Broadband access and how broadband change media behaviour

Access and use of the internet in Norway

Total access to Internet, Monthly reach, Daily reach

Source: Forbruker & Media; Gallup's InterTrack

Surfing pattern last month

1. News dominates
2. Then travel related surfing
3. Search for music no. 3 and require high speed

Internet use in Norway

Source: Gallup Interbuss 3Q 2001 - in Norway: 1,752,000 persons over 15 years
Internet usage in Norway vs. UK?

<table>
<thead>
<tr>
<th>Rank</th>
<th>Protocol</th>
<th>Reach (%)</th>
<th>Norway</th>
<th>Reach (%)</th>
<th>UK</th>
<th>Difference</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Secured connections</td>
<td>74.5</td>
<td>70.9</td>
<td>3.6</td>
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<tr>
<td>2</td>
<td>Other</td>
<td>22.0</td>
<td>27.7</td>
<td>5.7</td>
<td></td>
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<tr>
<td>3</td>
<td>Instant messaging</td>
<td>18.0</td>
<td>23.3</td>
<td>5.3</td>
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<td>4</td>
<td>Audio-video</td>
<td>15.5</td>
<td>20.2</td>
<td>4.7</td>
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<td>5</td>
<td>File transfers</td>
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<td>16.0</td>
<td>1.0</td>
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<td>6</td>
<td>Chat</td>
<td>10.8</td>
<td>6.5</td>
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<td>News</td>
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<td>Halifax</td>
<td>2.4</td>
<td>2.5</td>
<td>0.1</td>
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</tbody>
</table>

Source: NetValue sept. 2001

E-commerce

Questions
Have you order or bought goods/services on Internet?

- Nearly 1.3 million have done e-commerce in Norway
- That's over 50% of those who have used Internet last month

Source: Gallup Interbuss 3Q 2001 - In Norway - 3.712.000 persons over 13 year

Bank services on Internet

Questions
Are you registered in order to use online banking?

- Nearly 1.3 million have access to do bank services over Internet
- That's over 50% of those who have access to Internet.

Source: Gallup Interbuss 3Q 2001 - In Norway - 3.712.000 persons over 13 year
**Knowledge - Broadband**

1. Do you know what broadband is? (N=1005)
2. Definition of broadband and then question on whether they have heard about it? (N=306)

- 70% knows the term "broadband"
- 67% of those who didn’t know what broadband is, have nevertheless heard about it.
- **Total knowledge is 90%**.

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**Access to Broadband in Norway**

- **Access today**
- **Received offer last 6 months**

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**Access type in Norway**

Source: Gallup Interbuss
Another reason for low broadband access

How does broadband change media behaviour

Modalen - the broadband community
The Modalen community is situated at the end of the Osterfjord in Hordaland county in western Norway. Bordering on the Sogn county, the municipality consists of about 150 families and 350-400 inhabitants. The closest major city is Bergen at a distance of 83 kilometres (52 miles), and about 1 hour and 15 minutes by car. It wasn’t always like that, as the road was built about 25 years ago.

Local authorities and industry in the community of Modalen in Hordaland, Norway, have together with several of Norway’s leading companies within communication technology and e-business initiated the ‘Modalen project’, giving the inhabitants access to the Internet through broadband technology. Every family, company, public department, organisation, school and institution is now being offered connection to the system that uses the TV-set as its user interface.

The project will showcase technology from PCTVnet ASA and Nera ASA, the two Norwegian companies providing the infrastructure making the project possible. Other partners will provide applications and content.

In the first phase Nera is installing a wireless broadband solution using radio signals. In 2001 Nera will also test their new solutions for two-way satellite. This will make full digital TV over IP possible.

PCTVnet and their Homepilot

PCTVnet front-end applications enable the end-user to:
- Use IP Video telephony
- Surf the web
- Use e-mail
- Operate interactive TV

PCTVnet offers one-stop-shopping solutions for Set-Top-Boxes and Internet appliances.
Use of the internet in Norway

- Access is higher in Modalen 75% than rest of Norway 66%.
- Access in Modalen is higher both at job and at home.
- Inhabitants in Modalen are more online than rest of Norway.

Newspaper is most important source for local- and regional news

- Newspaper is most important source for local and regional news. Then you have TV, radio and Internet.
- Internet rates higher in Modalen than rest of Norway.
- TV (36%) and Internet (6%) are ranked higher among people between the age 15-29 than newspaper (53%).

TV is most important source for national and international news

- TV is most important source for national and international news.
Inhabitants in Modalen use less time on TV, and more time on Internet than rest of Norway

- Modalen spend less time on watching TV than average Norwegian.
- They spend the same time reading newspapers as rest of Norway.
- But they spend more time on Internet than rest of Norway.

Source: Gallup KonvergensBuss May 2001

The people in Modalen find internet more useful

- People in Modalen find internet more useful than rest of Norway.
- One of the reason for this is access to broadband and use of applications.

Use of internet services last 30 days: Modalen use audio/video and games more

- The difference in use can be explained by higher access - broadband.
In future people will use more time on internet, and less on TV

Summary

Access to broadband in Norway

- 68% have access to Internet
- Nearly everybody recognise the term “Broadband”
- 60% have ISDN
- 6% have Broadband
- 50% of Internet users have order or bought goods and services over Internet
- 50% of Internet users are registered in order to use online banking

Broadband influenced on media behaviour - Modalen community

- Newspaper are still number one when it comes to local and regional news but people prefer TV for national- and international news.
- The People in Modalen use less time on TV, and more time on Internet.
- The people in Modalen find internet more useful than average Norwegian
- The people in Modalen use audio/video and games more

Applications will drive demand for broadband
Content is lacking!

Thank you