Perceptions of Security and Risks on the Internet
Experience and learned levels of trust

Aarhus University (24 January 2008)
Ellen J. Helsper
A selection of ideas about risks and trust

- Certainty Trough:
  - Beginners and experts are more weary
  - Experts take more (measured) risks – Learned levels of trust

- Experience technology
  - With exposure comes trust

- Optimal levels of trust?
  - Too much and too little trust are counter productive

- Trust online versus offline
  - Lack of Face to Face contact
  - Lack of skill (control)
Trust models: Certainty Trough

- **Beginner**
- **Average**
- **Expert**

- Trustworthy
- Depends
- Untrustworthy

Optimal levels of trust?
Trust models: Experience

Experience technology

<table>
<thead>
<tr>
<th>Trust level</th>
<th>Beginner</th>
<th>Average</th>
<th>Expert</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>
Questions

- Have levels of risk and trust changed since 2003?
- What explains trust?
- What does trust explain?
Sample and design OxIS

- Probability sample of England, Scotland & Wales
- Respondents: 14 year olds and older
- Face-to-face interviews
- Sponsorship: Hefce, British Library, Cisco, Ofcom, Talisma, AOL, BT, and Orange
## Sample composition

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2005</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fielded in</td>
<td>June-July</td>
<td>February-March</td>
<td>March - April</td>
</tr>
<tr>
<td>Number of respondents</td>
<td>2,030</td>
<td>2,185</td>
<td>2,350</td>
</tr>
<tr>
<td>Response rate</td>
<td>66%</td>
<td>72%</td>
<td>77%</td>
</tr>
</tbody>
</table>
Trust in the internet

Trust in Internet:...

Information
- Reliable: 59%
- Neutral: 35%
- Unreliable: 6%

Providers
- Reliable: 56%
- Neutral: 31%
- Unreliable: 13%

People
- Reliable: 30%
- Neutral: 31%
- Unreliable: 39%

OxIS N=2,350 (users and non-users)
Trust trends

![Bar chart showing trust trends from 2003 to 2007.

- **2003**: Total confidence 6.8
- **2005**: Total confidence 6.6
- **2007**: Total confidence 6.6

All: OxIS 2003 N=2,029; Oxis 2005 N=2,185; OxIS 2007 N=2,350

OxIS
Oxford Internet Surveys

Oxford Internet Institute
University of Oxford]
Risk perception: Privacy at risk?

Internet Users: OxIS 2003 N=1,201; Oxis 2005 N=1,309; OxIS 2007 N=1,578
Unpleasant Experiences Person Has Had on the Internet [QC13]

- Received a virus onto your computer:
  - 2003: 43
  - 2005: 34
  - 2007: 18

- Been contacted by someone over the Internet from some foreign country:
  - 2003: 17
  - 2005: 17
  - 2007: 18

- Been contacted by someone online asking you to provide bank details:
  - 2003: n/a
  - 2005: 12
  - 2007: 17

- Received obscene or abusive e-mails from strangers:
  - 2003: 23
  - 2005: 20
  - 2007: 12

- Bought something which has been misrepresented on a Web site:
  - 2003: 3
  - 2005: 8
  - 2007: 9

- Received obscene or abusive e-mails from people you know:
  - 2003: 23
  - 2005: 20
  - 2007: 7

- Had credit card details stolen via use on the Internet:
  - 2003: 1
  - 2005: 2
  - 2007: 2

Current users: OxIS 2003: N=1,201; OxIS 2005: N=1,309; OxIS 2007: N=1,578
Internet trust in comparison to other sources

- Media: 53%
- Institutions: 30%
- People: 61%

The internet is...
Explaining Trust: Risks, Experience & Skill

- Demographics
- Access (Broadband)
- Proximity (years, confidence and breadth of use)
- Negative experiences
- Risk perception
- Skill
Trust and proximity to the internet

OxIS 2007 All N=2,350; Internet Users: N=1,578
Skill and Trust

OxIS 2007 Internet Users: N=1,578

% that considers internet untrustworthy

- I don't receive any SPAM messages: 12%
- I receive a few too many SPAM messages: 17%
- I receive far too many SPAM messages: 27%
- I receive SPAM but the number I receive doesn't bother me: 14%

OxIS Oxford Internet Surveys
Trust and negative experiences

OxIS 2007 Internet Users: N=1,578
Modelling trust

- Trends
- Non-Linearity (certainty trough model)
- Trusting ‘types’
## Trends

### Trust since 2003 (for internet users)

<table>
<thead>
<tr>
<th></th>
<th>Trust 2003</th>
<th>Trust 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>Social grade</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td><strong>Area characteristics</strong></td>
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<td>Age</td>
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<td><strong>Education</strong></td>
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<tr>
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<tr>
<td><strong>Prox*SES</strong></td>
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<td>NS</td>
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<tr>
<td>Non Linear Proximity</td>
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<tr>
<td><strong>Negative experiences</strong></td>
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- In contrast to 2003 proximity no longer determines trust in the internet for internet users.

- Negative experiences diminish people’s trust in the internet.
## Certainty trough
### Trust (for internet users)

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A non-linear model of proximity is significant → certainty trough?
## Modelling Trust (Internet Users)

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<td>NS</td>
</tr>
<tr>
<td><strong>Risk perception</strong></td>
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<tr>
<td><strong>Trust in Media</strong></td>
<td>+</td>
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<tr>
<td><strong>Trust in Institutions</strong></td>
<td>+</td>
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<tr>
<td><strong>Trust in People</strong></td>
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Users in 2007 (N=1,587)

- Trusting people trust the internet
Modelling trust and activities

Explaining activities (eCommerce & Communication)

• Demographics
• Trust
• Proximity
• Broadband access
• Negative experiences
Trust and commercial transactions

OxIS 2007 Internet Users: N=1,578

% that consider internet untrustworthy

0 1 2 3 4

0 10 20 30 40 50

Extent investing

OxIS: Oxford Internet Surveys

University of Oxford
Trust and communication

OxIS 2007 Internet Users: N=1,578
### Modelling eCommerce

<table>
<thead>
<tr>
<th></th>
<th>Buying 2003</th>
<th>Buying 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust Internet</td>
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<tr>
<td><strong>Proximity</strong></td>
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<td>+</td>
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<tr>
<td>Privacy risks</td>
<td>-</td>
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</tr>
</tbody>
</table>

- **Proximity** increases buying activities
- **Negative experiences** increase with activity
### Modelling eCommerce and Communication

<table>
<thead>
<tr>
<th></th>
<th>Buying</th>
<th>Communicating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area characteristics</td>
<td>NS</td>
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- **Proximity** strongly related to online activity
- Different types of trust related to different activities
Trends in trust (since 2003)

Trust
Proximity is no longer sufficient to explain trust.
- ‘Certainty trough’ models more appropriate in 2007.

Activities
- Proximity explains activities
- Trust in the internet DOES NOT explain eCommerce
- Trust in the internet DOES explain Communication
Tentative Conclusions: Ideal levels of trust?

- Negative experiences diminish trust and are related to higher online activity.
- Internet trust is strongly related to a general disposition towards media, institutions and people.
- Experts learn how to deal with online risks > Skills will diminish level of importance of risks.
- Internet literacy and exposure to the Internet will increase people’s levels of trust
- Users need to feel that they can control the risks
Thank you.

Oxford Internet Surveys
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Oxford Internet Institute
http://www.oii.ox.ac.uk