Cyberworld Unlimited? Digital Inequality and New Spaces
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Digital Divide
Social Barriers On- and Offline

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From Divide to Spectrum

- Digital inclusion and exclusion as spectrum rather than divide
  - "the idea of a digital divide, defined by the simple idea of people being either online or offline, is a less accurate way of understanding adoption of the Internet than the idea of a spectrum" (Lenhart et al, 2003)
- Two parts to this talk
  - Who is online?
  - What social facilitators and inhibitors are there for Internet use?

Who is Online?

- Online
  - Men & Women, Young, Affluent, Educated, Urban
    - Sept. 2005 data from Pew: 75% of U.S. men online, compared to 69% of men last year and 69% of women this year
  - Children in affluent, educated, urban households
  - English speakers, but large Chinese population coming online
  - Developed countries
    - 50-60% of population
      in U.S., Canada, Australia, Hong Kong, New Zealand, Singapore, South Korea, Taiwan, Japan
- Not Online
  - Older Women, Retired, Lower Income, Rural
  - Disabled
  - Developing countries
    - Middle East, Africa, South America, Eastern Europe, new EU countries

Usage

- Who is online more each day?
  - Men and boys, whites, high income, higher education
  - More experienced users
  - Those with high speed access
- What are they doing online?
  - Men -- news, sports, finances
  - Women -- health information, relationship building, particular preference for email
  - Non-whites -- instant messaging, chat

Online Activities

Online Activities (Percent of Internet Users 15 and Over)

	2003
Communication	
Email/IM	87.8
Entertainment	
Games	38.1
Listening to Radio/ Viewing TV/Movies	21.7
Transactions	
Purchase products or services	52.1
Take a course online	6.4
Trade stocks, bonds, mutual funds	6.8
Bank online	17.4
Information	
Search for product or service information	76.5
Get news, weather or sports information	66.5
Search for information on health services or practices	41.6
Search for information about gov't services or agencies	35.7
Search for a job	18.7

Data from 2003 U.S. Census data as reported by NTIA

http://www.ntia.doc.gov/reports/anol/NationOnlineBroadband04.pdf

Online Activities by Income

Online Activities by Household Family Income, 2001
(Percentage of Internet Users Age 3 or older)

Income	Under 15,000	Over 75,000
Increase with increasing income		
E-Mail/Instant Messaging	72.0	89.1
News, Weather, Sports	53.5	67.0
Product/Service Information Search	54.9	73.5
Health Services or Practices Info. Search	29.5	38.9
Government Services Search	28.1	35.1
Product/Service Purchases	26.1	49.1
Online Banking	12.8	23.0
Trade Stocks, Bonds, Mutual Funds	3.2	13.8
Approximately the same across income		
View TV/Movies, Listen to Radio	20.0	19.8
Online Education Course	4.0	4.0
Decrease with increasing income		
Playing Games	47.0	37.5
Complete School Assignments	37.1	24.6
Job Search	23.0	14.6
Chat Rooms or Listservs	23.0	16.5
Make Phone Calls	6.7	5.1

NTIA (2002); only income endpoints; trends are consistent across categories of income

Age

- Declines in percentages in most activities with increasing age
  - Exception is health information for those 55+
- Children
  - Major activities: school work, email, games, music/movies, chatrooms
  - Children in household is major reason for computer purchase
- Children's use is related to household income
  - Highest income: 88% use overall, at home 83%
  - Lowest income: 46% use overall, at home 21%
- Youth (18-24) at school use Internet more
  - In school: 85% use the Internet
  - Not in school: 52%

  - Source: NTIA, 2002

Internet Use by Occupation

Internet / E-mail Use at Work by Occupation as Percent of Employed Persons Age 25 and Over, 2001

Managerial and professional specialty	20.4
Technical, sales, and administrative support	21.5
Precision production, craft, and repair	8.2
Farming, forestry, and fishing	10.0
Service	6.2
Operators, fabricators, and laborers	3.6

Source: NTIA, 2002

Computer use at work: 77% have computer/Internet at home
No computer at work: 35% have computer/Internet at home

Work and Home Connection

- "Approximately 24 million of the 65 million employed adults [U.S.] who use a computer at work also do work on a computer at home.

- This underscores a critical connection between the workplace and home: exposure to a computer and the Internet in the workplace makes it substantially more likely for a computer and the Internet to be used at home.

- Use at work not only acquaints someone with the utility of the technology, it also provides an opportunity to climb a sometimes frustrating learning curve in an environment with technical support. This acquired knowledge can then be taken home and shared with other members of a household."

<div align="right">– (NTIA, 2002, p. 62-3)</div>

Experience

- Users   <u>% of Users</u>
  - Netizens   16
  - Utilitarians   28
  - Experimenters 26
  - Newcomers   30
    - Source: Howard, Rainie & Jones, 2002, 2003

- Non-Users   <u>% of Non-Users</u>
  - Net Evaders   20
  - Net Dropouts   17
  - Intermittent Users 27- 44
  - Truly Unconnected 69 (24% of Americans)
    - Source: Lenhart et al, 2003

Multiple Aspects of Access

- **Mental access** (Van Dijk & Hacker, 2000)
  - Lack of elementary digital experience due to lack of interest, computer anxiety, and unattractiveness of the new technology
- **Material access**
  - Lack of computers and network connections
- **Skills access**
  - Lack of digital skills due to insufficient user-friendliness and inadequate education or social support
- **Usage access**
  - Lack of significant usage opportunities

Three Patterns of Internet Uptake

- **Temporary issue** (Commission of European Communities, 2005)
  - Groups catching up in the middle term
    - Appears to be the case for Gender, Older population
- **Ever Evolving Delays**
  - Groups catching up in the very long term, lagging with each innovation
    - Appears to be case for Low Income, Low Education groups
    - Possibly also for New EU Countries, Rural Areas
- **Delay and Exclusion**
  - Some groups never catching up
    - Appears to be the case for Some Countries, Rural Areas
    - Possibly the case for Low Income, Low Education groups

Summary so far

- Digital Divide
    - *Reject* metaphor of divide
      Accept idea of a Spectrum of Digital Inclusion
- Access
    - *Reject* computer and network access as the singular indicator
      Accept access as a multi-faceted concept
- Equal Access and Universal Appeal
    - *Reject* view that ICT and Internet use will be equally and evenly distributed, that it has universal appeal
    - **Accept** that differences exist across demographics, occupation, experience, country and urban/rural regions
    - **Accept** that the internet is not ready to appeal to all users, and may never appeal to all users nor be readily accessible to all users
- Barriers
    - *Reject* metaphor of barrier
      Accept idea of Social Facilitators and Inhibitors

Social Facilitators and Inhibitors

- What does it mean to be an under-represented demographic?
- Why doesn't the Internet appeal to all equally?
- Emerging Issues
  - Representation Online
  - Technology Access
  - Social Differences
  - Social Networks
  - New Literacies

Representation Online

- From who is online to *what* is online
  - The fewer non-white, non-English-speaking, non-urban online, the <u>fewer placing content online</u>
  - Fewer others from similar cultures, regions and countries to communicate with
- For example,
  - 32 - 44% of online population is English-speaking
  - 70 - 80% of content is in English

Technology Access

- From who is online to *where* they are online
- For example, differences in children's access site by income and race (U.S.) show
  - More home use with increasing income, and for whites
  - More school use for low income, and for African-Americans

Where does your child use the Internet? (Responses from parents of children age 2-17; Percentage of use at School (or PreSchool), or Home)

	Income			Race	
	<$40,000 (US)	**40 to 74,999**	**Over 75,000**	**White**	**African-American**
School	68%	48	57	56	71
Home	46%	78	86	73	35

Source: U.S. National School Board Foundation, 2000

Technology Access

- Geography: Local support for infrastructures differ by region, urban/rural, etc.
    - Electricity, broadband, wireless
    - Public access sites
- Connection Type: Use differs by type of connection
    - Broadband users online more
    - Others are quite happy with their access
    - New applications tend to favor high bandwidth connections
- Occupations: Different kind of occupations have different relationships with technology
    - e.g., Farmers preference for radio
        - Cumbrian farmers during 2001 Foot and Mouth Disease crisis: 25% online, but government information disseminated online

Technology Access

- Urban efforts to provide city-wide wireless
  - Government works on behalf of a dense populations of users
  - Private service providers work against government monopoly
- Rural areas
  - Less interest to private providers because fewer people in the market

Social Differences

- Individuals who "are socially content—who trust others, have lots of people to draw on for support, and who believe that others are generally fair … feel they have control over their lives, … read newspapers, watch TV, and use cell phones and other technologies are more likely to use the Internet than those who don't." (Lenhart et al, 2003, p. 4).

- Confidence matters
  - Tolerating frustration
  - Tolerating learning
  - Dealing with new interactions, with new people, with new communication conventions

Major reasons for non-use (% of non-users)	Germany	U.S.
No need	91	52
Don't know any home use	80	---
No time or liking	77	29
Too expensive	47	30
Too complicated	38	27
'PC's damage health'	28	---
'I reject computers'	23	---
PC for job sufficient	19	---
PC means less social contact	41	---
Don't have a computer	---	11
Worry about pornography, theft, fraud	---	43
Sources: Van Dijk & Hacker, 2000; Lenhart et al, 2003		

Social Networks

- Work
  - Support at work: co-workers, tech support
- School
  - Children at school: learn from each other, teachers
  - Online learners: learn from each other, tech support, teachers
- Household
  - Someone in the household who uses computers at work, children who is it at school
  - Online learners bring distant family online
- Online Social Network
  - Friends and family online help others get online
  - Friends, family, etc. are there to send and receive communications
  - New skills lead to new uses and new contacts

New Literacies

- Language
  - First and second language; English
- Online language
  - Emoticons, acronyms, short message text
  - Conventions x group x media
- Established and emerging applications
  - Email, bulletin board, blogs, wikis, etc.
- New user anxieties
  - Exposure and permanence of their conversations
  - Who they are communicating with -- friends, strangers, etc.
  - Social distance associated with asynchronous communication

Summary:
Social Barriers On and Offline

- Not just a divide, not just access to computers
- Not just transient, but also persistent differences in interest and use
- Not just a single issue of access, but <u>multiple layerings</u> to the social issues encapsulated in access differences by race, gender, socio-economic status, and region
  - Infrastructure
  - Support
  - Content
  - Social Networks
  - Critical Mass
  - Literacy
  - Relevance

Summary: Layering of Social Issues

- Infrastructure
  - Private, institutional, and/or government support for the physical devices and networking capabilities
  - Reliability and availability of electricity, broadband, public access terminals, computers and network access at work, school, and home
  - **Support:** Help with access to physical devices, internet connection, training programs
- Content
  - Materials of interest to readers of the Internet
  - Materials in the language of the reader
  - **Relevance:** Content relevant culturally, socially, and locally
- Social Networks
  - **Support:** Help and support in acquiring and using the technology
  - Others with formal requirements to be online for work, school
  - **Relevance:** Others to communicate and engage with online
  - Others to help with getting online and/or getting resources from the Internet for them, and for help in being online

Summary: Layering of Social Issues

- Critical mass
  - Sufficient (relevant) content
  - Critical mass of others to start and sustain interactivity
  - Critical mass of acceptance of results of online innovations – e.g., trust in online information, credit card use, online degrees
- Literacy
  - Fluency with technology
  - Text, graphics and information literacies
  - Literacy in first and second languages
- Relevance
  - Relevance of information and applications to individual lifestage and lifecourse, user group or community, group lifecycle, and local concerns

References/Further Reading

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