



Actor-Network Theory: Some research examples

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Actor-Network Theory: Innovation Translation

- ◆ An actor is any human or non-human entity that is able to make its presence individually felt by other actors
- ◆ Made up *only* of its *interactions* with these other actors
- ◆ A network can be hidden inside a 'black box'
- ◆ Adoption of an innovation is a consequence of the actions of everyone in the chain of actors who has anything to do with it
- ◆ *Each actor shapes the innovation to their own ends*
- ◆ The technological innovation that is actually adopted by different organisations may not be the same – it may be *translated* into different forms



Actor-Network Theory: Application of an ANT Approach

Actor-network analysis involves the following steps

1. Identify as many (human and non-human) actors as possible
 - i. Various humans, organisations and technologies can be considered as actors
 - ii. When ANT speaks of the technology acting in some way, this action can be traced back to an origin in the actions and interactions of the components of its network (often human)
2. Proceed to interview the human actors and to investigate the non-human actors
3. Investigate networks of associations and interactions
4. Build up a general picture of the relationship between the various actors

Research Cases:

Bizwest Portal and the Transport Company

◆ Iceland Freezing

- Medium-sized company with about 90 employees
- Stores frozen food and transports it to shops and supermarkets
- Used e-commerce for some on-line stock control and on-line site-monitoring of its freezer plant
- Intended to link office network to the portal
- General Manager involved with WREDO for 12 years
- Expectations for Bizwest: “a really good idea”
- Characteristics of portal had little impact on decision



Research Cases:

IT in a Rural Medical Practice

◆ Dr Doyle and Dr Holmes

- Small medical practice in a country town
- Employ two secretarial assistants
- Currently use computers only for patient billing and secretarial functions
- Local hospital and pathology laboratory provision of patient data in paper format discourages use
- Difficulty of using the software and making Internet connections is also a discouragement
- Influence of consulting rooms which were not designed with the use of computers in mind
- They have not yet been persuaded by a large enough coalition of actors to adopt

Research Cases:

Innovation and Change in the IS Curriculum

◆ Visual Basic at RMIT in the 1990s

- VB for MS-DOS enrolled all screen-drivers in its own network and made them available to programmers
- Programmers no longer needed to make these driver-to-screen associations themselves
- VB for MS-DOS came between Fred and QuickBasic and offered an interestment for moving to VB
- In enrolment, not all aspects of VB were adopted
- VB had problematised programming differently
- A translation of VB as a graphics programming environment was what Fred adopted



Research Cases: Students with Learning Disabilities

◆ Students with LD – possible actors involved

- Students, teachers, parents
- The Web, computers, Internet resources, digital libraries, infrastructure-bandwidth
- School environment, classroom environment, curriculum, Web curriculum, other schools
- Education Department policies, learning technology policy, learning approaches and paradigms
- Instructional delivery methods, engagement methods, thinking processes



Research Cases:

Older People and the Greypath Portal

◆ Internet usage by retired people

- E-mail to communicate with family and friends
 - ◆ E-mail can also reduce social isolation for those older people with reduced mobility or living in remote or rural areas
- Access information
 - ◆ Health, travel, government services, other
- Purchase goods and services
- GreyPath was a Web portal designed to provide information, services, facilities and useful links for use by older people
- Although carrying some advertising and some services for a charge, use of the portal was free



Research Cases: InfoBooks and the Slide Scanner

◆ InfoBooks

- Small publishing company with relatively low turnover
- Well established market
- Staff are computer literate and make good use of IT, but none has much knowledge of computer graphics
- Needed to improve the covers of its textbooks
- Adopted a Nikon 'slide and negative scanner'
 - ◆ One reason was to use this for the Directors' old family slides
 - ◆ Needed a significant translation before adoption



Essentialism:

The *Essences* of a 4X4 Vehicle ?

- ◆ What are the essential characteristics of a 4WD vehicle as seen by the following groups?
 - Cross country driving/camping enthusiast
 - Travelling salesperson
 - Young male driver
 - Mother taking her kids to school
 - others ...

- ◆ How do you decide which characteristics led to adoption?



Conclusion

- ◆ **Innovation Translation** – an Exploratory Framework
 - Reasons for adoption are not obvious or straightforward and often are related as much to social issues as to the technology
 - Involves construction of networks of human and non-human actors
 - Looks at how people might make use of the innovation
 - Looks at how the innovation needs to be *translated* into a form suitable for adoption
 - While diffusion might offer plausible explanations 'in the large', translation has more to offer in explaining adoptions in individual small organisations