# Workarounds and Security



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## BACKGROUND

The project uses an actor network (ANT) framework. The value of this approach in relation to the adoption of technology is well established (Callon, 1987; Latour, 1996; Star, 1991; Law, 2000). ANT presents an alternative to the concept that innovations spread by diffusion. The adoption of innovation is seen rather as complex and unpredictable, laborious and political.

Brey (1997) summarising common features of the social constructivist approach and the ANT approach describes technological change as a number of technological disagreements or difficulties that involve different human and non human actors, including the technology itself and natural forces, who engage in strategies to shape technology use to their own plan.

ANT is interested in description, rather than judgments about the proper purpose of artifacts or about how well or badly an artifact may be operated (Brey, 1997). The benefit of avoiding evaluation in research is that the situation may be studied without projecting the direction of changes (Suchman, 1994). The researcher's task is to describe what is and how it came about so that the actors can make choices about appropriate future directions.

### Workarounds

Workaround is an informal term, which is grouped with concepts like boundary crossing, substitution, circumvention, detour, improvisation, fixes or kludges. Workaround may have a deliberately political aspect, such as resistance (Pollock, 2001), or intentional subversion such as using a computer in ways for which it was not designed or avoiding a computer's use (Glasser, 1986).

Workaround has a user focus, often it represents the view of those who are not authorised to change the system. Frequently the people doing these fixes get the technology to work despite their limited knowledge of computers. However, to identify a workaround involves adopting a position of knowledge of a real or authoritative purpose that is dissonant with the local application. In this way an action may be perceived as a workaround by some people but not by others.

The study is conducted in the anthropological fieldwork genre of participant observer, based on that used by Latour (Austrin & Farnsworth, 2002), formal and informal interviews, workplace observation and conversations with staff and IT technicians were drawn over a two year period.

This study takes place on a small island in far North Queensland, Australia, 180 kilometers from the local business centre and 1000 kilometers for the regional business center. The population is approximately 150 and all but one of the permanent residents are indigenous. Services available on the island comprise a general store, a primary school and a medical aid post. There is a church and the council which provides municipal services. The council administration office is the setting of the project.

A short exchange is used to launch my analysis.

## THE STORY

*Jane says: "Excuse me Anna, before you go could you log me into your computer, I want to look at the payroll....wait a moment, your Windows screen save will lock me out anyway...no, I don't want to know your network password, or your screen saver password."*

*Anna says: "Well, you could ask Susan to log you in, or I could disable the screen saver like this, and you just put it back on when you are finished."*

## ANALYSIS

"What can we learn from this short exchange?" Jane, the visiting consultant, asks Anna, the senior clerk, to log her in, using Anna's user name and password. Then Anna accepts Jane's right of access is shown in her willingness to do it, she actually offers three alternatives. Furthermore, it is not a subversive request, she suggests Jane could also ask Susan, the council clerk to do it.

It shows the office social network being reinforced by Jane's seeking help, and acknowledging Anna's ownership of the computer.

Also evident is the fact that the responsibility for making even small changes to the set-up has been placed outside the workplace, with the remote technician. The staff neither attempts to do it themselves, nor call the technician to be talked through the process.

A number of distance related factors could be identified as underlying this situation. The small population means there is a limited local technology context: while television and telephone are almost universal only the council and the school have access to a range of technology and only two households have personal computers. This means that of the people using technology, most are using it in an institutional or work setting and do not have personal responsibility for the technology nor unrestricted freedom in its use.

Small population and remote location also mean social isolation. There is a limited local community of practice to share technological experiences, foster skills or boost confidence. Furthermore, a small population cannot support experts, the few people with jobs must do a wide range of tasks. Expertise is bought/brought in. It takes time to develop the relationships and mutual respect essential for information exchange or skill sharing with outsiders.

The geographic distance from technology centres increases the costs to the technology owner: the length of time it takes for a technician to travel to these areas makes it too expensive to have problems fixed as they arise. The electronic security issue we are talking about here becomes relatively unimportant when it may wait up to six months for the next routine service visit: the existing physical or screen saver security suffices.

The technician views network setup in an urban environment as an ongoing process, he talks of the need to "tweak" the system, to "bed the system down" with many small adjustments. In remote situations there is little opportunity to tune a system and there is frustration on both sides when simple things do not work. He is reluctant to take on a network administration role such as can be offered to urban clients because the travel time. He does offer unlimited telephone support, however, this service is used less frequently now than two years ago.

The technician has set up the security for the network in this way because he believes that it is in the council's long term interests to conform to the standard system, and that future flexibility options of the system will require this form of security.

The council clerk had some clear ideas about the security she required, she believed she had discussed these and reached agreement with the technician. Her understanding differed from how the system has been set up. Orlikowski (2000) offers some explanation for this sort of situation when she states that the use of technology is strongly influenced by users' understanding of its properties and functionality, and that these may have been formed from a wide variety of sources, including social and cultural contexts. In this instance although each understood the other's words, their interpretations were different.

In a remote or isolated area sources of information are limited, adults on the island report that their children are their major source of technological information. Even more limited are sources of information relevant to their particular situation.

When the network was initially installed the technician set a simple hierarchical security system. The local response to this was that three out of four users logged on to the network as "administrator" in the first server and all users assigned themselves administrator rights in the second server. In the current system the technician has restricted the access of all users while allowing access to some administration tools by the council clerk. The result is that very few network issues are resolved locally, however there are fewer problems.

Jane is the one who calls for this workaround. She has done so to get the job done, but also in her "role" as consultant she has didactic purpose in rejecting the offer to share passwords. In Latour's terms she is acting as the "moral agent", reminding staff of the standard business practices (1992).

This situation is not restricted to remote regions, but distance increases the degree of difficulty. Guerson and Star (1986) discussing the sociology of work describe organisations as characterised by ongoing negotiations about the nature of the tasks and the relationships between staff, ad hoc decision making when dealing with problems, by multiple viewpoints and inconsistent and evolving knowledge bases. Workers in remote locations seldom experience other workplaces so any change must be conceptualised rather than copied from others' work practices. In this case none of the staff had used a network prior to its implementation, and this system is still their only experience of a network.

In this example we can trace the interests or goals of actants in a chain from the design engineers who encode best practice commercial concepts in the software; through the technician to set it up who understands the technical relations between machine and software more than he understands the business procedures, particularly the local procedures; then the consultant who must work with the system and who knows the general business context but has limited experience with the technical and local contexts; to the users who create the local context and have limited experience and only some academic knowledge of the general business context and limited experience with technology. Even at this most superficial level we can see how each brings his or her experiences and areas of expertise to the situation and must try to communicate their understanding to the other actors.

The chain is a process of literally changing languages from design generalisation, with the language of flexibility and choice, to technical language of hardware