,7</td>
</tr>
<tr>
<td>Research-oriented</td>
<td>73,1</td>
<td>58,3</td>
<td>37,8</td>
<td>33,3</td>
<td>33,3</td>
<td>32,7</td>
<td>32,7</td>
<td>28,2</td>
</tr>
</tbody>
</table>

Knock! Knock!

Time to Market of Semantic Web Technologies

They are already widely available
within the next 2 years
within the next 2-5 years
within the next 5-10 years
in more than 10 years
never
don’t know

Application-oriented

Research-oriented

So ... what are you waiting for?

Readiness to Implement Semantic Web Technologies

<table>
<thead>
<tr>
<th>Approach</th>
<th>yes</th>
<th>no</th>
<th>maybe</th>
<th>don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application-oriented</td>
<td>42.7</td>
<td>8.3</td>
<td>12.5</td>
<td>36.5</td>
</tr>
<tr>
<td>Research-oriented</td>
<td>65.2</td>
<td>8.7</td>
<td>17.4</td>
<td>8.7</td>
</tr>
</tbody>
</table>
Expectations are high!

Relevance of Semantic Web in times of crisis

- Application-oriented: 67.7%
  - Rather more relevant: 15.6%
  - Rather less relevant: 16.7%
  - Don’t know: 20.0%

- Research-oriented: 52.2%
  - Rather more relevant: 21.1%
  - Rather less relevant: 26.7%
  - Don’t know: 20.0%
Conclusion

Social Software
1. Wikis are king! Social Bookmarking stays behind.
2. Differring applications & usage patterns of social software
3. Differring notions about the benefits of and barriers to Social Software

Semantic Web
1. Semantic Web is something familiar!
2. Application-oriented catch up - but where are the young academics?
3. „I taught myself about the Semantic Web.“
4. Semantic Web has a corporate relevance!: Search - the killer app! Integration costs & data control might be important aspects.
5. Differring notions about the barriers?
6. Competencies and collaboration will change ...
7. Time to market 2 - 5 years!
8. No differences in region, IT competence & familiarity
Thank you for your attention!

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