

Definitions and inequalities of the information society

Ian Brown, with thanks to Claire Warwick

Course rationale

- Vital to think about the impact of systems and technologies on the people and societies that use them
- Does technology determine society?
 - Or the reverse?

Important course details

- Remember SLAIS attendance policy!
- My details at <http://people.oii.ox.ac.uk/brown/>
- Course timetable, lecture notes, reading list all linked from SLAIS pages

Assessment

- 50% examination (breadth)
- 50%: Construction of a briefing document on a current information policy issue (depth) – deadline is Wednesday 10 December

Schedule

2. Copyrights and copywrongs / 6 Oct
3. Freedom of Information / 13 Oct: Ben Worthy, UCL
4. Internet governance and standards / 20 Oct
5. Healthcare informatics / 27 Oct
6. Internet regulation / 10 Nov: Chris Marsden, Essex
7. Biometrics / 17 Nov: Angela Sasse, UCL
8. Software patents / 24 Nov: Rufus Pollock, Cambridge
9. Electronic voting / 1 Dec
10. Privacy and security / 8 Dec

So what is the Information Society?

- Who defines it?
 - government
 - academics
 - the media
- Who promotes it?
 - as above?

When did the info society begin?

- Communication
 - Does info exist if not recorded?
 - Oral cultures
- Cave paintings (40,000BC)
- Writing (6,600BC)
- Printing (AD 868), with movable type (AD1455)

When did the info society begin?

- C17 'new science' and news culture
 - writers preoccupied with technology
 - café society
 - Royal Society founded

When did the info society begin?

- telegraphy (1837) / telephony (1875)
- C19 library and information boom
- Turing and Enigma
- The computer
- The Web?

What is an info professional?

- Priests, monks, doctors, lawyers, teachers, librarians, programmers, traders?
- “The new barbarians” (Angell) / symbolic analysts?
- Uniquely mobile?
- Vulnerable to outsourcing?

The Information Economy

- Info is the raw material
 - IT becomes pervasive across society
 - reliant on data storage, processing power and communications networks
 - based on flexibility and ability to reconfigure
 - high speed of convergence
- (Castells 1996)

Is change necessary?

- Should we change to suit the info society?
- Or should we adapt Info systems to suit us?
- Will we?
 - Consumer resistance
 - increased demands for ‘real things’

Information inequality

- Developed and developing world
- Social exclusion
- Gender
- Age
- Race

ITU digital.life report (2006)

Top 20 economies (ranked by total subscriber numbers) as at 31 December 2005

Total subscribers, number of mobile broadband subscribers, penetration rate and price of OECD mobile low-user basket in USD.

Economy	Total mobile cellular subs.(000s)	Of which, total mobile broadband subs. (000s)	Penetration (per 100 Inhabitants)	OECD low-user Basket (USD)
1. China	393'428.0	*	29.9	\$2.90
2. United States	201'650.0	4'360.4	67.6	\$5.21
3. Russia	120'000.0	*	83.6	\$5.96
4. Japan	94'745.0	17'792.6	74.0	\$20.51
5. India	90'000.0	*	8.16	\$2.39
6. Brazil	86'210.0	175.0	46.25	\$26.52
7. Germany	79'200.0	2'289.0	95.8	\$17.34
8. Italy	72'200.0	10'262.0	124.3	\$14.43
9. United Kingdom	61'091.0	4'536.8	102.2	\$14.02
10. France	48'058.4	1'583.0	79.4	\$30.00
11. Mexico	47'462.1	...	44.3	\$14.00
12. Indonesia	46'910.0	...	21.1	\$4.30
13. Turkey	43'609.0	*	59.6	\$12.57
14. Spain	41'328.9	939.0	96.8	\$22.14
15. Korea (Rep.)	38'342.3	12'530.9	79.4	\$14.18
16. South Africa	33'960.0	216.1	71.6	\$13.26
17. Philippines	32'810.0	*	39.5	\$5.29
18. Poland	29'166.4	12.9	75.7	\$7.76
19. Thailand	27'379.7	*	43.0	\$4.35
20. Taiwan, China	22'171.7	113.9	97.4	\$26.29
WORLD	2'168'434.0	60'249.1	33.5	\$12.77

Note: * 3G not commercially available, as of 31 December 2005. / ... Data unavailable.
«Mobile broadband» is \geq 256 kbit/s in one or both directions

Top 20 economies (ranked by total subscriber numbers) as at 31 December 2005

Total fixed broadband subscribers, penetration rate, broadband as a percentage of internet subscribers and price per 100 kbit/s in USD.

Economy	Total fixed broadband Subscribers (000s)	Penetration (per 100 Inhabitants)	As % of Internet subscribers	Price in USD per 100 kbit/s
1. United States	49'391.1	16.6	73.9	\$0.49
2. China	37'504.0	2.9	51.2	\$1.43
3. Japan	22'365.1	17.5	66.0	\$0.07
4. Korea (Rep.)	12'190.7	25.2	100.0	\$0.08
5. Germany	10'686.6	12.9	53.4	\$0.51
6. United Kingdom	9'539.9	16.0	63.1	\$0.63
7. France	9'465.6	15.6	75.3	\$0.36
8. Italy	6'820.0	11.7	38.5	\$0.30
9. Canada	6'706.7	20.8	90.1	\$1.01
10. Spain	4'994.3	11.7	90.0	\$4.84
11. Taiwan, China	4'602.2	20.1	61.2	\$0.18
12. Netherlands	4'100.0	25.2	58.6	\$0.14
13. Brazil	3'304.0	1.8	41.8	\$1.08
14. Mexico	2'304.5	2.2	58.0	\$6.25
15. Australia	2'102.9	10.4	35.2	\$3.45
16. Belgium	1'974.8	19.1	90.3	\$1.21
17. Sweden	1'838.0	20.3	55.8	\$0.23
18. Switzerland	1'725.4	23.1	71.6	\$1.58
19. Hong Kong, China	1'659.1	23.6	62.8	\$0.83
20. Turkey	1'589.8	2.2	70.6	\$10.52
WORLD	215'477.7	3.3	56.2	\$72.20

Note: «Broadband» is \geq 256 kbit/s in one or both directions

Missed economic opportunities

- ICT can give countries something else to sell
- Labour force as well as products and software
- Infrastructure costs high
 - ISPs pay to connect to commercial backbones
 - Uneconomic telecoms monopolies
- Education levels low

On the other hand

- Is this as serious as food and health? (Bill Gates!!!)
- Areas of high ICT development eg Bangalore
 - High skill base
 - Exports workers to the UK
 - Dominance of English important
- No reason for complacency!

Social exclusion

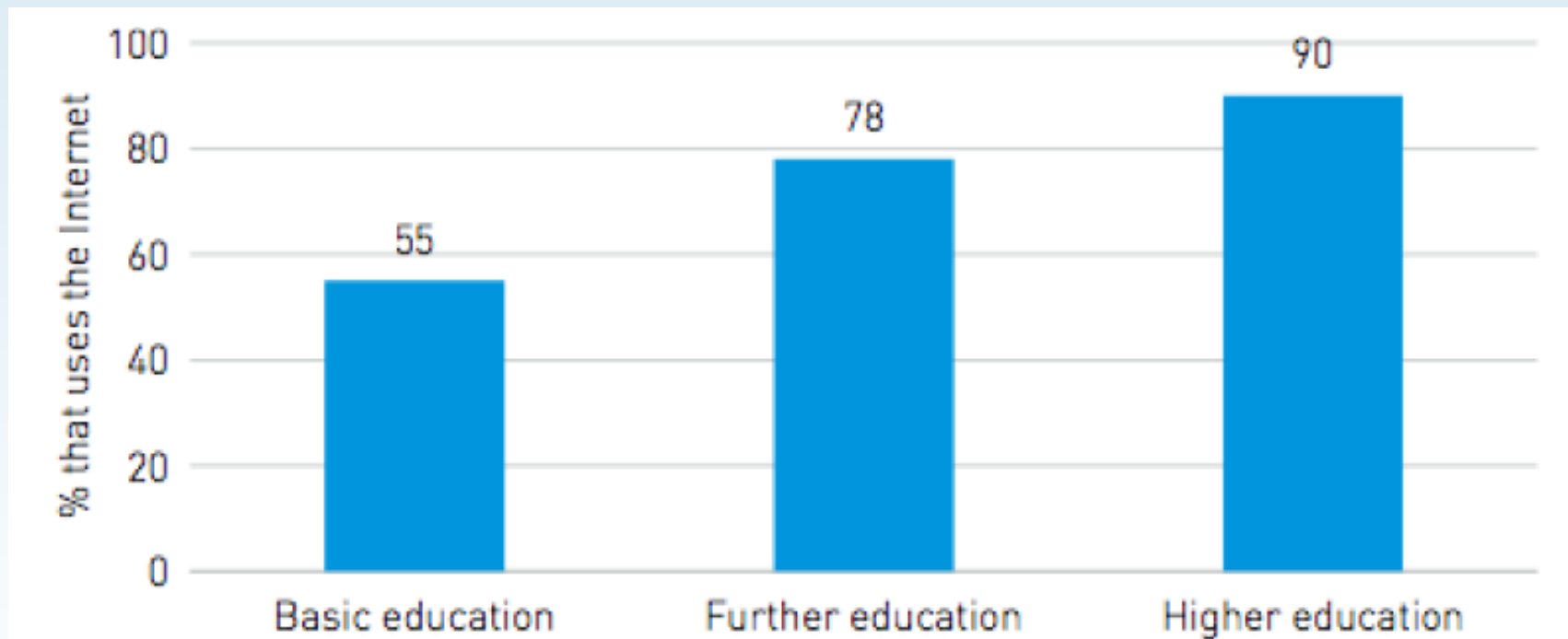
- New information elite (Angell 2001)
- Social exclusion problematic
- As information increasingly digital exclusion gets worse
 - Local libraries close
 - Most people use Internet at home
 - Levels of use of ICT drop with social class and income

Income and Internet use



Source: Dutton & Helsper (2007) p.11

Education and Internet use



OxIS 2007: N=2,350 (Basic: N=1,176; Further: N=640; Higher: N=405) (Note the same data are available excluding current students but percentages are very similar)

Reasons for not using the Internet

- Among ex-users, most claim not-interested
- Non-users worry about skills, access, relevance, cost
- Low level of education, and general literacy
 - Lack of confidence with information handling as well as tech?

Problems

- Providing access not enough
- Motivation necessary,
 - understanding views and use patterns
- Training needed,
 - but socially excluded may fear education
- Do we know what the benefits are?

Questions

- Education expensive
 - so increased social exclusion
- What about jobs for those who aren't well educated?
 - Not everyone can reach necessary educational level
- Should the underclass pay for elite's education via taxes?

Global gender divides

- Women traditionally thought less keen on ‘techie’ things
- New technologies often directed at men, marginalizing women
- Women under-represented at every level of science and technology.

Women and information

- Illiteracy: Women comprise 543 of the 854 million illiterates in the world – 63% (OECD 2000)
- Girls constitute 2/3 of children without access to basic education (Huyer 2004)
- S&T subjects not considered “suitable” for girls

Effect of technologies

- Technology (including ICT) can improve women's production and income
- Consequences
 - children's well-being improves
 - school enrolment rises
 - birth rates decrease
 - environmental conservation increases (Huyer 2004)

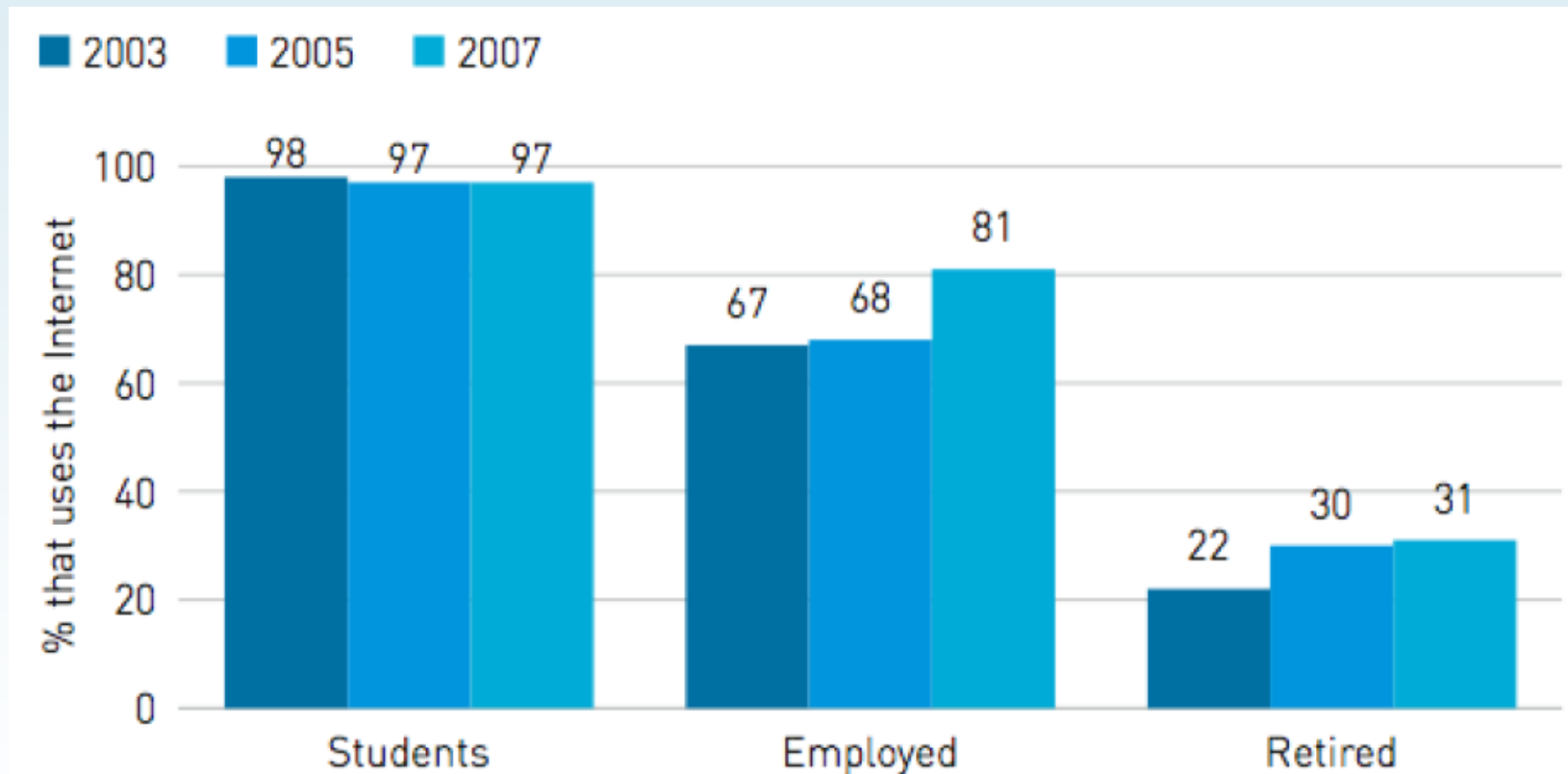
Incentives to involve women

- Increasingly aging population
 - Workforce shrink, women need to work
- Danger of adding to technological underclass
- Women often gifted as associative thinkers, collaborators, communicators
 - All vital skills in service, information economy

Age

- Generational difference in IT literacy
 - 50% of all over 50s are not IT literate
- May mean their access to info is simply different?
- Education level and work experience key
- Danger of marginalisation
 - Made worse by increased longevity
 - May need to work for longer

Internet use by life stage



OxIS 2003: N=2,029; OxIS 2005: N=2,185; OxIS 2007: N=2,350 (Students: N=202; Employed: N=1,262; Retired: N=506)

Source: Dutton & Helsper (2007) p.11

Effects

- Altered power relationships
 - Different family dynamics
 - Age of employees in organisations
 - Older manager, to younger staff member
 - Teacher to pupil relationships
 - Assuming technological trend continues.

Age

- Rise of Silver Surfer
- Self help and teaching for older adults
 - Specific to needs
- How common is this?
 - Lowest access to DTV and computers amongst oldest
 - Access to e-government initiatives?

Race

- Whites have highest use levels
 - Particularly noted in USA studies
 - Latinos and African Americans fastest growing groups
- Links to complex social problems
 - Class more significant than ethnic origin?
- Higher level of education
 - correlates with higher computer/Internet use
 - Higher income/information intensive work

Conclusions

- Definitions and impact of information society controversial
- Radical 20th century post-industrial model of economy, or long evolution over hundreds or thousands of years?
- Digital divide exists along geographical, racial, age and gender lines
- Solutions less evident
 - Can't simply be technocratic
- Need sense of priorities and motivation in the use of ICT

References

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