The Next Steps to the Future of the Internet

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Technically-Inspired Visions of the Future

- Interactive Computing -- the ‘public information utility’ of the 1970s
- Two-way Cable Videotext -- telematics of the 1980s
- E-Mail, Bulletin Boards and Conferencing -- of early-1990s
- The Internet and Web -- e-Democracy, e-Government from the 1990s
- Web 2.0 Social Networking -- Daily Me, ‘Social Machine’
- Networking and Grid Computing -- the 21st Century Internet as a World Wide Computer -- a Utility
Oxford Internet Surveys (OxIS)

- 2003, 2005 and 2007 (next in 2009)
- Cross-sectional Surveys versus Panels
- Multi-Stage Probability Sample
- England, Scotland & Wales
- Respondents: 14 years and older
- Face-to-face Interviews
- Sponsorship from Hefce, AOL, BT, British Library, Cisco, Ofcom, Wanadoo (Orange), Talisma
<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2005</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fielded in</strong></td>
<td>June-July</td>
<td>February-March</td>
<td>March - April</td>
</tr>
<tr>
<td><strong>Number of respondents</strong></td>
<td>2,030</td>
<td>2,185</td>
<td>2,350</td>
</tr>
<tr>
<td><strong>Response rate</strong></td>
<td>66%</td>
<td>72%</td>
<td>77%</td>
</tr>
</tbody>
</table>
• The World Internet Project (WIP)
  - Initiated 2000, UCLA, now at USC
  - Data for 22 nations (and expanding)
  - www.worldinternetproject.net

• Britain: Oxford Internet Surveys (OxIS)
Empirical Foundations for Moving Ahead

- Centrality of the Internet -- World Wide Computer
Diffusion of the Internet in Britain 2003-2007

OxIS
Oxford Internet Surveys

% of participants

Yes, current user

No, but used it in the past

Never used

2003 2005 2007

59 60 67

6 8 5

35 32 28
Digital Divides:
Income and Internet Use

OxIS 2005: N=2,185; OxIS 2007: N=2,350
Life Stage and Internet Use

- Student:
  - 2003: 98%
  - 2005: 97%
  - 2007: 97%

- Employed:
  - 2003: 67%
  - 2005: 68%
  - 2007: 81%

- Retired:
  - 2003: 22%
  - 2005: 30%
  - 2007: 31%

OxIS
Oxford Internet Surveys
Broadband 2003-2007

% of participants

<table>
<thead>
<tr>
<th>Year</th>
<th>Broadband access all households</th>
<th>Broadband access in internet access households</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>11</td>
<td>19</td>
</tr>
<tr>
<td>2005</td>
<td>36</td>
<td>59</td>
</tr>
<tr>
<td>2007</td>
<td>56</td>
<td>85</td>
</tr>
</tbody>
</table>

OxIS
Oxford Internet Surveys
Empirical Foundations for Moving Ahead

- Centrality of the Internet -- World Wide Computer
- Transformative Impact: Reconfiguring Access
Figure 1-3: Reconfiguring Access

TECHNOLOGIES
- What know-how you require
- How you do what you do

PEOPLE
- Who you know
- How you communicate

SERVICES
- How you obtain services
- From whom and from where you obtain services

INFORMATION
- How you get information
- What you know
Reconfiguring Access

Use the Internet | Personal visit | Use the telephone | Book or directory

% that selects medium

<table>
<thead>
<tr>
<th>Non and ex-users</th>
<th>Planning trip</th>
<th>Books</th>
<th>Name of MP</th>
<th>Taxes</th>
<th>Local Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use the Internet</td>
<td>7</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Personal visit</td>
<td>18</td>
<td>11</td>
<td>29</td>
<td>15</td>
<td>24</td>
</tr>
<tr>
<td>Use the telephone</td>
<td>16</td>
<td>34</td>
<td>38</td>
<td>24</td>
<td>59</td>
</tr>
<tr>
<td>Book or directory</td>
<td>13</td>
<td>62</td>
<td>38</td>
<td>54</td>
<td>77</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Users</th>
<th>Planning trip</th>
<th>Books</th>
<th>Name of MP</th>
<th>Taxes</th>
<th>Local Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use the Internet</td>
<td>62</td>
<td>70</td>
<td>64</td>
<td>27</td>
<td>55</td>
</tr>
<tr>
<td>Personal visit</td>
<td>18</td>
<td>11</td>
<td>25</td>
<td>11</td>
<td>24</td>
</tr>
<tr>
<td>Use the telephone</td>
<td>16</td>
<td>34</td>
<td>13</td>
<td>12</td>
<td>55</td>
</tr>
<tr>
<td>Book or directory</td>
<td>13</td>
<td>62</td>
<td>11</td>
<td>11</td>
<td>24</td>
</tr>
</tbody>
</table>

Books Name of MP Taxes Local Schools
Meeting New People Online

- Did Not Meet
- Met New

2007 and 2005 data comparison graph.
Empirical Foundations for Moving Ahead

- Centrality of the Internet -- World Wide Computer
- Transformative Impact: Reconfiguring Access
- Strategic for Enhancing Existing Institutions
Empirical Foundations for Moving Ahead

- Centrality of the Internet -- World Wide Computer
- Transformative Impact: Reconfiguring Access
- Strategic for Enhancing Existing Institutions
- Fostering ‘Collaborative Network Organizations’
Collaborative Network Organizations

• Wisdom of Crowds?
• Networked Individuals
• Managing Networked Individuals
• Three Types of Networks supporting CNOs:
  • 1.0 Sharing (Web, Semantic Web, Deep Linking)
  • 2.0 Contributing (User-generated content)
  • 3.0 Co-creating (Collaborative Production)
A Simple Typology of CNOs

1.0. Sharing: The ability to create hypertext documents and objects that can be linked for sharing within a specialized distributed network or across the world. (Tim Berners-Lee inventing the Web to share documents at CERN, and moving on to invent a semantic Web.)

2.0. Contributing: Social networking applications of the Web that facilitate group communication, and user-generated content, from text to tagging, such as Sermo.

3.0. Collaborating: Online systems that facilitate cooperative work toward shared goals, illustrated by the joint writing and editing of Wikipedia.
Empirical Foundations for Moving Ahead

- Centrality of the Internet -- World Wide Computer
- Transformative Impact: Reconfiguring Access
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- Fostering ‘Collaborative Network Organizations’
- Enabling the Emergence of a ‘Fifth Estate’
The Fifth Estate

- Press in the 18th Century -- the Fourth Estate
- Internet in the 21st -- enabling a Fifth Estate

Enabling people to network with other individuals and with information, services and technical resources in ways that support social accountability in business and industry, government, politics, and other sectors.
Going to the Web for Information

- Making travel plans: 77% (2005) vs 84% (2007)
- Getting information about local events: 66% (2005) vs 77% (2007)
- Finding information about health or medical care: 37% (2005) vs 68% (2007)
- Looking for sports information: 54% (2005) vs 56% (2007)
- To get humorous content (jokes etc): 36% (2005) vs 50% (2007)
Growing Use for Politics and Government: Britain

- Contacted a politician or government official online: 2 (2007), 3 (2005)

Growing Use for Politics and Government: Britain

0 5 10 15 20 25 30 35 40 45 50

2007 2005
The Ways Users Get Information

<table>
<thead>
<tr>
<th>Method</th>
<th>2005</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mainly go to specific pages</td>
<td>19</td>
<td>10</td>
</tr>
<tr>
<td>Both about the same</td>
<td>60</td>
<td>33</td>
</tr>
<tr>
<td>Mainly use a search engine such as Google</td>
<td>19</td>
<td>56</td>
</tr>
</tbody>
</table>

% of current users
Trust in Media, UK, 2007
(Reliability of Information)

Newspapers
- Non user: 5.7
- Ex-Users: 5.2
- User: 5.8

Television
- Non user: 6.6
- Ex-Users: 6.3
- User: 6.7

Internet
- Non user: 5.7
- Ex-Users: 5.9
- User: 6.8
Networked Institutions v Networked Individuals of the Fifth Estate

- Networked Institutions, such as in e-Health
- Networked Individuals of the Fifth Estate:
  - going to the Internet for health and medical information
  - networking physicians via Sermo
Arenas Shaped by 5th Estate

- Governance and Democracy
- Press and Media
- Business and Commerce
- Work and the Organization
- Education
- Research
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- Transformative Impact: Reconfiguring Access
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- Risks to Privacy and Trust: Certainty Through
Increasing Concerns over Privacy

<table>
<thead>
<tr>
<th>Statement</th>
<th>2005</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>People should be concerned about protection of credit cards</td>
<td>88</td>
<td>70</td>
</tr>
<tr>
<td>People who go on the Internet put their privacy at risk</td>
<td>60</td>
<td>39</td>
</tr>
<tr>
<td>People should be able to express their opinion anonymously</td>
<td>66</td>
<td>66</td>
</tr>
<tr>
<td>The present use of public CCTV, webcams and security cameras is a threat to personal privacy</td>
<td>84</td>
<td>49</td>
</tr>
<tr>
<td>Personal information is being kept somewhere without me knowing</td>
<td>66</td>
<td>59</td>
</tr>
<tr>
<td>The present use of computers is a threat to personal privacy</td>
<td>51</td>
<td>51</td>
</tr>
<tr>
<td>Everyone in Britain should be required to carry an ID card</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

% that agree or strongly agree
Next Steps: Hope over Fears

- Centrality: Prioritize Internet R&D and Divides
- Reconfiguring Access: Strategic Choices
- Reinforcing Institutions: Innovation
- CNOs: Managing Networked Individuals
- 5th Estate: Foster and Protect
- Certainty Trough: Securing Trust and Privacy
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