Chapter 7 Living with ICTs: Problems and how we Cope with them

7.1 Introduction

Most people experience problems with machines and new ICTs are no exception. Living and working with and around machines of is not only a story of benefits, but also of problems, uncertainties, demands for change and conflicts. For example, as well as being one of the most useful and flexible devices, the personal computer is also one of the most problematic, with technical problems, continual upgrades, problematic interfaces, and demands on time and money to name a few. The computer is only one of a series of ICT products from the telephone onward that have been accompanied by a whole range of technical and non-technical problems. Many of those interviewed experienced problems adopting, using or owning ICTs. The type of problem is highly dependent on the type of technology: the PC and Internet connections giving considerable technical, learning, service, upgrade and compatibility problems. Mobile phones on the other hand, while occasionally having poor infrastructure difficulties, gave problems of usage, service quality (customer care) and personal identity. It is not only technical issues that cause problems, there are many other equally important practical and social problems. Even for technical systems that are largely stable, where the technical problems have mostly disappeared from view, there still remain a host of issues\(^1\). Nearly all the technologies mentioned involved some conflict between people over usage and meanings, as the domestication literature has shown to be the case with more traditional media and communications technologies. Then there are problems with content, and dislike or disapproval of media products, and in the use of tools: how to get over a particular obstacle in a video game, putting up with disliked TV shows, or design problems in multimedia or graphics. These are nothing to with faults in the technology, but have to be overcome, avoided or put up with just the same.

As well as these practical problems that arise using ICTs, that we have to cope with a range of symbolic issues that provoke negative emotions, (often inspired by the practical
problems) such as feelings of being trapped or a slave to the machine. These include negative emotions about loss of freedom, change of identity and sociality. However, just as there are often many positive benefits of using ICTs that make it worthwhile putting up with practical problems, so negative feelings often co-exist with positive emotions in an uneasy ambivalent relationship. This ambivalence and attempts to resolve it is an important feature of living and coping with ICTs (Mick and Fournier, 1998).

This chapter brings out many of the negative issues with ICTs, and of course should not be taken as the whole picture: the many positive aspects are identified elsewhere. Here I attempt to categories the problems as people identified them in the research, informed by existing literature reviewed earlier. The chapter primarily gives examples of the problems, and shows how people coped with those problems, and illustrates the mixed feelings that many have using ICTs. This study of the strategies and processes of technology use and ownership continues the themes introduced in the chapter on non-adoption and non-use.

7.2 Types of problems experienced

The respondents discussed many problems in describing their use of ICTs. Here I organise the problems emerging from the research according to categories that reflect the key source of the problem:

- technical faults,
- knowledge, skills and the user interface,
- learning,
- problems with commercial service,
- social relationships issues,
- everyday usage problems and frustration with limits of the technology
- uncertainty over innovation and upgrading

Some of these problems are one off events, others are chronic, associated with everyday usage of the technology.

The organisation of the data into these categories raises issues of boundaries, and highlights the socio-technical nature of many of the problems. For example, is poor mobile telephone coverage to be classified as a technical problem (and solved by improving the technology), a problem of commercial service (solved by changing
service provider), or could be it regarded as a problem of frustration with the limits of the system (the user’s expectations running ahead of the technical and commercial development of the system)? Similarly a problem of knowledge about how to use a product can often be seen as a failing of the user interface. Many of the advances that have brought complex ICTs to mass market users have involved refinements in the user interface such as direct manipulation of data, and visualisation techniques in the graphical user interface of a PC, and the alphanumeric LCD display on other products, but these can still cause considerable confusion if they are poorly implemented or with conflicting interfaces on the same machine (Norman, 1990).

Problems are also highly subjective: the keyboard and mouse may not be a problem for many regular PC users, but for novices without typing skills, and for typists with RSI (Repetitive Strain Injury), they are an obstacle to use. The acquisition of typing skills has acquired considerable cultural baggage over the years, associated with secretarial work and low-status jobs, but has very quickly become more associated with computer skills and office jobs using computer communications and information analysis.

**Technical problems**
These are problems with the artefact, where it breaks down, does not work properly, is difficult to use, is partly broken etc. Network technologies also can have problems with the infrastructure not providing a good service. While this is not a fault in the technology, rather in the service provision, it is appears to the user as a technical limit to use.

**Knowledge, skill, and the User interface problems**
Many technologies such as the computer place considerable demands on the users’ knowledge and skill. Some people see their lack of knowledge as a problem in adoption or use, others will work to over come this by learning. However there is often the option to delegate learning to others, and benefit from their knowledge.

Knowledge and skill problems are often due to difficulties with the user interface. Finding a way for people to interact with complex machines and information systems, including ICTs has always been a problem, and, and generally relies on users making a
considerable effort how to control the system, navigate the information, to learn the interface metaphors used, input data etc. Many users find interfaces confusing and difficult to use (Norman, 1990). Designers should not always rely on devices being used on the condition that they left the factory or in the way they were designed for either.

**Learning problems:**
Although learning would at first sight seem to be a dimension of knowledge and skills, the process of learning is also an activity that can be problem and sometimes a barrier. Learning takes time and effort and often money. It can entail imposing on others for information and support. Nonetheless, past experience and accumulated knowledge of various sorts including technical knowledge, confidence with using ICTs and knowledge of how to adopt and learn (what could be called technical knowledge capital) can be considerable benefit in learning a new product, while those who never had to use ICTs before or have avoided them can find themselves struggling (Brosnan, 1998).

**Commercial Service Organisations and the marketplace:**
We have to deal with many organisations and individual on a commercial or intra-organisational basis when we want to use or adopt a technical service. The market for ICTs can be confusing, particularly over choice of supplier and product when we do not have much knowledge of the product, and it can be difficult to assess the offerings and advice of commercial organisations, be they a local provider like a retail outlet or large bureaucratic organisation such as a network provider. Commercial organisations often do not have the best interests of the customer at heart, and may be reluctant or struggling to provide the level of service that is required. As a result consumers encounter many difficulties with commercial service providers, at the time of purchase, and though the ongoing process of service provision, replacement, upgrading, and repair. In addition to experience of practical problems, this increases uncertainty and lack of confidence in dealing with commercial suppliers and our ability to trust their products and services.

**Relationships and the Network:**
The adoption and presence of ICTs can cause problems and disputes between friends, in families, among colleagues, and departments of an organisation. Reasons for disputes
include disagreements over adoption and purchasing, over responsibility for use, and the appropriate usage of a technology (e.g. how much TV should the children be allowed to watch, and and whether they should be allowed to play video games) (Silverstone, 1989; Moores, 1996). Problems need not be over actual usage of technology, but stem from talk about it. Sometimes people can feel excluded from a group when discussions turn to technical issues. In other cases an expert may get fed up being asked for advice or opinions. Ownership of a particular ICT could also cause feelings of envy or resentment, or heighten awareness of lack of resources or lack of skills in relation to that ICT.

Everyday Usage and Frustration with Limits:
Usage covers the patterns of everyday use of a product and raises some issues. Some of these are related to the institutional context of use, for example access to a technology can be limited, or in unfavourable conditions, or there may be problems with service. It also applies to the problems of setting up a product to use, and chronic everyday problems which may be technical, interface, service etc. Even when there is nothing wrong with a technical artefact it can still cause problems when the user is frustrated by not being able to do what they would like to do with it. This limit can be technical, but is often financial as well, if it is possible to upgrade but there is not enough money available to improve it. Network infrastructure can cause problems as well as mentioned before. This is an evolving problem as well: although a technology or service may have been satisfactory when initially adopted we can become aware of its limitations and start to want to do more things with it.

Uncertainty over innovation:
Finally, the rapid pace of innovation can create uncertainties in the decision to adopt or upgrade a technology. This is a problem for first time adopters, and is one reason for non-adoption or delaying adoption, but is just as important, if not more so, for those who already use and own ICTs and are replacing, enhancing or upgrading. Uncertainty occurs over choice of standards, reliability of new products, choice of brand, or the rapidity with which a product versions will become obsolete. Replacing or upgrading to a newer product could overcome current limitations of a technology and resolve existing
problems, but could equally bring new problems, especially if it involves adopting cutting edge technology, or new functions and facilities.

This categorisation is explored through the cases shortly and will start to show the tactics and strategies used to cope with or overcome the problems. However there are other types of difficulties or problems that people have with ICTs that are more symbolic and the emotional response to dealing with problems of ICTs.

### 7.3 Ambivalence over ICTs

In addition to or as a result of these rather practical problems, there is a range of problematic issues that are raised around the ownership and use of ICTs. These are negative and ambivalent emotions over ICT use and diffusion, often related to the practical problems of living with and using ICTs (Otnes, Lowrey et al., 1997; Mick and Fournier, 1998). These include issues of personal freedom, such as feelings of enslavement or subjugation to the technology, fear of surveillance, and feelings of being engaged in a constant struggle with technology. Then there are issues of identity and socialisation, such as isolation and exclusion, and personal identity as a user or non-user, including incompetence and being left behind. These feelings can also occur in non-users as documented in an earlier chapter, and relate to more abstract ideas about the encroachment of ICTs on society, of technology out of control, and undermining traditional values.

**Problems of freedom:**

This is feelings of subjugation to the technology, not being able to do a job without it, a total reliance on technology and the constant struggle with the machine and the bureaucracy that they entrain are common themes. Of course the technology can be seen as merely an extension of the social system in which it is embedded, but the two are mutually dependent. Two examples of this are frustration with being stuck in front of the machine all day, and continually spending time and money trying to stay ahead or on top of technology as it evolves. The benefits of doing these things are known, but they also have considerable costs.
Problems of inclusion and exclusion:
Ignorance of, or lack of access to technology can make people feel they are being excluded from certain activities or changes in society. Many consumer surveys have shown that people worry about being left behind by technological change, in particular, in getting access to work, and feeling that one is in touch and able to understand the world. No longer are computers just the preserve of ‘boffins’, but something that mainstream population is adopting. This creates an ambivalence when someone is actually happy not to be a user or have to deal with the technology, but none the less feels excluded in certain situations. This is not just a problem for non-users, but also those who may be struggling to keep up with current technology. There are other instances of exclusion, such as owning the wrong standard of technology, that does not enable one to participate in sharing it with others, such as a video game console. Not only is exclusion from a world of ICT users a problem, but exclusion because one is an ICT user: one’s occupation, interest and ownership of particular ICTs may not be valued at all in a particular social group, where other activities have higher value, leading to ambivalence about being in the group and those particular relationships.

Problems of identity
Discussion of inclusion and exclusion raises the issue of personal identity. Becoming a user may conflict with existing personal identity concepts – especially for someone who has resisted a technology, or who belong to a group stereotyped as non-users. When one sees ‘techies’ or ‘nerds’ as being fundamentally different to oneself, adopting a technology can be problematic, needing either a change in perception or a coping strategy to give an acceptable meaning to becoming a user. Psychologists develop the concept of cognitive dissonance to describe this type of ambivalence and ways that it can be resolved. Not only is it how one sees oneself, but how one is perceived and categorised by others – whether it be as an ignorant non-user, or as a boring techie. Of course there are positive images, but these are not the topic of this chapter.
**Social or political concerns:**
Many have worries about the unrelenting process of technology development and application and the apparent affects on individuals and society. Resistance to technology often has a moral dimension, whether it be nuclear power and weapons, genetic technology or computerisation (Bauer, 1995a). Although the objections can be clear cut, there is often a conflict of interests, and thus an ambivalence: a technology may be a great tool for ones own use, but society, the economy and particular other individuals can be seen as under threat. Over-commercialisation, dehumanising affect of remote communication, the loss of economic independence etc are all legitimate worries that inspire ambivalence over new technologies.

### 7.4 Reactions to problems: coping.
Although many of the problems introduced above were commonly experienced across the respondent groups, they way they were interpreted and coped with varied considerably. Many researchers have looked at the way people cope with problems, ambiguities and paradoxes in general, in the consumption of goods (Mick and Fournier, 1998), and the use of technology, and shown that there are different kinds of reactions and coping strategies. Strategies that involve not using the technology and avoiding it are discussed. In this chapter this is expanded to the whole area of reactions and strategies in relation to these technologies. As has been shown in the chapter on non- adoption in some circumstances there is always the possibility of avoiding the technology or problem all together, by not going near it, or ignoring it. However in many situations this is impossible. Active resistance is often necessary to avoid it (Bauer, 1995a). However, in many situations the use of a technology is not only unavoidable, it is actually sought after, a productive tool, a means of communication or entertainment. The adopters want the service and are willing to put time in to make it work for them, but have to deal with the problems that come with the benefits. Few people found that technologies were straightforward to use, and thus experienced ambiguous emotions over their use. Living with, and coping with these emotions is sometimes as important as actually dealing with the problems of the product. Problems
do not arise only from personal use of a technology. People often face difficulties when others adopt or use a product. This can go from conflicts over the time and space dedicated to the technology in an office or home space, to moral objections to the development of an industry and general use of a technology.

The main emotions that people experience when faced by problems such as these are frustration and sometime anger. Panic and fear\(^5\) are also mentioned, as are feeling of powerlessness and ignorance. The reactions to these emotions and the problems are coped with in a number of ways, including:

- Giving up the technology, or that particular use
- Limiting use in different ways (Miles and Thomas, 1996)
- Handing over use to someone else
- Changing product or service provider
- Finding a ‘fix’ to get around the problem
- Treat the problems as a challenge to be overcome.
- Learning to cope with the issue as permanent problem
- Taking control from others

Some of the solutions to these problems give definitive, and satisfactory outcomes, but in other cases the concept of coping is clearer: the problem is not resolved, but pushed into the background, always making itself felt every time the coping tactic is put into operation. This creates an ambivalent relationship with the technology.

### 7.5 Problems and Coping in the Case Studies

#### 7.5.1 Technical Problems

Struggling with the technology is a common theme in many people’s experiences of ICTs of all kinds. Technical problems are common, particularly with computers and networks. Those people spending most time working with machines are those most likely to experience problems. This also goes for those who are trying to push the machines to their limits, developing products, finding new uses. It is not surprising that
now many ICTs have come to be associated as much with their technical problems as with their benefits.

Andrew (Group 2) is an example of someone who struggles with the problems of a personal computer:

“"I hate Windows 95. It's just like, I hate it. Nothing's gone right from the day, first day I owned it. It's just awful. One of the things is my soundcard's not plug and play and I've still to get it to work properly. I can get the audio working but not the midi, or I can get the midi working but not the audio. At the moment the audio is barely working and suddenly my CD ROM drive has stopped working. The driver has disappeared or something.” “[Andy 1 Group 2 : 711 - 711 ]

It did not get any better over six months later:

“"Well, it's a continuous thing, you always want to upgrade it. I'm happy with it if I could get Windows 95 to settle down. I was sitting here the other week and I started it up and used the CD player, I don't know if it even uses the processor. I switched that off and my mate and I were watching some videos. I didn't switch off the computer so it was in the background, and it crashed, after an hour and a half, nobody was near it. This is the joys of Windows 95. I know a lot of folk who have said that.” [ANDY 2 Group 2 : 53 - 53 ]

He is not the only person to experience problems with computers. They are notorious, and users certainly let those around them know they have problems, as Dorothy knows about her husband’s computer problems.

My husband is always having problems with his and his is a very simple one. [Dorothy 2 Group 3 : 76 - 76]

In these cases the technology breaks for no apparent reason. While breakage in mechanical or electro-mechanical products are often visible, computer software crashing can appear completely mysterious. Training and books do not do much to mitigate the emotions caused by these problems as Andy and John’s reactions make clear:

Yes but none of that coaches [classroom training] you in how to cope with panic attacks and why the computer suddenly hangs up. [John 1 Gr3 : 199 - 199 ]

Dealing with these problems takes experience and patience, and the support of a friend or someone with more expertise to reassure and lend a hand is very important, as is demonstrated in many of these cases.

However, the reaction of John and Andy to the crashes of their computer are contrasting, Andy, the more experienced user, is frustrated and angry, while John, who is more of a novice, although with a technical background, panics. Neither reaction helps solve the
technical problem, but both build up ambivalence about the power of the machine to simultaneously aid and frustrate their work.

Most of the other respondents had problems with some sort of technology not working as expected for various reasons. Amanda found that their mobile network hardly reached their home:

It's terrible ... I'm just up the road and it's awful reception. So at first it was quite - when we didn't have the phone, didn't get the phone installed for about month. The mobile we thought would be really useful and it wasn't, it was a bit of a disappointment. So now it's just really for the car. [Amanda2 Group 1 : 271 - 272 ]

This example shows two tactics for dealing with a problem. The solution to the problem, which they discovered after buying the phone, was to change the use and purpose they had envisaged for it and replace it with a fixed line for home use. Amanda felt dissatisfaction as her expectations have been unfulfilled.

Maurice too had problems with his mobile service:

James: Oh you have very good reception here?

Maurice: No it's terrible this part of town is dead, especially in this building, I have to stand by the window.[tries out phone] But I really want to change to something better. I find it absolutely aggravating that I frequently get these calls a day late because the network is overloaded and they say sorry you weren't available. I know very well that not only did I have it turned on but I'm in range the whole time. They just can't cope. And the service, the customer service you get is appalling. Anyway. [Maurice 1 Group 3 : 324 - 328 ]

Since Maurice needs to use his phone his tactic is one adopted by millions of mobile users: physically move himself. No wonder it is called a mobile phone!

Continual breaking down of computer printers was a problem suffered by Valerie and Amanda in their school:

The printer, two printers not working for 6 months so everything has to be taken onto a disk. [Valerie 2 Group 1 : 67 - 67]

They do have a short term technical ‘get around’, to copy data onto a disk to transfer it to a working printer again a make do situation that involves them moving around, interrupting someone else using the other machine and so on. Their main problem though, is with repairs, a problem that John (Group3 ) faced when his printer broke down. John had more than the problem of the printer breaking down, and the service, which is explained later, but also the problem of incompatibility of computer and printer.
These examples were with new products that had problems that were a direct result of bad design or poor service. However many of us also use old products that are probably past their design life. Fiona’s family (Group 1) for example have an old video player:

Yes, one that I can't necessarily... it is an old one, it doesn't work properly Laura does all. Something is broken, you have to click one thing and mess around with something else. [Fiona1 Group 1 : 321 - 321 ]

There is a solution to this problem, which involves applying a bit of extra skill to make up for the broken part. In this case the skill of getting it to work is held by Fiona’s daughter, who is always around to deal with it. Solution: hand over to someone who knows how to fix it.

Computer networks and the Internet were also a source of problems, even when the computers themselves have been running well:

And any problems that's been have been networking and server problems which are down to the IT section. There's a constant flow of servers going down and email crashing, but I believe that's endemic everywhere. [Neil2 Group 2 : 167 - 167 ]

The Internet was a very new consumer product at the time of the research, and introduced a whole raft of problems, technical, knowledge, service and learning. Those in the study who were using the Internet found considerable problems associated with its use, although many of these are not ‘technical’ problems, but more limitations on the speed of the service, and of finding anything on the Web. Security is a problem raised by Terry (Group 3)

I use the Internet, I wouldn't say a lot. My experience of when I have used it is it's not as great as I would say it's made out to be. The only occasion I've used it is through work and one thing that is common to the all information on the Internet is it's not policed so you don't know about it's accuracy. We use email quite constantly and even there there's a problem about security. Some of the information that we're sending across the highways as it were need to be encrypted and password protected, that type of thing because it is sensitive. Also the only two serious viruses that we've ever had on our network have been inadvertently brought in through emails that were not properly dealt with and so you know there is quite a bit of danger there. When it comes to personal use, I'd be very wary as an individual bringing in information onto my say PC system that can easily be infected by virus so I'm not happy about using the Internet currently. [Mary+Terry 1 Group 3 : 1256 - 1256 ]

Terry’s solution to worries about Internet security is to use protection software at work, but at home he has decided to avoid connection to the Internet until he is more certain.
These technical problems of faulty products, and poor network service are generally the fault of the designers or service company, but not entirely: users misuse and break things, and struggle to keep them going.

### 7.5.2 Knowledge, Skills and the User interface

A big problem with many ICTs is not knowing how to use a product or service. Many products require that the user develop certain minimum skills and knowledge to use them. Many also have advanced functions that require specialised knowledge. Beyond this there is advanced technical knowledge for technical innovation and development and knowledge about servicing, application to activities etc that is more in the professional domain. Knowing that one does not know, and may never be able to learn (dealt with in the next section) is a problem that can put many people off using a technology at all, or severely restricts their use. Few people will have the motivation, experience and time to learn how to use every function, and with constant innovation there are always new things to learn. One aspect of use that causes problems is knowing how to use the user interface. Many people struggle to overcome its difficulties – how to type fast, or knowing which button to press is a constant source of problems.

Maurice and his father-in-law had problems with their computers as they tried add components. Both bought products that did not work with their computer, John and printer and Maurice a communications port:

> The last big item I bought for work was a new em, the SCSI card because the new machine I bought at Christmas only has two ISA slots and the card I had which was perfectly happily servicing my scanner wasn't an ISA card, ISA slots are all full on my machine. Nobody told me that was going to happen. That's another £100 down the drain I'm afraid [Maurice 1 group 3]

The problem can be seen from three angles: as a technical problem of incompatibility and technical specification that can be overcome by changing the product; as a knowledge problem, as Maurice and John did not check, or know to check that there would be problems fitting the new peripherals; and finally a service problem, the people who sold the product did not make sure that their client understood what they were buying. In fact no-one is to blame, but we can see this as a result of the rapid innovation of a group of products that are developed and sold in a market where there is no clear
control over the technology, where we benefit from the openness and rapid change in technology, but at the same time must control our own risks, often with little guidance.

Others had problems connected to the use of their machines, and not knowing what to do when something unusual appeared to happen, as in the case of Amanda.

Yeah, occasionally. If anything goes wrong or you're looking for - sometimes things, especially the kids having quite a lot of free access and things, documents get lost and put in other folders and you know, so occasionally I've had to ask how, I mean I know there's a finder thing but I can't often, I mean you often find it in something marked documents and it's supposed to be in something else. There's one person at school who's quite clued up on the computers. [Amanda 1 group 1]

Having only limited knowledge, and many other things to do apart from struggling with a machine, Amanda gets flustered. There is a solution, call the school expert who can come and sort the machine and her out. Her problem is not a technical fault that she does not know how to fix, but caused by the principal users, the 5-9 year old students. It could be also construed as user interface problem though, a system that allowed things to ‘get lost’.

Amanda also felt her lack of knowledge would cause problems with the machine, which is one reason she did not feel comfortable playing around on her flatmates computer which he used for his studies, despite his invitation for her to use it (Amanda, group 1, Interview 1).

7.5.3 The User Interface

The user interface has been a perennial problem for many electronic technologies. The keyboard or control keys and the visual feedback systems are compromises of technology, cost, the design of looks to sell the machine, skills of individual users, and skills present across the market of users. The domestic video recorder has been replaced by the computer interface as the problem interface for many people, as a multitude of machine designers attempt to make many applications and functions of the machine available via a simple keyboard and screen. This does not mean the video problem does not still exist for many owners and users, indeed there are many people who struggle with many home electronics products from microwaves though TV remotes and music systems to the motor car. These problems are hardly helped when the interface is partly
broken, as was the case with Fiona (Group 1 above). At work most interfaces are often
designed more effectively than for home users, where looks are an important factor, and
training is an integral part of the appropriation of new technological devices from
machine tools to cash registers. The bare PC interface, with its wonderful flexibility and
room for personalisation is also the cause of many problems, quickly identified by John
(Group 3)

Well, I said it before to various folk, none of whom are in the computer industry. To me an infinite
stupidity is the inability for the programmer to put on every screen the same word meaning clear the
screen. Clear, quit, exit, and I think there are two others, coupled with, zap that little cross in the top
right hand corner. So off the cuff there are five different ways, but again, I am not very good at
learning the basics. You know the phrase, "If nothing else works read the instructions". I jab away at
buttons and nothing happens. Why don't they just say "escape" all the time? I used to write handbooks
on how to carry out certain tests and they had to be idiot proof and if there's an emergency procedure
it's on the first page, if in doubt press the right button which is marked, Escape, or Fire, or Emergency.
But it's on the first page, not buried in an annexe. To me that is a major shortcoming of electronic
devices. [John 2 Group 3 : 82 - 82 ]

In the second interview explained his problems with the video recorder:

No, somewhere out there we feel it could all be made possible. We have all the technology, all we have
to do is bolt it together. Then you say "I'd like to record this television programme, how the hell does
the VCR work?" I had an old machine once where you could readily interrogate it to see if there were
any empty slots to put your recording demands. But with this one it's so minuscule which programme
or channel you're on. At the worst possible moment, I find the thing is full of junk, and I have to get the
handbook out. I want a button that says, I've seen it on some deletion screens on the computer "delete
all". I want a button on my VCR where if it's full I can wipe the whole lot out. Again we come back to
electronic devices, wonderful things. I've two hand controllers and don't understand a third of the
buttons on either of them. [John 2 Group 3 : 70 - 70 ]

John is frustrated by the user interfaces he is provided with, and knows exactly what he
wants:

Yes, but I don't know how to work it [teletext]. I want a button that says teletext. [John Dot 2.2 Group
3 : 108 - 108 ]

Not only is the product a problem for him, but also me thinks that is should could be an
easy issue for the designers to sort out – he is frustrated by the industry and he
powerlessness in influence good design.

One innovation that is generally seen as a big convenience, the remote control actually
proved problematic to Maura (Group 3).

The music system, I don’t know how to switch it on. It’s got a remote. I was all right until remotes
were invented.
However, like Mike and Ruth, she relies on others to turn it on, and to set the video recorder.

The keyboard on computer is a problem for those wanting to use the machine, even for the simplest task, such as typing a document. Both Ruth and Mary (Group 3) get their husbands to do the typing, since they are more proficient typists due to their everyday work with computers.

I spend all day writing it and scribbling. You know I work so hard that it's probably 11 o'clock at night and it's to be sent off the next morning and so Terry types it because he's quicker cos I always leave them till the last minute, don't I. [Mary and Terry 2 Group 3 : 172 - 172 ]

Their solution to their own lack of skills is to ‘borrow’ them from someone else. It is also a bit ironic that the husbands are doing the typing for their wives, surely a sign of the times, and of old stereotypes being overturned by social and technical change.

### 7.5.4 Learning

The learning process around the appropriation of ICT can be quite an onerous activity. Leaving aside the knowledge needed before buying a product, if it is acquired this way, there are many things to learn, in a process that rarely ended. New knowledge is acquired in setting up, learning the basic functions, finding out the benefits and limits of use, ‘hidden’ problems not anticipated before hand, discovering the attitudes of others and dealing with changing relationships, and the expectations of others…

Andy uses computers for his design work, and would like to know how to use the applications in more sophisticated ways through programming:

Director, trying to learn lingo. I've been trying to learn Java script but I've sort of had to put that on the back burner. I think dynamic html, html before 'Java script I'll really have to get to grips with within the next year or so. I'm trying, because I'm using Director in this project, there's really quite difficult bits of lingo that has to be put in so I have to learn things and after that I want to learn to use 3D modelling programmes. They're not very intuitive so you have to really sit down and learn them and I've got 3D Studio Maxer, a pirated copy, copy of 3D studio from Ingliston so I'll load that up once I've got these projects out the road and just sit down and learn. [Andy 1 Group 2 : 495 - 495 ]

The time he knows he would have to put in is a problem with his other commitments, and over a year later he had still not found time to do it. Time is not the only problem, he
has no background in computer programming and despite playing around, it does not come easily to him:

Yes, the possibilities, just with the technology, the hardware and the software developing, you see more possibilities with every new bit of software. There are things I'd really like to get into, but problems with time and some huge steep learning curves, I've been saying for years that I'll have to start learning a 3D modelling and rendering package, but they're very difficult to learn, and I've not found one that's very intuitive. The ones I have tinkered with, there are huge learning. [ANDY 2 Group 2 : 41 - 41]

He has not been able to adopt a product he would like to use, because he does not have the time or the background to get on top of it.

Mary and Terry (Group 3) also find it hard to find the time to sit down and learn how to use the computer, especially as Terry is helping Mary:

Terry: It's finding time when both of us are free from other things.
Mary: We have some time but it's the motivation as well.
Terry: Well it's not that. We can only do it at times when Charlotte [the baby] is really in bed because if she's awake and around she demands the attention of at least one of us and you can't teach somebody what to do with some sort of software whilst you've got a small child in the same room demanding your attention. So it's a question of finding the time available to sort of show Mary about the software that we have available on our own home PC. That's not easy.

Although Mary has a ‘local expert’, her husband, available to help her, it is hard co-ordinate time, and since he is also her husband, it is hard to focus on the learning task when there are other things to do. In a more formal relationship, it might be easier to commit to specific times.

However, learning in more formal environment can also cause problems, as John (Group 3) found out. He took up using the PC in his retirement in order to study. He went on several formal college courses to learn how to use it, sitting in the back of a class of teenagers. This taught him many things, but does not answer all the problems, especially when he is confronted with a new interface. He admits it is partly his fault for not systematically learning how to use it:

I am not very good at learning the basics. You know the phrase, "If nothing else works read the instructions". I jab away at buttons and nothing happens.[John 1, Group 3]
John uses this strategy - have a go and try and get by on intuition, but finds that it does not really work very well for the personal computer.
Maurice (Group 3) has a similar problem, he cannot seem to get round to systematically learning how to use his mobile phone:

Oh yeah. I mean first of all I think it's a bit, that thing's quite bulky. Secondly, I'm almost certainly, if I see that I can get a cheaper service somewhere else, I mean there's absolutely nothing to keep me with them. It's really this customer service thing. I hate poor service but I'm as lazy as everybody else about doing anything about it. But I mean while I'm getting poor service and it's very expensive then yeah I will get round to it. But part of the problem is I can't get on terms with that machine. I mean I can't get to like it. I've never really taken the trouble to sit down and study it but you know it's got this menu system. I can't seem to get it to do what I want. It's become one of these peripheral things which bothers me, bothers me enough to complain about it but not enough to say right I'm going to get on top of this. You know, I'm not friendly with it and I feel like getting friendly with it is going to cost me money in trial calls and this sort of thing. Do you know what I'm saying? I'm being stupid about it is what I'm saying and I haven't got, I'm not in the right relationship with it to get to grips. [Maurice 1 Group 3: 340 - 340]

He raises an interesting concept of ‘being friendly’ with the machine. He does not feel comfortable with it, even though he has owned and used it for several years. Is this a domestication or appropriation process gone wrong? Until he develops the right attitude to the device he will never get to grips with it or use it correctly. However this seems like a chicken and egg situation, and highlights the continuing ambivalence of a relationship with a technology, even for a relative expert. This ambivalence is similar to Andy (Group 2) and his PC, although the main problem is faults with the operating system in the example under technical problems.

7.5.5 Commercial service

Many ICTs need continual outside servicing: a network service for a communications technology, repairs and upgrades from a supplier or service department, or provision of new media content and applications. The relationship with those suppliers was a common problem. This is a problem that often compounds technical problems: not only does it break down, but it is difficult to get it repaired.

Lack of provision of mobile service was a problem mentioned earlier by Fiona, Maurice and also by Trevor and his wife (Group 2) as a technical problem, and was not particularly nefarious. However the phone company presented a bigger problems for Bob (Group 4):

Yes, it's much better that BT. I had a big row with them, there was a £360 phone bill and it turned out a call was made on my system on 26 December and it was Boxing Day, 12 hours continuous to a
Premium Rate line. I know I didn't make the call and Ross and Leanne were with their mother. Someone somewhere got access to my line and made that call. It turned out to be a competition line. I think it was someone at BT who was trying to generate money. I was confident they would quash it. It ended up that I had to go to OFTEL and even they weren't any use. So I refused to pay the bill, let them cut me off and went over to Telewest. Somewhere I'll have a black mark, because it looks like a debt.

New developments in technologies and services on the telephone network may create a range of business opportunities and services for customers, but in this case it appears to have backfired for Bob. His technical competence counted for nothing faced with a multinational corporation refusing to consider his case. Nonetheless Bob found a solution, although one that may possibly come back at him in the future – change supplier to another company.

Maurice (Group 3) is an intensive user of ICTs for his work, and is highly critical of most of the service he has received from telephone companies:

Well, I get a red haze in front of my eyes when I get unavailability from other telephone providers. It seems to me that's what they should be about. "Sorry, all lines are busy" is what they say but it's relatively infrequent. I mean it's much more frequent than you've got with BT but it still happens.

This pales next to the problems he has with Internet connections and mobile phones:

Here's a story. I recommended her [a friend] to a supplier on the Internet and I was emphatic about what I did because I had previously signed up with Cable Internet, because Telewest was here when I did the proposal and I thought I'd get theirs, not realising one ISP is very different from another. So the two things that are different about Cable Internet as an ISP are first of all, the servers are often very slow, and secondly their support is, well let's call it thin. The problem you'll get that I got repeatedly with mail servers, is if you leave your mail on the server and you delete it, and if you interrupt a mail down-load, the server loses track of where you were. So then it says you've got 1000 messages. You ring up the support services and ask them to delete, this happened to me just before my summer holidays. I was on the phone for 3-4 times a day for 2 weeks, and at the end of it they didn't fix it and I permanently lost 1 week's mail. They said they gave me a week's mail with the wrong dates on from a month back. At one point I was actually telling the guy on the phone how to use the Unix tools for this garbage....

Maurice’s ignorance or naivety about the quality of Internet Service providers got him in trouble, a problem he tried to solve by applying his expertise, but to no avail. Eventually he learned a lesson that it pays to pay for service, and changed supplier, and was much more satisfied with the level of support.

I looked at the one that was most boring and businessy, it's as simple as that. The differences between £9 and £12 a month, when you weigh that against the sort of anxiety and horror this incident represents, it's just actually ridiculous to save £3 a month. I work with Pipex because they are boring
and businessy, and the same thing happened, their service was much faster. They fixed it no trouble.
And in addition they've got this interface to the server so even at worst you could see your recent
messages. I actually talked after this to someone on one of my courses who was middle manager in
Pipex and I told him that experience. He said I'm not surprised to hear this, the ISPs are overwhelmed
by the amount of criticism they're getting, they simply can't cope. They haven't enough people with the
technical expertise to handle these things, we're not talking about highly trained people, we're talking
about people using VI. This guy couldn't use VI. There's not that many people around that can use VI
[an operating system environment] that are prepared to work for the wages. It was very interesting.
[Maurice 2 Group 3 : 84 - 84 ]

Being very competent with computers, a rare skill, he was very happy to see he could
get the messages on their machine, a service that would have been irrelevant to many
others. Maurice’s experience also highlights some of the problems of commercial
companies trying to develop Internet services very fast to keep up with demand and
changing technology. Lack of staff, of stretching resources etc ultimately affects the
consumer of their services.

Finally, Maurice’s dealing with mobile phone companies is in a very similar vein, :

Well all too simple really. I went to Carphone Warehouse. I mean I'm not up on the technology. That's
another - the number of complaints I have is amazing. I found Carphone Warehouse not too bad to deal
with but they misled me, perhaps unintentionally in some way or other and then when I complained
about it, it wasn't a big issue at that point and they said "Oh well we don't really think we're
responsible." which I could have taken but we'll give you £20 voucher as a goodwill gesture so fine,
that'll make me feel better. So then the £20 voucher doesn't come and that makes me feel much worse
towards them. So then finally I think they sent me something or I have something which is back here, a
customer care questionnaire, you know how we been for you. So I wrote to them about this, I
wrote them a long story about this and it was kind of quite mildly phrased about you know I didn't
think this was very good and if you're going to you're either one thing or the other, if you are going to
offer customer service - Carphone Warehouse make a deal of the customer service - you might as well
make sure you're doing it properly. Offering people things and then not doing it is actually much worse
than almost anything else you can do. At the bottom it said well are you going to go to Carphone
Warehouse again? And I wrote it depends on what response I get from this questionnaire to what I'm
writing here. What response did I get, absolutely none at all. They make a big deal about this, that
Charles thing, the man who founded Carphone Warehouse reads every one of these. I just don't, how
they can't notice what a bad impression is going to be made. There's no way I'd feel like going back to
them. So yeah, it wasn't very much trouble to get it but it was the wrong thing. I mean basically Cellnet
- I don't know what would be the right network. But at that time which was a year ago One to One and
Orange which are the two I look at more seriously just didn't have that much coverage in Scotland. But
I think these services are fantastically overpriced and what you get from the networks, I don't know
about others but Cellnet is very poor. I'm not positive about the experience at all. That's why, Carphone
Warehouse gave me an instruction booklet which had all the sub numbers wrong, totally out of date, so
I rang Cellnet, I mean I was actually paying money for operating costs of Cellnet and I didn't know
about this until they told me. "Oh that's terrible, Carphone Warehouse is really bad, keep on telling
them they're giving out these out of date instructions." And I said "Will you send me the up to date
ones?" and they said yes, and then nothing happened for quite a long time - this is Cellnet - and I said
what about this that you were supposed to be sending this, and I got somebody saying "Well you know
we can't just print them off for you." It was really bizarre. Said "We're out of stock, it takes time to bin
these things." And I said "Well but you know all the time I'm paying for your service as though you
were giving me a service and you're telling me it's inconvenient to you to give me the service that I'm paying for." A year later I've still never received anything ... received this. I just think the only reason these people are still in business is because of people like me just too lazy to do anything about it. [Maurice I Group 3 : 336 - 336 ]

...No wonder his father in law thinks he is harassed!

John himself had problems, but with a smaller company supplying:

[John 1 Gr3 : 175 - 175 ]Start from scratch, I know nothing about computers, I know which keys to press to produce certain facts. My printer broke down and I was told the cost of repair was so astronomically close to the cost of a new printer, forget it. So I went into this mob, Datastream in Leith who were a very high flying outfit I was recommended to. I said, I have this computer, I want a printer. He said, "we've got this one for £150". So I said, "Great, marvellous". I bought it, took it home, sat down, looked at the books. It required 16 megabytes to drive the beast and my computer was 8 megabytes. I rang the shop and they ask me to bring the computer in and they would upgrade it. Fine. I specified the computer I had, an Amstrad. Now I had to keep phoning them, they never phoned me. Then I got the news that it couldn't upgrade this computer, but there was an office that was upgrading and they would get me one of the second hand computers being discarded. This went on for two and three weeks. They never seemed to have a second hand computer. So I opened the Scotsman one day and there was this little advert, second hand computer. They were going to get me, what's the base of the computer... I was to get one of these absolutely blank from a shop in Dalry Road. I went in and sure enough they had 8 megabyte versions. The 16 megabytes ones might be in next week, they said. Maurice said "I wouldn't touch them". Though he could have done it, it was going to be a time-consuming job for him. So I went down there. I asked, "Will this machine drive that printer" Yes. So I brought it home, installed the printer. A nice little word processing system called "Fine Words". Apart from the screen going blank on 3 occasions in the past 2 months, it's been okay, so I'm now going to try to sort out a back-up system.

Again, his lack of knowledge about what was important meant he could not deal with the supplier on a level footing. Luckily he had some support from Maurice, and eventually got over the problem, but it did nothing to improve his, or his wife’s impression of computers or the industry.

The policies of network providers and their inflexibility of service also caused problems for Aiden.

Well I'd like to, I'd like to phone up cable and just tell them the exact channels I wanted because there's so many channels I just never ever watch and if I could, if they could just work out a system where you paid for a set amount for each channel then I could just pick the ones I wanted, Discovery channel, SKY1, whatever. [Aiden 2 Group 4 : 582 - 582 ]

It is not always commercial services that are troublesome, even with in an organisation the support service can be very poor. Valerie (Group 1) complained about the lack of computer support from the centralised regional computing service of the education department.
There is a central support office for all of Lothian, but it can take months for them to deal with a problem. [Valerie 1 Group 1 : 83 - 83 ]

This centralised system continued to provide them with very poor service at the second interview:

And we still have great difficulties in having things repaired. The printer, two printers not working for 6 months so everything has to be taken onto a disk.... [Valerie 2 Group 1 : 67 - 67 ]

Well we've nowhere to send them to be repaired. The place that we did have has been shut down and there's some - some - we're not allowed to send them to certain places. It's quite difficult. I don't know the ins and the outs of the it. Yes, it takes a long time to get anyone to come and repair. [Valerie 2 Group 1 : 71 - 71 ]

The local authority had announced massive spending on putting all school on-line to the Internet, but for a small primary school they could not even provide basic service.

Adopting and using new ICT services involves a steep learning curve, considerable investment of time and money, and developing an increasing reliance on the technology. Large, faceless organisations appear to be very poor at dealing with problems, and even small ones are unlikely to provide good service when problems arise. In some cases it is possible to take the business elsewhere, or use another supplier, but this is not always the case, and if they have already taken money, or are responsible for data, then the customer is the looser. Over time, existing customers ‘get wise’ and can pass this expertise on to others, but if all the suppliers are equally bad then there is no choice, and ICTs service companies get added to the long list of unhelpful bureaucracies that we have to be put up with in our everyday life.

7.5.6 Relationships

We consume ICTs in a community, and ICTs enter into the relationships of the community in many ways, as has been shown in other research, and already demonstrated in this study. Like the other studies (e.g. (Lull, 1995; Moores, 1996)), the respondents brought up a number of problems that new ICTs created or highlighted in their personal relationships. These problems include disputes over the cost of buying or subscribing to services, and over time and space allocated to use of the ICT, and whether on not a particular ICT is appropriate at all. Continual discussion of ICT also brought up feelings of exclusion from conversation for those not ‘in the know’.
ICT cost money and this causes problems. Aiden (Group 4) mentioned two problems that occurred with his parents over spending on shared services, the phone and cable TV. The first was over calls to mobile phones:

I dinnae really use the phone much at all. Och, yeah I do call mobile phones because I got pulled up by my mum when the bill comes in. It's usually only something like a couple of pound but that just happens to be the only 2 phone calls I've made you know and it's been a pager or something. [Aiden 2 Group 4 : 402 - 402 ]

In the second instance he was footing the bill for film channels on cable TV:

For a while I was paying for the film channels off my wages, but then I got sick of that, but mum and dad were watching films all day, so I was paying for it and they were watching it. No.[Aiden group4, interview 1]

Aiden solved the problem by cancelling the subscription, a unilateral decision. John and his wife Dorothy (Group 3) have a limited budget too, and this means that John cannot spend some of the money he would like to on an Internet connection, especially as the cost is uncertain:

James: Do you know quite a lot of people now who have email?

My son-in-law's got it, my brother in law's got it. My granddaughter in Hong Kong has access to email. She wouldn't have a computer at all, that's too expensive for her, but she has access to email. And various other relatives and friends have email, so I'd be only too happy to use it. But I've yet to persuade my lady wife that we can afford it! If it was simply the cost of the Modem and minute telephone costs, then well and good. No-one has yet assured me in simple short words the cost thereof. [John 2 Group 3 : 12 - 14 ].

Mary and Terry (Group 1) also disagree over spending on computer equipment, again it is the husband who wants the gadget and his wife who resists:

Mary: He would like to spend a lot more. He would like to update it to buy a new one and I won't let him because it's so expensive and I don't think he can justify it for what he uses it for at home.

James: What is that?

Mary: You know he does things about what flowers we've got in the garden and when they're going to come into season so that we always have something flowering in every month so he'll - but you can do that in your head or on a piece of paper, you don't need to spend thousands to get a better computer to do those kind of things. Or our budget, our finances.

James: Does he have a CD ROM player?

Mary: No, he doesn't but he would have if it wasn't for me...Tell me, why should he spend all that money when I don't. [Mary+Terry 1 Group 3 : 1180 - 1198 ]
In both these cases the decision not to spend the money is arrived at by one person, but under pressure from the others not to spend. However the decision could have gone in favour of adoption despite objections and money constraints, as Moores (Moores, 1996) shows in his examples with satellite television. In these examples I was only present for a limited period and never discovered whether these couples eventually decided to adopt.

Problems over money can arise after it has been spent. Aiden was very excited to buy a new TV set for Christmas, expecting to get a Christmas bonus. He also started to pay instalments for a holiday with his girlfriend. When his bonus failed to materialise, he was forced to cancel his holiday, which hardly pleased his girlfriend. Although he enjoyed using the TV set, he also felt regrets about buying it, knowing that he might better have spent the money on his holiday, and satisfied his girlfriend.

Disputes over television viewing are a very established part of the place of TV within the family (Morley, 1986; Lull, 1990). It was an issue in Ruth’s family (Group 3) and Fiona’s family (Group 1). In particular, Ruth and Maurice had disagreements over how much TV their children should watch, and what they should watch.

Well we've been very conservative about what they view and they don't actually watch television, they just see videos. Sounds awful but it's all, it's very controlled in that respect. And that's chiefly because we remain in a state of tension where Maurice would get rid of the TV all together and I won't have it because it's my best childdminder and em, I think therefore we tend to have what we would consider sort of good quality story videos, rather than the junky cartoons that are zappy and fast in America. Having said that of course the greatest thing is to collect all those Disney classics as they come along and the kids have a fair number of them... [Ruth 1 Group 3 : 603 - 603 ]

Maurice is just very agin the sort of rubbish coming in to the kids. It's ironic. He sees television as being the sort of access point for a lot of junk the kids would be stuck in front of. Somehow these games on the computer don't fall into that category and maybe it's just the level of control you can have over that. [Ruth 1 Group 3 : 847 - 847 ]

Maurice and Ruth have come to an arrangement over their children’s use of the TV that balances his dislike of it, and her use of it as a child minding device by using the video player as a way of controlling content. Of course for the children, their parents’ attitude is a problem they are not able to get round, but it is not a particularly urgent problem either, given the other activities they are encouraged and allowed to do.
The last comment on video games is intriguing, given that video games and computers have come in for similar negative press (Funk and Buchman, 1995) over their affect on children as has the television (Hodge and Tripp, 1986; Berry and Asamen, 1993). There are two issues here related to the technology as a media: one is the appropriateness of the video game as technology and media form, and another of the particular games or content. Maurice is happier using the computer as a child minder and educator, but Ruth is not so convinced, although this could be linked to Ruth’s lack of knowledge about the computer, and inability to set it up. Their children aged 5 and 7 use the computer together, but also fight over it, over whose turn it is, what game to play, and who is the better player. The computer and the games raise an interesting issue in their relationship, since the younger one is more adept with the computer than his older brother, who is usually more dominant and articulate in their relationship.

In Group 1, Fiona refused to buy her teenage daughter Laura a video game console as she takes a dim view of the television screen as way of spending any time at all. This was not a one-off request on Laura’s part, but a long running, if not very problematic stand-off. The solution was for Laura to continue going to play with her friend, something that satisfied her, and her mother who did not like the idea of her spending hours playing alone.

Among adults, playing video games can cause problems too. Andy, Maurice and Trevor, three men who spend considerable time with their computers, all said that they found games too addictive and made themselves take the software off the computer. For Trevor though there was an extra dimension of conflict with his wife/partner over time spent playing:

Yeah. I enjoyed them too much, I enjoyed, not so much the blasting sort of games but some of the flight simulation stuff, I mean you can get the professional quality ones like you can literally learn how to fly a plane. Hours and hours and hours disappear down the drain of this thing so I took it off and em, I've still got them in my room but I won't put it back on again because it was just, I was, it caused too much domestic friction. [Trevor 1 GR 2 : 216 - 216 ]

Trevor ran into another problem with his friend and business partner Nigel over use of the computer for work. They need to use the computer for work. Trevor is very pragmatic about it and just gets on with it, but Nigel has a strong aversion into which he
integrates his radical political views. However this distrust is also based on lack of confidence and skill. The problem here was Nigel was continually relying on Trevor to do things for him, which Trevor saw as irrationally putting the burden onto him to do the work, taking advantage of their relationship. Nigel had to give in eventually after Trevor laid down an ultimatum to learn to use a computer. This was not the first time that Nigel had come into conflict with someone over a computer. His friends Andy and Trevor both mentioned his relationship with a previous girlfriend where purchase of a computer increased disagreement:

Well, Nigel's not that into computers. He's not a technophobe but he was thinking about it, he used to live with a girl in Leith, when he worked in Leith, that's one reason he went up to Inverness 'cos he split up, but she was computer literate and they were, she was wanting to get a computer. He wasn't against it but he wasn't encouraging her. So he's not a technophobe but he's not, he uses it when he desperately needs to, that kind of thing. he's more a, he's a stone carver, chisel and hammer kind of guy. [Andy 1 Group 2 : 663 - 663 ]:

Another example is the tension between Bob and his ex-wife, and with many other people who take advantage of his expert knowledge:

She's got some stuff doing Macromedia programming, that's beyond Ross I think. Macromedia is more like a program itself. She does more IT managing things, and she gives you something and she doesn't realise that if you haven't done it, you have to learn how to do it to actually make it work. [BOB 2 Group 4 : 44 - 44 ]

Many of these problems and disputes can be seen as the clash of alternative interpretations of particular ICTs, and the power of one person to impose their interpretation on another. In the case of John and Dorothy, she had accepted the computer as necessary for his studies, but the Internet did not appear necessary at all, from what she had seen of it. John is enthusiastic about the new technology, and could see uses for it, but felt obliged to accept his wife’s verdict. Mary also over-ruled Terry, who had brought his computer with him when they got married: she really could not see the point of him using the machine at home at all, and certainly was not going to let him spend their money ( I never found out if she changed her mind after having to learn to use the machine to get a job).

These problems occurred over the adoption or use of an ICT. A different sort of problem is raised by Dorothy (Group 3), where she feels excluded from conversations about IT when her son-in-law or brother come to visit, when she leaves the room and gets on with
other things. Although they were not interviewed, Trevor’s wife, and Andy’s sister both described as being uninterested in computers, but Trevor and Andy frequently talk about computers when they meet, and Andy doing the same with his brother-in-law. Even in these small groups it is obviously a topic that currently interests the men more than the women in these groups. (It is not the first time that men talk about something that excludes their partners either!) However there is another example, Maura and her children use computers at home, but her husband is not at all interested in the topic, but unfortunately we do not know his opinions first hand. Being left out of a conversation or bored when the conversation turns to technology is a problem for others as well. Amanda and Fiona (Group 1) both ‘switch off’ when certain friends start talking about computers and find it very boring. Fiona switches off when her old friend visits from London and starts talking about the fancy computer she uses.

7.5.7 Everyday Usage and Frustration with Limits

As well as the ongoing technical problems and interface problems and the relationship issues addressed above, there are other problems that the respondents faced in their everyday use of some ICTs. These are frustrating limits of technologies and institutions that are not quite up to standard of service of function that the user would like, or need. One problem is trying to get technologies to work together when they were not really designed for the job, as Aiden explains:

Yeah, just comes through the TV. It's good. I've got a mobile personal CD player thing but it's a hassle setting that up and plugging it in and plugging separate speakers and all that in you know. [Aiden 2 Group 4 : 662 - 662 ]

The upshot of the bother of wiring the CD up means he does not use it very often, instead watching TV, playing video games or playing the guitar.

Insecurity over doing things right and possibly losing data constantly worried Amanda (Group 1) the first year she had to write school reports on the computer:

Well the first year it was a nightmare, just the thought of you know having to do it all, having it on disks. I was saving about four copies on floppy disks in case I lost it. Em, that was the first year I did it. Last year I did it and it was much easier. I was much more laid back about it. [Amanda2 Group 1 : 66 - 66]
Chapter 7 Living with ICT Problems

She made up for her insecurity over using the machine by making multiple copies of the disks...a technical solution to her own fears and negative expectations.

The place where the technology is situated is not always suited to the task it is being used for. Bob goes to the free cybercafe to download software, but finds the ambience not altogether ideal to him to do what he considers work:

I find it annoying when I go there now, because you get wee kids coming in. I'm all for them using the Internet, but basically all they're doing is talking to each other using email! [BOB 2 Group 4 : 86 - 86 ]

This is in contrast to Noel (Group 2) who finds it hard to write at home or in the office, and so fixed the problem by buying a palmtop computer to use in cafes and on the train.

Lack of facilities at work can be a constant irritation and problem for some people who are expected to use computers.

I could certainly use it [the Internet] if it were something that were provided at work. The only problems being in having the money for the equipment that enough children could use it. It would be difficult if one or two, whatever it is you use, links, and you know trying to get 200 children to be able to use it, so timetabling that kind of thing, that would be a problem. [Valerie 2 Group 1 : 415 - 415 ]

Many of these problems lead to constant frustration with the limitations of the system and technology. In the case of some of those who are working with computers and the Internet there is a frustration that the machine will not do enough, that they have reached the limits of its power. Andrew (Group 2) speaks of his struggles with the limitations of the machine he was using, for example:

It was becoming a necessity. Because my old system was a 386, with a 200 Meg hard disk and it was constantly running out of space. 8 Meg, which was at the time I bought it in 91, it was a good system, but by last year, when I was doing multimedia here, and at Dundee, I couldn't work on my work, I couldn't carry on at home, the system was inadequate for the job. Essentially the work I was doing forced me to buy it, but I had been wanting to upgrade it for a couple of years anyway.... [Andy 1 Group 2 : 359 - 359 ]

Some of his problems could be solved by money, which he did not have. Others were just the limits of the technology as was then available. His lack of money, and his expectations of what the technology could and should deliver created a constant feeling of frustration and ambivalence towards his computers, which otherwise he found very productive and inspiring.
Trevor (Group 3) had similar problems, and is a good example of the expectations of the technology outstripping its ability to deliver, and the constant need to increase his computer use as his business expands, and the technology develops to support new functions in design and communication.

I need two computers. I'm finding it more and more it's sort of irritating. I think we need one computer for Internet and stationery work and another computer for kind of graphic work and desktop publishing work and I think, yeah I do, I think Liz needs another computer again for her own work, for mail outs and such so we've got to be very computer intense soon. Two years ago we were quite comfortable in what we had. And it's also we're both in the business of mail outs, multiple mail outs and all that kind of thing and it generates itself ... . It does feed itself. [Trevor 1 GR 2 : 165 - 165 ]

You do more and then you find that you start looking for a machine which can do that bit more and you start to get a nose for it and how it can help and assist you - I don't even think half the time, I don't think in business terms whether this can make a profit although I'm sure it comes into it. I just think will it make my life easier, would it make my life are there some really trudgey tasks and things that I have to do within the business context which will make life a lot easier which ... does have economic benefits as well. And I find that when I do graphic work, digital work, image manipulation, God I wish I had one that was faster. And the faster they come, the more interesting I am in getting one. But not necessarily all singing, all dancing with AV facilities and editing facilities and all that because I don't use that kind of em, not that I never will but it's just that I don't go in that direction. [Trevor 1 GR 2 : 168 - 168 ]

He finds himself in a vicious circle, with use of the technology stimulating new possibilities which make him frustrated with his existing equipment and oblige him to invest in the next generation of technology.¹⁰

Not everyone is able to buy the latest equipment, so has to put up with machines that are getting old. Neil and those in the multimedia design office had computers that had become ‘too old’, and found these frustrating.

]Not really, the problem that's been affecting Mark and I is that the Macs are very old now, they're over 6 years old each and they're starting to show their age. That's one of the reasons they had to change. These projects are coming in and we can't take them on. That's been the main problem. [Neil2 Group 2 : 167 - 167

Lack of common standards and compatibility gave Maura problems when they wanted to take work home:

Em, mainly to - when I had a PC at work I couldn't sort of transfer work between home and work and I'd been thinking about getting a better one - well I use it and I need something at home and em, I knew that it would be useful for the kids for their work. [Maura 2 Group 3 : 17 - 17 ]

This compatability also frustrated Andy who worked with a Mac in the office, but had a PC at home.
While these problems limit the usefulness of the technology, an interesting problem that was mentioned in the section on relationships is spending excess time on a computer, especially games.

No, and also I knew myself I'm just too addicted to the damn things when I get going. But then I don't do the video games, the blasting ones, it's the sort of the real life kind of fly a plane or sink a few battleships from the bridge of the Nautilus or whatever, that sort of stuff. They're just too much. I had a came of Civilisation which is ongoing, ever going, build a civilisation and you are the master of it all. Oh no, get rid of it, it's too, on the verge of revolution so I took it off. No, they're great, I do they're great. So when I initially said "No" it's because I can but. [Trevor 1 GR 2 : 220 - 220]

It is not only games that can be 'addictive', but problem solving, designing and other uses of the computer can keep people up all night, and working for days without a break.

A technology that was constantly frustrating to users and non-users alike was the mobile phones, and it is worth seeing the range of problems that even this small group had.

Non-users and users alike find other people talking on the phone annoying:

Dorothy: It has no part in my life, but I can see it has a part in some people's life. For a lone female doing a lot of driving, they're good. But they're an abomination in a train if you're sitting minding your own business and you hear yack, yack. [John Dot 2:2 Group 3 : 45 - 45]

Only one person, one friend. And I tend not to, it's one of the women up in Inverness, the technician who was very supportive to me and she's got a mobile but I tend to 'phone her at home or at work because most of the time the mobile's not receiving. So basically no. That's the last number I'll use. I'll either try her at home, usually I only 'phone her at night anyway when she's at home or I'll 'phone her at the workshop and then the mobile would be the last resort. [Andy 1 Group 2 : 775 - 775]

Having to manage using a mobile can be problematic too, as Maurice found, continuing his problems with actually trying to get it to work and find a signal to use it with:

For a long time I never gave anybody the mobile phone number at all, I still try not to and the reason is because there's long periods when I don't turn it on. ... when I'm away and it's a pain to have to remember to turn it on and pick up messages from it so for a long time I just used it to forward from the office phone and I just put a forward on when I was out. That's what I should have done today really but I just gave somebody the number. But I don't like doing that because on one occasion I actually lost a job because they'd rung my mobile and I hadn't turned it off for a couple of days ... needed and so I really want to go back to the philosophy of saying, of not giving out the mobile number. But of course that's expensive because if they ring the office phone and it gets forwarded to here I've made ... charges so that's a not very good system. But in principle I'd like to have one number that they can contact and my business card for example doesn't have my mobile number on it and that doesn't bother me. [Maurice 1 Group 3 : 816 - 816]

All in all, the mobile phone brings Maurice a number of problems that he is unable to resolve, due to the limitations of the technology, his own lack of discipline in conforming to the demands of the technology, the poor service, and his unwillingness to pay.
The answering machine is another technology that gives usage problems. Some people may not like to talk to a machine (Mike and Helen, Group 1), or like the machine talking to them, (John and Dorothy, Group 3):

I don't know if we told you the last time you were here, we gave up the GPO call answering service because of the snooty voice! Even today, I phoned someone up and after a while this female came on. I shouted at her! [John,2, Group 3]

Andy just found it frustrating trying to get in touch with his friend only to find the answering machine, and not being able to leave a phone number to call back.

I 'phone Trevor I keep saying what's your e-mail address. I think he has got an e-mail address 'cos I'm sure he's connected to the net but I don't, maybe I should start e-mailing him instead of getting his bloody answering machine or get more, more, more feedback that way. There's not much feed back from an answering machine. It's becoming a bit of a joke actually, it's just every time I 'phone him up, it's the answering machine, where the hell are these folk. I mean Liz works, she's a felt make, she makes felt hats and everything. She works from home most of the time, not all the time, but I mean I think at least Liz, unless she's sort of listening to, “oh it's that bastard Stenhouse, I'm not picking up”. [Andy 1 Group 2]

Andy’s main problem is not having his own phone, so his friend’s answering machine becomes an annoyance rather than a help, as it does not help him get in touch with them at all.

John and Dorothy had problem trying to use systems which needed a PIN – such as the ATM (cash machine) and the calling card system: Dorothy could not remember her numbers:

You see that Coins and Cards? When the card system came out, I bought a card because I was working away sometimes. We used to give a card to our grandson when he was at Stirling for his calls home. University call boxes are ankle deep in old cards. But I gave it up because I couldn't remember my pin number and I knew there was a long string of numbers you had to remember and put in the correct order. [John Dot 2.2 Group 3 : 34 - 34 ]

Luckily there is an alternative for the bank, going to the branch, but not for this telephone service. The only strategy is to give up using it.

A final issue that was raised by John (Group 3) in reference the Teletext interface, was the frustration with getting stuck with a technology that is not flexible nor does what you would like it to do, either because of the standards or the limitations introduced by the service provider. Aiden faced two limitations of this nature with his entertainment technologies. He lives with the frustration of not being able to buy games for this console, and frustration with himself for buying the ‘wrong’ machine.
Yes, now that I have had it a while, I would have preferred to have a PlayStation. There are a couple of games on that that you can't get on the PlayStation, but PlayStation more than makes up for it because there's such a vast range of games. [Aiden 1 Group 4 : 502 - 502 ]

The cable TV company has very limited way of providing services, including the bundling of channels into 'packages', which annoys Aiden, and does not make any sense to him as a consumer.

7.5.8 Upgrade uncertainty

The decision about when to upgrade a technology, and how, as facilities, functions and price are constantly changing can be a difficult decision. Many of the current users of ICTs faced the decision to upgrade or replace their equipment as they become frustrated with its limits, or it became unsatisfactory in some other way. Others just want to have the latest technologies in order to try and exploit new functions and facilities. Trevor explained above how he felt he was stuck in a vicious circle, with his imagination and needs continually surpassing the technology he uses However the upgrading then necessary causes him more problems, especially dealing with the uncertainty of technical change and standards.

But now I've got one [An Apple Mac computer] and got all the software and everything for Macs, it's difficult for me to transfer over to PC but at that time all the bureaux, because I take some of the stuff to printing labs and such like and 90%, 95% of them at that time just said Mac. If not Mac only, then it would be a lot easier if you've got a Mac. It's all that kind of stuff and the printers in Inverness, even Fort William who I use is Mac. "We've got a PC but we don't like using it." So I was kind of pushed into getting a Mac but I'm not a Mac, because I've been lucky being able to use both at work and at home I'm not a Mac fanatic and I'm both systems have got their strengths and both have weaknesses. the biggest strength of the PC is it's so cheap and affordable and there's a lot more kit available. The strength of the Mac is it is a, it doesn't crash as much, it's much more reliable, it's and the latest ones are much faster, powerful but it is a lot more expensive but you don't have to be as techy with a Mac and you spend much less time figuring out what the hell is going on. The biggest compliment was when I had PCs at work so and I could still use other people's PCs ... but the biggest compliment was somebody said "You don't want to get a Mac, even a child can use a Mac." Yip, that'll do. So there's strengths and weaknesses on both sides. But I know that Liz likes the Mac but I don't have a, what you would call a product loyalty or anything like that. Plump for one or the other. [Trevor 1 GR 2 : 180 - 180 ]

By the second interview he had decided to upgrade, but was balancing the cost of buying a powerful machine against the risk of early obsolescence.

I'm about to, this is the other catch. Not only the obsolescence, but it's how big a machine you need to deal with it. [Trevor 2 Group 2 : 24 - 24 ]
Dealing with the proliferation of standards and technologies is a headache – balancing the pros and cons of various technologies, and trying to guess where the technology is going in the near future, as well as what will be most useful.

I think I will yeah because I'll get paid for these two projects so I'll take the opportunity of the money that I'll get from these projects to. I think upgrade the memory is a must and I could even do with a bigger hard disk already. I mean that's just less a year, or maybe, I'm thinking whether, I think probably what I might do is get a jazz drive. I've got a zip drive but a jazz drive's more useful, you get a gig on it and it's almost hard disk speed so you're not, it's almost like a slightly slow hard disk. So although I'm not sure whether it's a good time to be buying that because the universal serial numbers, all the rest are, all that sort of area is beginning to move slightly towards. [Andy 1 Group 2 : 379 - 379 ]

In the case of Andy and Trevor there was a clear need to upgrade their existing machines could not do what they wanted them to do, or they were becoming too unreliable. In other cases there was no pressing need to upgrade or replace, but new functions and possibilities were opening up, making the machines easier to use with the option of uses such as the Internet. Fiona (Group 1) used an old Apple Mac Classic which she was considering replacing:

Well we're just waiting for Ian to make up his mind and each time he reads another magazine he says something else better is going to come out. So when that comes out there's always something else after that. But eh, I just feel - we've got an old Apple Mac and I just use that as a, for what is it, word-processing. And use forms and things that I make for myself. That's it. [Fiona 2 Group 1 : 49 - 49 ]

Uncertainties about costs and problems can keep people from adopting, such as John not linked to the Internet, and Terry (Group3) deciding not to get a PC because of the risk of computer viruses from the Internet. Past experience of viruses at work led Terry to expect problems, and judge the risk to be too great, even though he could get a computer for £15.

At the moment we're not using the PC upstairs for much. I don't know. I’ve often thought though if I'm still debating whether this is worthwhile or not, if we ever decide that we would like to make use of the Internet, I've always to have a separate PC for Internet and nothing else, on it's own, free-standing, rather than have a machine that you're using for other jobs and that because I'm paranoid about the idea of unwittingly importing some bug, a virus into the system. But if you have two machines, particularly one that you've only bought for £15 it's not a great disaster if you do get a virus and the whole thing crashes and you can't fix it or whatever. But it would be awful if you lost all your files, publications for example, because of some virus you've brought in through the Internet. But anyway this is still to be decided. At the moment I don't really miss not having access to the Internet. [Mary and Terry 2 Group 3 : 198 - 198 ]

In these cases there was an expectation of problems, and the resulting uncertainty led to the decision being put off. However it is not always possible to foresee problems that
subsequently arise. In some of the cases there were examples of bad decisions in upgrading or replacing, such as Aiden buying a SEGA Saturn, and finding the format unpopular, as was illustrated in the chapter on Non-adoption. For Aiden this mistake cost him money and he can not get the games any more. The experience really put him off spending money on constantly changing technologies.

The constant technical change and the proliferation of products increases choice but it also increases risk. The feeling that you are throwing away money can be a powerful incentive to put off purchase, or go through the informal economy – buying second hand, sharing, or borrowing. There are also other ways of dealing with the uncertainty: find out maximum information to minimise making the wrong decision, consulting experts and expert groups, wait for the next generation of product to come out, delay adoption until it is absolutely necessary to adopt, wait until the latest version of an innovation has become stable and reliable. Other strategies to minimise risk include proxy factors such as selection by brand, or buying the most expensive or most powerful machine in the hope this will reduce the risk.

7.6 Strategies and tactics: coping with problems

(Otnes, Lowrey et al., 1997; Mick and Fournier, 1998) suggest that we develop strategies for dealing with the problems and ambivalent feelings we encounter as consumers. This review shows the range of problems encountered, and reveal a number of strategies or tactics that these people used. In the following table I summaries the strategies that I saw people adopting in relation to the problems illustrated earlier.
<table>
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<tr>
<th>Non-adoption</th>
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<td>Avoidance</td>
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<td>Active resistance</td>
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<td>Delay</td>
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<td>Leaving adoption to others in network</td>
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<tr>
<th>Purchases in the expectation of problems</th>
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<td>Careful information search</td>
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<td>Only buying from trusted brands</td>
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<td>Passing responsibility to others</td>
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<td>Developing relationship with supplier</td>
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<th>Learning</th>
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<td>Working carefully through the manual</td>
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<td>Attending courses</td>
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<tr>
<td>Always asking for help</td>
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<td>Having a go…</td>
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<th>Problem Solving</th>
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<td>Calling on social network and local expert</td>
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<td>Going through formal/commercial channel</td>
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<th>Social Conflict</th>
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<td>Creation of rules at early stage of adoption</td>
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<td>Backing down</td>
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<td>Compromise</td>
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<td>Trading</td>
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<td>Imposing will</td>
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<th>Technical problems</th>
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<td>Look for a technical fix,</td>
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<td>Go to local expert</td>
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<td>Give up</td>
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<td>Replace technology</td>
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<th>Dealing with suppliers</th>
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<td>Accepting it as inevitable</td>
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<td>Facing down suppliers</td>
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<td>Changing supplier</td>
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<td>Going to a trusted local expert</td>
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<td>Developing relationship of trust</td>
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<tr>
<th>Dealing with uncertainty and risk over technical change</th>
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<tr>
<td>Spend as little as possible</td>
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<td>Spend as much as possible</td>
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<tr>
<td>Share risk in network</td>
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<td>Consult local expert</td>
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<td>Information search</td>
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<td>Delaying adoption</td>
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Table 1 Coping strategies in consumption of ICTs
De Certeau (De Certeau, 1984) introduced to cultural studies the concept of tactics as the consumer’s way of subverting or dealing with the strategies of industry. It is now clear that in many cases industry is far from strategic in its innovation and marketing of new products and services, having to deal with uncertainty in technology and the market through tactics such as taking advantage of opportunities, and making do, although constantly looking for a locus or pole of attraction to give the strength to develop a strategy. Can we see the contrary in consumers, with consistent and grounded strategies for dealing with innovations, as well as having to deal tactically in response to seemingly uncontrollable industry offerings? To a certain extent this appears to be the case. There are undoubtedly many case of people having to make do, or engage in ‘bricolage’ not only personally, but also as professionals in organisations that are struggling to deal with technical change. However there are many situations where people have well developed strategies for dealing with the world around them, whether they are dealing with local problems, or coping with unavoidable situations including the ‘march of technology’. In appropriating technologies we are not entirely opportunistic or without our own personal social and physical space (De Certeau, 1984) in which to deal with technology on our own terms. Our home, the social network, our neighbourhood, our everyday routines, our accumulated knowledge and experience of earlier change give us a certain amount of strength. For example, those with more experience of technologies have already developed the strategies to deal with technical problems, others are better at dealing with social problems, and others have better strategies of dealing with uncertainty in the market. Over time we develop sophisticated attitudes to the place we see technology taking in our lives, and scripts to deal with change (Hirschman, 1980). Beyond specific tactics developed for particular problems we use these generic strategies, such as using the local network, information search, delaying and rejecting and using formal channels for help which can be applied to many different situations. They reflect basic attitudes and values, such as self-reliance, or a preference for solving problems with the help of others.\textsuperscript{11}
How these strategies are put into practice demands a certain amount of creativity. For example, Maurice looks for his own technical solutions to problems, which means leaning out of the window to use the mobile phone. These strategies are also applied in a hierarchy depending on the individual and their judgement of success. Those who prefer to be self-reliant, such as Fiona (Group 1) or Maurice (Group 3) will try the sort of strategies that they can implement themselves. Others will always consult within the network, others will go through market or formal channels. Choice of strategy also depends on self-confidence, and on the confidence and trust placed in others. There are some benefits from being an ‘expert’ with technology that enable the most appropriate strategy to be chosen. An experienced user will be able to judge the value of the help they can get from a commercial provider compared with other sources of information, something that someone with no experience dealing with ICT suppliers will be less equipped to do.

One common feature of all the problem situations was the role of local experts who could provide a range of support in dealing with problems, and helping to develop appropriation tactics and strategies. In the next chapter I will examine this role.