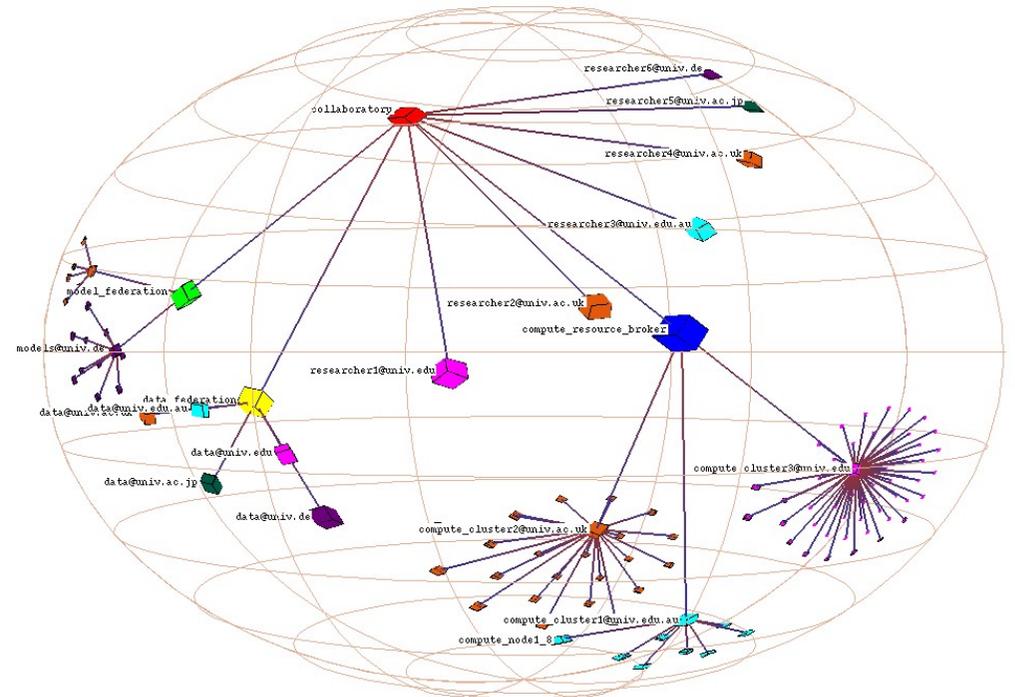




e-Researching the Information Society

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Plan of talk

- What is the information society?
- Challenges to researching the information society
 - theory
 - methods
 - research infrastructure
- Examples of social science Web research
 - e-government
 - nanotechnology and science communication
 - e-Inclusion in Australia



What is the information society?

- Broad definition:
social, economic and political behaviour enabled by large-scale digital networks such as the WWW
- Difference between Web 1.0 and Web 2.0
- Why study Web 1.0?
 - Has not yet been adequately studied (more social science-oriented research needed)
 - Web 1.0 is relevant to understanding role of government, business and other organisations in information society



Challenges to researching the information society



Challenge 1: Theory

- Operationalising the concept of “network society” for empirical research
 - Are web pages or web sites social actors?
 - What is the meaning of a hyperlink?



Challenge 2: Methods

- Web datasets can contain millions of observations!
- Use of automatic methods (statistical machine learning) for classifying websites
- The Semantic Web (SW)
 - build into web pages tags for data, and semantic representations of the meaning of those tags
 - Berners-Lee and Lassila (2001); Shadbolt, Hall and Berners-Lee (2006)



Challenge 2: Methods (2)

- Problems of SW for research into the information society (Brent and Carnahan, 2007)
 - website development is a disaggregated process – hard to impose this standardisation
 - Retrofitting millions of (live) websites? What about analysis of archived web material (e.g. Internet Archive)?
 - SW assumes existence of a single ontology – this is not practical for social science research!



Challenge 2: Methods (3)

- Adaptive sampling (Thompson and Seber, 1996) data from the WWW – an example of the “paradigmatic approach”
- Advantages of paradigmatic approach (Brent and Carnahan, 2007):
 - recognises may be multiple incompatible views of data
 - data structure is imposed dynamically by the researcher as part of the research process



Challenge 3: Research environment

- Large scale Web datasets lead to challenges for data storage, management, computation
- e-Research technologies (cyberinfrastructure) address these challenges
 - distributed, collaborative access (via the Grid) to methods, data, computational cycles
- UK e-Social Science funding scheme
 - National Centre for e-Social Science (NCeSS)
 - Oxford e-Social Science (OeSS) Project
 - INWA Project – established Grid link between UK, Australia and China



Examples of social science Web research



Example 1: e-government

- Escher, Margetts, Petricek and Cox (2006)
- Methods from computer science (webmetrics) and political science (“tools of government”)
- Government may compete with organisations from other sectors (voluntary/commercial) for delivery of services or information
 - What is the impact of e-government on capacity of governments to interact with citizens?
 - How does e-government affect the place of government at the centre of social and information networks - “nodality”?



Example 2: Nanotechnology and science communication

- Nanotechnology - science of technology development at the molecular scale
- Will nanotechnology become the “next GM”?
 - government and business – advocate as economically/strategically necessary
 - consumers – reject because of health/safety
- Web data
 - Can help assess extent of engagement between government/business/academic and the public
 - Help identify the publics to be engaged
- Center for Nanotechnology in Society, UC-SB



Example 3: e-Inclusion in Australia

- Exclusion from social and economic processes can occur because of old age, poor health, low education, unemployment, geography of residence
- ICTs such as the Web can be used to promote inclusion - “e-Inclusion”
- How to study impact of Web on inclusion?



e-Inclusion (2)

- Large-scale Web crawls of .au domain used to study e-Inclusion in Australia
 - Ackland, Spink and Bailey (2007) - preliminary results
- How do firms from different industries/regions use the Web?
 - impact of digital networks on competitive landscape
 - are digital networks helping regional businesses to overcome real-world barriers relating to geography/infrastructure?



Xie Xie!
Thank You!



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