Stories, myths and metaphors: Explaining self-exclusion and Internet use in the home

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Abstract

The future of Internet use within the home relies not only on provision of access, whatever the platform, but also on the willingness of people to use the Internet within the home environment.

Most often, prominence is given to the provision of technical access and decrease in financial costs as driving forces for adoption. Kubicek (2000) argues that media economists regard the current under-representation of certain groups as a time delay that is normal in the diffusion process. However, even with significant decreases in cost of access in both financial and effort terms, there are still concerns about 'Internet refusers' (Schauer, 2002), as exemplified by differential rates between those who currently can afford access and actual use.

Employing techniques derived from qualitative and ethnographic research, we seek to understand people's perceptions of the Internet located in the wider social and domestic context in which they occur (e.g. support networks; familial/communal norms and values).

We take the approach that people make sense of their lives and connection to others through telling stories. Within stories, the use of metaphor and myth can contribute to our understanding of their perceptions and experience, and the meanings they attach to them. Understanding their expression in our life stories may communicate deeper influences, desires and motivations, e.g., Stefik (1996) argues that metaphors influence what we think the Internet can become and links this to Jungian archetype theory.

20 Internet users and 12 non-computer users in the UK were involved in initial interviews, participant diaries, observations and a series of subsequent conversations. The data were categorised and analysed collaboratively by four researchers using the 'contextual analysis' method.

Our research does indeed confirm that economic circumstances restrict use of IT and e-commerce but that this is by no means the whole story. Within the stories of perceptions of the Internet, what 'it is' and its significance to respondents' individual lives we identify 'self-exclusion' issues that restrict initial adoption and also restrict more extensive use of the Internet by those that do have access. Issues relate to a) lack of support networks or inappropriateness of available support; b) protection of the self: perceptions of security and privacy; c) the significance of the Internet to the construction of self, identity and community and need for compatibility with social contexts; d) narratives concerning 'truth' and 'magic', reflecting general feelings about the Internet as 'legendary' and perceptions of 'evil' waiting to invade and ensnare the unwary user; e) individual metaphors that reveal lack of Internet understanding and a desire to 'humanise' Internet experience; f) respondents also hold images of mythical characters, such as the 'person with magical powers' (e.g. the hacker or the programmer) against whom no ordinary user can withstand. We discuss how these may affect adoption and continued Internet use and suggest (briefly) some remedies to help minimise Internet refusal.

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1. Introduction

The adoption of innovations has been much investigated and studies and theories on the subject appear in literature in diverse fields, including business, sociology, economics and psychology. In this, the use of computers, computing and the Internet is no exception. However, adoption of computing and the Internet in the home has not been investigated to the same extent (Venkatesh and Brown, 2001). Moreover, in much of the literature there is an assumption that access to computing and the Internet is a universal desire and it is mainly a problem of resources, either educational or financial, that are holding people back from Internet use. For example, the three major barriers to Internet usage identified by Katz and Aspden (1998) are cost, access and complexity. Cost and access factors seem reasonable enough when only 22% of all non-users in one Canadian study were interested in learning to use the Internet and the top three reasons they gave for not using were cost, lack of access to a computer/the Internet and not having enough time. Thus, the argument has been put forward that the diffusion of Internet use will follow a pattern similar to the television and the telephone: any 'digital gap' is temporary and normal for diffusion of new innovations (Kubicek, 2000).

However, Kubicek (2000) argues that the other major barrier, perceived inability to use is probably more important and that there are fundamental differences between the Internet case and other communication innovations: removing the access barrier merely fully exposes the other barriers to use. Kubicek (2000) believes the fundamental disparity is that the Internet makes different cognitive demands on the user compared to other communication technologies. It is not as intuitive to learn as the television or the telephone, especially since *'these media can be adequately operated with cultural techniques that are learned in childhood and used daily …..When the user sits in front of a computer ……nothing is clear on the basis of his everyday experience*".

Thus, for many the Internet may present as an unfamiliar experience behind which is a complex technology that appears to have almost magical powers. Moreover, the cognitive demands needed to search, navigate and interpret written information are novel skills for many users. That so much of the Internet is text based is important, many people are diffident about reading large amounts of complex text, especially on a screen and may not possess the background knowledge to evaluate the quality of the information given to them. This, Kubicek argues, is not a problem that will solve itself but is a huge challenge for the more widespread uptake of the Internet. If this argument is correct, perceived lack of ability to use would clearly be a factor in self-exclusion from use of the Internet for certain sections of the population, and in particular those who have completed less formal education. This has implications for the wish to prevent social exclusion through provision of electronic networks and Internet access.

In survey results, the magnitude of perceived complexity as a factor restricting use varies, but it is certainly capable of playing a major role. A Japanese study (Kubota et al, 2001) highlights how important it can be: 49% gave this as their main reason for not using the Internet. Confusing and hard to use was given as a reason for non-use by 36% of people in one U.S. study

in 2000[1] although another (Strover, 2000) found that only 12% thought it too difficult. Katz and Aspden (1998) found complexity and difficulty of use to be concerns for both users and non-users and allude to the 'frustration levels' that might hold back use.

Important although cost, access and difficulty of use may be, there is also evidence that aspects beyond these three are restricting or precluding use. Access to the Internet is not universally desired: people do not inevitably find the Internet something they wish to use. Results from a number of studies from different countries indicate that substantial numbers of people are not using the Internet because they feel they have no need for it rather than perceived lack of access. In the 2000 US Pew Internet study, 51% of people felt that they were not missing anything by not having access to the Internet and around 37% of the study conducted in Texas in the same year said they were not interested in Internet use (Strover, 2000). When a Japanese survey (Kubota et al, 2001) asked about disadvantages and bad experiences due to not using the Internet, over 80% of non-users did not actually feel themselves to be disadvantaged in not having access on a number of issues, despite the concerns from government, etc. about social exclusion. Also worthy of consideration is the social context of use, as most non-users felt little or no social pressure to take up the Internet. Clearly, as Haddon (2000) notes, individuals may reject new technologies because of perceived lack of relevance to their everyday lives and for many people this is true of the Internet. Consequently, motivations to use the Internet are lacking.

Moreover, there is evidence that non-use or restriction of use may also be related to lack of comfort with technology in general and the Internet in particular. Lack of comfort may be through unfamiliarity but also through concerns related to worries about privacy, security, computer viruses, protection of children and quality of Internet information (Schauer, 2002). 54% of people in the Pew Internet study did not use the Internet because they believe it is 'dangerous' and 65% of the Texan study were worried about privacy on the Internet. Although these concerns may not stop people from ever using the Internet they contribute to restricted use, for example, privacy and security apprehensions have been identified as key barriers to the use of e-commerce.

Familiarity does not always lead to fonder feelings about the Internet. Some people do not find the experience of the Internet engaging enough to continue use even on a restricted basis. After allowing for those that lose access (e.g., leave college), there are still significant numbers of what Katz and Aspden (1998) term 'Internet dropouts': those people who have used the Internet but do not do so anymore. Notably, cost considerations are not necessarily the most important reason for giving up the Internet. In 2000, a Canadian survey found having 'no need' for the Internet was the most common reason for discontinuing use (30% of dropout households[2], whereas expense was cited by 17%).

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[1] The Pew Internet & American Life Project: Millions still not attracted to Web. Sept 28, 2000. http://www.digitrends.net/ebna/index_12353.htmlet & American Life Project, 2000

[2] **Better things to do or dealt out of the game? . Internet dropouts and infrequent users"** by *Susan Crompton, Jonathan Ellison* and *Kathryn Stevenson,* Canadian Social Trends (Statistics Canada) **http://www.statcan.ca/english/ads/11-008-XPE/current.htm**

Furthermore, there are many people who only used the Internet intermittently or made very restricted use, e.g., e-mail only. As with those who have never used the Internet, there is the indirect evidence of lower levels of comfort with technology amongst dropouts and infrequent users. In this study lower use of other communication and entertainment technologies[3] was associated with giving up the Internet. Drop-outs are also less likely to make extensive use of the computer for word processing, bookkeeping, games, etc., suggesting a level of discomfort or unfamiliarity with new technologies might also play a role (The Daily, 2002). This view is supported by the results that 20% of infrequent users describe computer skills as very good or excellent, compared to 57% of regular Internet users. Infrequent users tend to be more recent users, 40% of infrequents had started use within the last year compared to 14% of more regular users (The Daily, 2002).

Thus, in order to promote use we must look beyond affordability and physical access. To fully understand why people do and do not use the Internet we also need to understand perceptions of complexity, how to support learning and what makes for interesting and useful content for those who currently feel they are not missing anything. Dropouts are less likely to be working; therefore, we especially need to consider learning support in home use situations where formal support is more difficult to access than at work. Schauer (2002) argues that research should concentrate on those groups who could get access or even had it in the past but now refuse to use it in order to understand the resources needed to help the Internet to be a robust resource.

Researchers and policy makers must also evaluate the technology 'comfort gap' that may hold back implementation. An issue for restricted use or drop-out is that the experience of the Internet may increase rather than decrease discomfort. In addition to difficulties with use and disappointment with the content, Aycock (1995) discusses two other ways in which people might come to feel uncomfortable. Firstly, that the connotations of the language used by some software at set-up or when starting to use some facilities on the Internet suggest that *'authorities are aligned with law enforcement, users with impropriety or criminal activity'*. Secondly, that the idea of 'equal voice' in electronic communications may be limited: Aycock gives examples where the content of communication is used to construct a 'hierarchy of expertise'. Newcomers to the Internet, especially those starting out on their own with little social support can well be imagined to find these aspects a little daunting. When these are coupled with perceptions of complexity and difficulty finding interesting or relevant content as discussed above it is intuitive that there will be restricted motivation to use the Internet and eventually Internet drop-out.

Other 'comfort' factors include the 'Pandora's Box' perceptions of danger and worries about privacy, security and protection of children as mentioned above as well as more tangible concerns such as the replacement of real products, services and personnel with virtual ones (Schauer, 2002). Although these may not always be among the most highly ranked factors restricting or preventing use in surveys, they may have more pervasive effects than apparent through their rankings. Beliefs about computing and the Internet are not necessarily based on fact or experience, but as Schauer (2002) states, *"prejudices which are inadequate and wrong may prove to be rather harmful*". For example, Habib and Conford's (2002) study of the integration of home computers into the domestic sphere held images of the computer as being 'able to incapacitate its users, to take control of their mind, turn them into different people'. It

[3] fax machines, cell phones, ATMs, answering machines, cable TV, satellite dishes and DVD players

appears people's inexperience and lack of understanding of how computers or the Internet actually function can lead them to apply 'social actor' metaphors to the machines they interact with.

Researchers report on the 'pervasive nature' (Ereaut 2002) of metaphor in respondents' narratives. This is hardly surprising if we follow Potter's argument that: '*Far from being a mere rhetorical flourish, floating on the surface of 'proper' argument, metaphor and the workings of language are actually responsible for the appearance of truth in …. discourse.*' (1996, 81).

What makes metaphor particularly important is that in language it shapes our experience (Patton 2002, 290; Polkinghorne 1988). Stefik (1996) believes that the fact that metaphors have arisen spontaneously suggest lack of understanding about the potential of the Internet. Further, Stefik (1996) maintains that metaphors may also point to unconscious archetypes and narrative patterns are so ingrained that the metaphor chosen will influence what we believe the Internet is capable of. What we call something has consequences for how we go on to understand it.

These consequences can be for better or worse. The use of metaphor may make new software easier to learn but can also lead to unrealistic expectations (Marakas et al, 2000) that lead to disappointment with the reality or bolster fears through their connections to cultural stereotypes and perhaps even the unconscious archetypes that Stefik proposes (Stefik, 1996). In a similar vein, Marakas et al. (2000) discuss theories that the machine-being (social actor) metaphor may allow us to create a 'smokescreen' for societal issues and project our fears and shortcomings onto the computer. These issues may contribute to negative reactions towards the Internet and ultimately, self-exclusion.

2. Exploring Internet use through user stories

The research presented here was carried out within the HiSpec project during 2001-2002. This project is concerned with *human issues of security and privacy in e-commerce*. The data presented derive from the ethnographic stream of the project that sought an understanding of users' trust in Internet transactions.

Our participants were recruited from residents of two estates in the UK. The residents had formed or were forming 'online communities'. They therefore had a virtual location as well as a geographical location. Although we recruited roughly equal numbers of women and men and look for differing situations where variety was of importance, our respondents were examples of Internet users and in no sense comprise a representative sample of some population.

The data presented here are a part of that collected during recorded telephone conversations between researcher and respondents. These conversations occurred regularly and allowed us to follow developing stories over a number of months. They were part of a variety of methods employed during the research. Methods for the two estates included observation (attendance at community meetings, periods of living on the estate, general conversations etc.), participant diaries and semi-structured interviews.

The approach to the HiSpec research was primarily, but not exclusively qualitative. It draws on ethnographic approaches that seek to give meaning to people's narratives through a broad understanding of their social and individual lives.

"[This] involves the ethnographer participating in people's lives for an extended period of time, watching what happens, listening to what is said, asking questions – in fact collecting whatever data are available to throw light on the issues that are the focus of the research." (Hammersley & Atkinson, 1995, 1)

We also draw on grounded theory (Strauss and Corbin, 1998) to the extent that we sought to understand actor's priorities. The focus of the research was *human perceptions* of security and privacy in e-commerce and this necessarily imposed an agenda on the research. However, in this study it was the participant's perceptions that were important. As Strauss and Corbin say of grounded theory, *"it is important to point out that the interviewer [does] not have a list of preset questions to ask. Rather, she [asks] the questions based on responses given to the previous questions."* (1998, 106). Thus in collecting data, the researcher is guided by the participant's perceptions rather than entirely by the research agenda. Since the researcher needs to respond to issues arising form the cases, the approach is what Stake (1995) referred to as 'emic'.

The data were categorised by four researchers with the aim of generating a wide analytical interpretation. Thus the different experiences, wide difference in knowledge of the discourse on security and privacy for instance, add to the breadth of understanding. The topic of self-exclusion is one of the "*important analytical ideas [that] emerge from our data*" (Corbin & Strauss 1996, 114).

The data were categorised and analysed collaboratively using the 'contextual analysis' method. The process involved a number of intense analysis sessions, whereby the researchers listened to each conversation and noted down initial thoughts, quotes, incidences and feelings. These were then discussed with other team members and compared and contrasted. Preliminary categories were then developed (these emerged from the data) and where appropriate data were located under them. Each researcher was then free to place data under other categories, should their interpretation differ from its original location. Analysing the data collaboratively in this way meant that it was subject to a number of different interpretations. Once we had agreed on the location of data under each category, we began to assess the meaning of the data and the relationship between different categories and themes.

The emerging findings were corroborated against data obtained from interviews, again over an extended period, with people that did not live within the close knit kind of communities of the housing estates. These consisted of a group of eight online banking users, plus two family 'groups' and four small business Internet users that made personal and business purchases through the Internet.

The personal stories we heard suggest that people approach the Internet with a set of beliefs about 'what it is'. Individuals' perceptions of, and knowledge about, the Internet, security and privacy appear to be informed by a combination of 'stories' they have heard (which may or may not be true) from external sources and prior experiences and significant events. These were related to us through their personal stories.

The participant's responses were treated as stories in a particular context. Through their stories, individuals may depict their understanding, or interpretation, of events, although this may not necessarily be a completely accurate portrayal. Our main focus was on the meaning that people attach to events as opposed to establishing whether or not their account is 'valid'. What is important is what the respondents believe to be so.

We therefore consider how the participant's narratives "*function as rhetorical devices serving a particular purpose for the speaker*" (Coffey & Atkinson 1996, 85). The participants knew the research team's subject of study. This set the context. Participants can, therefore, be assumed to be constructing stories that make logical sense of their use of the Internet.

In order to make sense of our respondents' stories of the Internet, and indeed the meaning they attach to them, it was important to locate and examine them in the personal and social contexts in which they were told. In addition to mapping individuals' usage, we obtained biographical and contextual information relating to their lives, selves and the communities in which they are situated. We were interested in their use, perceptions and experience of the Internet and how this intersects with their personal biographies, and how it affects, or is affected by their position within the communities.

The way in which people tell stories can contribute to our understanding of their perceptions and experiences, and the meanings they attach to them. It is not only the content that is important but the way in which people tell their stories. Within our respondents' stories there is evidence of the use of myth and magic in their attempts to describe their Internet experiences, and to "*accommodate its alien nature*" (Habib and Conford, 2002). We also observed the extent to which respondents drew upon metaphors in an attempt to relate their experiences. Van Maanen (1988:23) observes how metaphors are frequently employed to describe the *unfamiliar or unknown*: whilst sociologist ethnographers are 'caught in their own society' and have less need to draw upon metaphors to describe the culture they are researching, anthropologist ethnographers, who tend to study 'alien' cultures, "*must lean heavily upon ideographic approaches and telling metaphors if they are to bring their materials home*". Similarly, our respondents seemed to be caught up in the process of describing and relating personal experiences which are occurring within an 'alien' or unfamiliar environment.

'*Metaphors carry implicit connotations'* (Patton 2002, 505) and this is what makes them useful in understanding the meanings others hold. Because we cannot be sure all of the connotations were intended we must be circumspect in our attempts at '*grasping the experiences of others'* (Spiggle 1988, 165). Patterns across cases strengthen our understanding.

The aim of analysing metaphor, therefore, *'is to explore the linguistic symbols or 'folk terms' used by social actors both individually and collectively'* (Coffey and Atkinson 1996, 90). In our case, the collective or *domain* metaphors are those established by the 'techies': web; cookie; firewall etc. These are well tried and established and can be assumed to carry, and depend on, some 'shared understandings' (Coffey and Atkinson 1996, 86). However, we also have individual or *subjective* metaphors. These are the ones used by respondents less experienced in IT but seeking to explain their experience.

3. Findings: Evidence within our data of issues restricting initial adoption and limiting more extensive use of the Internet

3.1 The role of informal support networks

Research conducted into the use of information and communication technologies (ICTs) within the home (e.g., Liff, Steward and Watts, 1999; Haddon, 2000) reveals that although economic circumstances may restrict initial adoption and more extensive usage, other factors,

such as lack of training and support networks in which individuals can learn about the use and potential of a particular technology, can exacerbate social exclusion and prolong self-exclusion.

The stories we listened to did indeed confirm that support networks have a significant influence on the experience of Internet use. Recalling her first visit to an Internet Café, with the intention of downloading an artist's picture from the Internet, one respondent describes how the support there, despite the technology being available, was inadequate:

"When I went there it was a bit daunting because I'd never been anywhere like that before, but I took somebody who was studying IT. So I went in and found the information but there was not floppy drive so we couldn't save it onto a floppy disk and then I couldn't put it in an attachment and e-mail it to myself… [There was] no help at all. Basically there was one person there running the café and it was just like a shop environment, she couldn't really tell me what to do. It was like, the computers are here for you to use if you know how to, I'm just here to serve and make sure the place stays clean".

This incident perhaps illustrates the difficulties associated with providing access to technology without putting the relevant support structures in place. It also reinforces Liff et al.'s assertion (1999:2) that exclusion *"may also occur because of an absence of training and other support networks to learn about the potential of technology*."

However, although support may often be a necessary adjunct to successful and pleasant Internet experience, it is not always sufficient. Liff et al. (1999:2) make an important addition to their comments about the need for training. This is that training and support should be provided in *"a context in which people feel comfortable about using it"*. We concur with this observation: it was apparent from our investigation that even when support was available, simply having access to support was not always enough.

We believe our findings make the case that to be sufficient, support that is available must also be *appropriate to the needs of the user*. From the descriptions of times when support was useful, the needs of the user are for simple non-technical language and support that is available when it is needed. One respondent described getting technically proficient help from a formal support group that she could not understand. Formal support tends to be available at specific times and in specific places, notably not where and when a home user is most likely to switch on the computer, i.e., weekends and after work. Formal support also tends towards a course of instruction, rather than a targeted piece of advice for a specific problem of interest to the new user that lets them get over present hurdle. Here, informal support networks could provide help that fits user needs. The popularity and effectiveness of informal support networks was obvious in the stories of help received. They are flexible, generally low effort and can provide targeted and specific advice. However, our stories indicate that they do call on 'social capital' (e.g., Warde and Tampubulon 2002).

Thus, sadly, informal networks are not a universal panacea. Whilst it was apparent that informal support networks existed within the communities we observed these were perceived differently by different individuals as being either *inclusive* or *exclusive.* In one of the communities we conducted a survey of IT support, which indicated that support is reportedly organised around *friendships*. The observations we conducted in addition to this gave no reason to conclude otherwise. Because of this, IT support, therefore, was not entirely *inclusive.* The survey showed that some tenants identified themselves as in need of help but were afraid to ask. Indeed, one individual was concerned with repeatedly bothering others with recurrent problems.

The conversations we had with our other respondents support these assertions to a certain extent. One, for example, believed the support available in the community in which she is situated to be less accessible than the support she can draw upon at university, where she feels there are knowledgeable people she can approach if things go wrong: *"there's somebody to support you if you need to ask anything*". That this respondent feels more comfortable asking for help in one setting over another does not suggest an absence of support in either of these, but reflects her perception of the support in the community as being less accessible, which may have implications for her usage of IT and the Internet within the home, and possibly limit her engagement.

However, not all the respondents we have spoken with felt that the support was exclusive. At least three of the residents in one housing community felt that they had access to adequate support. This seemed to us to reflect their positions within that community: each of them reported either being actively involved within organisations and/or groups that are linked to the community, or of having some personal connection with those providing the support. Similarly, a resident within another housing community felt that his position within it, as an active member, ensured that he could draw upon IT support as and when he required it, viewing himself as *"fortunate because I [have] mates around, you know, *** and such persons"*, should he encounter any technical problems.

3.2 Protection of the self: perceptions of security and privacy

We can also concur with findings discussed in the introduction that issues beyond access and ease of use impact on Internet use. From the stories we heard we were able to identify factors other than the technical and social support available that might impact upon levels of Internet usage within and outside the home. These include respondents' perceptions of security and privacy over the Internet, as well as the precautions they might take in order to protect themselves. Interestingly for home use, our data suggests that the context in which the Internet is accessed can have implications for respondents' usage of it. One respondent describes how her Internet use within the home has been limited by the fact that she feels 'safer' accessing the Internet from the university network. Although anxious about security and privacy on the Internet, her primary concern appears to be with her own personal safety. At the university, she explains, she feels more confident about security because,

"there are so many people there … it [is] more to do with security as in feeling safe using the Internet there because there is no contact to my home. Anybody that I e-mail, anybody that I send out information to, it's not coming back to my house, so I feel safer, not security wise as in people can't access the data I'm sending" .

Other respondents expressed concerns about their privacy, one of whom felt disinclined to reveal 'unnecessary' personal information *"like your name, address, date of birth and things like that. I think a lot of [websites] ask for it when they don't really need it … I'd just be wary. I just want to know why they want all this information … I'm just reluctant because I think, why do people want to know all this information about you*". This respondent's perception of 'unnecessary' data collection by certain websites has limited her usage of them, although her reluctance is also linked to perceived negative implications of revealing such information: *"because I really don't want a lot of junk mail, you know, I'm not interested"*.

Thus, there is evidence that, at least for some people, accessing the Internet is perceived as something that may expose a person to intrusion on their personal space, even to outright danger. The Internet is in some way seen as capable of acting as a conduit or entry point for

outside forces into the home. Another respondent described feeling *"violated, as if my home had been dirtied"* when she received unsolicited pornographic e-mails for the first time shortly after getting e-mail access at home. This led to her immediately closing down the computer and not using e-mail from home for several weeks.

3.3 Significance of the Internet to the construction of self, identity and community

Within the stories we heard there was evidence of peoples' perceptions of the Internet, and indeed usage of it, being determined to a certain extent by their perceptions of self, identity and their position within the communities in which they are situated. We found examples of respondents attempting to place clear demarcations between work which is deemed to be IT related (such as non-personal e-mails, Internet research, databases) and their home lives.

One respondent was keen to stress that although IT and the Internet represent tools that enable him to be more effective and efficient in certain spheres, such as in the running and administration of community based organisations, he only uses them for work purposes. They represent a means to an end, rather than an end in themselves. The respondent made it clear that he is 'an end user'. In a similar vein, a respondent who plays a significant, and very active, part in one of the housing communities portrays his role as being primarily social rather than technical. As such he remarks that he is not the technical person, but *"the plumber: joining things together, whether it's people, cables or anything"*. This is despite the fact that his narratives reveal that he would be considered by many people to be a very technically able person.

Alongside these narratives of home-work separation are stories which reveal individual and collective 'fears and anxieties' (Habib and Conford, 2002) about the Internet and IT as having too much influence. Similarly, the respondents in Habib and Conford's (2002) study of the integration of home computers into the domestic sphere held images of the computer as being *'able to incapacitate its users, to take control of their mind, turn them into different people'*. Some of our respondents attempted to 'resist' or overcome these fears by limiting or restricting their use of IT. In a sense, IT was viewed as something that needed to *be controlled* rather than being allowed to *have control* over individual lives. One respondent, for example, tried to limit the time she spent on the Internet because,

"I wouldn't like doing a large proportion of things over the Internet because I wouldn't want to spend a large proportion of my time in front of a computer. I'm sure I spend more time on there than I need to, or would want to. I just don't think it's a very healthy way to spend your time, in front of a machine".

We heard other stories concerning the significance of the Internet upon the construction of self and identity, noting concerns amongst some of our respondents about the way in which they were perceived by others. Some, including the 'end user', revealed their fears of being perceived as 'computer nerds': *"I only want to hear so much about computers because I've got no ambitions of becoming a computer techno-nerd"*. This supports Downey's (1998) ethnographic research in computer laboratories, which revealed that his student respondents, when asked whether they *"had ever felt themselves merged with the machine"* were largely defensive as they did not want to appear as 'geeks'. Within our research, the general response to these fears and anxieties has been a perceived or actual reduction in use of the Internet by some respondents.

Thus far we have focused upon factors which play a part in limiting the usage of the Internet by respondents acting as *individuals*. Nevertheless, our research also suggests that

frequently, our respondents' actions and decision making would be shaped to a certain extent by their membership of a particular group or community which holds particular values and beliefs. This was especially apparent in terms of respondents' online purchasing, which in some cases was limited by their shared moral perceptions. We have a number of examples whereby individuals would 'transfer prejudices' which would inform purchasing patterns in bricks and mortar stores, to e-purchasing. One respondent, for example, provides a rationale for choosing one audio-visual store in particular from which to buy a hi-fi:

*"[*Store A*] is just a very friendly place to go. If you go to any of their shops … the ethos is sort of very friendly and very helpful, and the company itself still holds certain things, holds certain principles. So you know, it's like if you go to* [Store B], *you know that the staff there are sort of on commission and you know that they're not particularly interested in you as a customer, they just want your dosh. Whereas if you go to [*Store A] *they seem to be interested in what you want, and they're very knowledgeable, so you tell them what you want, you tell them how much you've got to spend and they'll find you something to fit that"*

The story of another respondent, with a keen interest in boat building, illustrates the extent to which his online purchasing would ultimately be influenced by the physical location of a store, reflecting the values and principles he holds, as a consumer with a desire to support businesses within his local area:

"*I couldn't make use of what I found. The only boat builders, for example, were in Arkansas, you know what I mean? … There was nothing in the United Kingdom, very little. I was somewhat disappointed to tell you the truth. So I kind of think it didn't have immediate relevance […] Because I'm a practical person, if I'm going to buy things online, I'd rather be put in touch with the builders' supplier down the road and have a look through stock and then go down to the shop and buy it, rather than order a packet of screws from anywhere on the planet. For me personally, sort of locality, immediacy is important … which is one element of what the Internet's about, I know, it's almost an abuse of the potential of the thing".*

The last remarks also indicate a sense of disappointment that the Internet failed to live up to his expectations.

3.4 Perceptions of the legendary Internet: the use of myth, magic and metaphor

The content of the narrative accounts we analysed enhanced our understanding of self-exclusion, and factors that restrict initial adoption and more extensive use of the Internet. So too did the way in which our respondents told their stories: with many of them drawing upon myths, magic and metaphors. These were often used in an attempt to make sense of their experiences of the virtual (and often unfamiliar) world by locating and discussing them in terms of their everyday experiences.

The stories we heard contained a mixture of 'truth' and 'magic' and were shaped to a certain extent by respondents' perceptions of the Internet: of what 'it is' and of 'what is possible'. Our respondents had certain expectations (that were often incorrect, or at least unrealistic) of the Internet and of the positive, or negative, impact it may have upon their individual or collective lives. Like the respondents in Habib and Cornford's (2002) study, our respondents exhibited an evident *belief or faith in the magical properties* of the home computer and/or the Internet. Habib and Cornford cite examples of respondents' beliefs that, for example, acquiring a modem will

'magically' take care of school assignments, and computer ownership will translate into a matchless education and ultimately a secure academic and professional future.

We had similar examples of respondents' belief or faith in the magical properties of the Internet. One, for example, believed that shopping online would result in almost 'miraculous' outcomes, and enable him to overcome the 'frustration' he associates with shopping in bricks and mortar stores, as well as saving him time: *"I personally don't like shopping and find that shopping online saves me a lot more time than would normal shopping. I think for me it's an issue of time and the sheer frustration of going into a shop"*. In contrast, another respondent, who has a disability and spends a great deal of her time in the home, viewed the Internet as a 'time-filler'. For her it is *"entertaining and a good source of information*" as well as a medium for researching her health problems.

In addition, we have a case whereby the Internet was perceived as a 'universal notice board', which could be used as a tool to *support* rather than undermine local trading. Our respondent realised ways in which he can use the Internet to trade goods and services *within* his immediate locality that might have been less feasible using other modes of communication: "*Having been in the [building] trade and having an excess of sand that you don't want, you want to find somebody that needs some sand, and how do you do it? The fact that this magical thing called the Internet came along, I thought, ****, why don't I type into the universal notice board 'I have a lorry load of sand and anybody who wants it phones me up, you know*". [emphasis added]

We also have evidence of our respondents holding images of 'mythical' and actual characters, many of whom are seen to control IT and have some kind of 'magical powers'. Some of these images were positive, such as that held by one of our respondents who describes her main source of technical support, who *"deals with the computers*", as knowing *"everything there is to know about them"*, although she is unsure of whether his role is official or not. In contrast, individuals also held negative images of 'mythical characters' with 'magical powers'. The most common of these seemed to be the 'hacker', who conjured images of evil waiting to invade and ensnare the unwary user. For example, when discussing information security, one of our respondents drew upon her friend's perception of security on the Internet (e.g. the transmission of information such as credit card details and personal data) when telling her story, explaining how she believed that it would be more secure to give credit card details or divulge personal information over the telephone than over the Internet: *"there could be one errant person on the end of the telephone, but on the Internet any hacker could get into your data*" {emphasis added).

This perception, however, stands in contrast to the views held by another of our respondents, whose images are not of a hacker trying to get your data, but of a person with magical powers 'protecting' the user, ensuring their privacy and security. She feels safer submitting her credit card details online than over the telephone because *"you can actually see the order being processed .. and psychologically you can see where [the information] is going"*.

We noted that a common of use of metaphor by our respondents was to describe what appeared to be 'inexplicable' events or happenings, one of which was referred to as the "*strange e-mail event*". In telling his story, one of our respondents explained that a friend of his received an e-mail that had been addressed to ***@***, an address which is similar to, but not the same as, his, and similar to, but not the same as, his friend's. Although he was the intended recipient, he could think of no explanation for this event, but attempts to make sense of it by locating and

discussing it within a familiar (non-electronic) context: *"it's like the postie was trying to do their best, you know, the address was slightly wrong but they were using their initiative and shoving it through somebody's letter box. But that's not supposed to happen with computers, either they're 100 per cent right or completely wrong. As I understand it, they don't have any initiative*".

Metaphors were also used to explain strategies for enhancing Internet security and 'protecting the self'. Another respondent, in an attempt to relate the unfamiliar to the everyday, explained how, *"the Internet isn't secure. It just isn't. But it's like one of those things. Your pocket's not secure, your pocket can be picked in a crowd, so you know it can happen. You take as many precautions as you can, but the danger is there. If you're sensible you use the best precautions, but still it could happen and you're not gonna stop people messing around on the net*". The same respondent went on to convey her fears of, and reluctance to use, Internet banking through the use of metaphor: In addition to a mistrust of banks in general, she believes that *"The whole Internet is a very, very vulnerable space. Anyone can hack the Internet if they want to, and you know, [having online] bank accounts is like money floating around as electrons*"

Our third example of the use of metaphor comes from a conversation with one of our respondents about informal support networks. This particular respondent, who enjoys access to relatively high levels of technical support, likens this with the mechanical support deemed necessary to maintain a motor vehicle: *"with regard to a computer, it's like other people with their cars … there are sort of basic things you need to know before you can do anything useful in terms of looking after the thing. So when the programme's set up I can use it, but I can't set it up, so having people like *** around is very useful*".

4. Discussion

Within this paper we have identified issues affecting both initial adoption, and more extensive use of the Internet. We now go on to discuss the significance of these findings and to suggest some remedies to help minimise Internet self-exclusion and restricted use. From our respondents' stories it is apparent that whilst access to, and usage of, IT and e-commerce are often restricted by economic circumstances, i.e. a lack of financial resources, a multitude of other factors are influential. We found levels of engagement to be affected by (i) the availability of *appropriate* IT support; (ii) levels of IT skills and knowledge; (iii) wider issues of self, identity and community and (iv) level of comfort with the Internet expressed through metaphor and myth.

Our research suggests that an individual's use of IT and the Internet is affected by the support that is, or is perceived to be, available to them. From the stories we heard it became clear that inexperienced users in particular, felt less comfortable requesting help within contexts where the support structures were much more formal. Moreover, there was a general perception of the formal support that was available, and indeed the environment in which it was provided, as being inappropriate to the needs of the user. However, although our respondents enjoyed access to informal support networks, which tend to be more flexible and targeted towards individual needs, some felt less inclined to seek help from these than others. Indeed, our research indicates that for those starting to use the Internet, membership of an informal support network is often dependent upon the recipient being part of an *existing* off-line network. In the case of the social communities we observed, these tended to be community or estate based organisations, although often these would be based upon friendship networks. For informal support networks to be effective then, they need to be viewed by potential users as being inclusive, and not dependent upon accumulation of social capital.

In addition, we found Internet usage to be restricted in cases where respondents possessed relatively low levels of knowledge and skills in IT. Ironically, these individuals were less likely to access support networks because of a perception that any help given would be dependent upon the recipient having already reached a basic level of competence in IT.

Moreover, we concluded that these users felt excluded not only from informal support networks, but from 'knowledge networks'. Unlike those residents with high levels of involvement, and indeed contacts, within the housing communities, their immediate friendship groups did not possess, and so were unable to share or 'trade', knowledge about IT in order to resolve problems. Not being, or feeling, part of a particular support or knowledge network can exacerbate exclusion from, or limited engagement with, the Internet. However, whether or not this could be classed as a form of self-exclusion is debateable. Whilst a user may 'choose' to reject, or limit their usage of, the Internet because of a perceived lack appropriate IT support, it may be argued that their actions are determined by a certain extent to external circumstances.

Research conducted into barriers to learning for marginalized groups, including transient people, (Doherty, Smillie and Cook, 2002) found that such groups are often excluded from support and training because of their exclusion from both formal *and* informal support networks. As such there is pressure upon them to go outside of their existing family/friendship networks. One of the barriers to accessing learning opportunities identified was low self-confidence. Many of the respondents felt inadequate and therefore uncomfortable approaching providers of formal educational courses. They reported feeling 'intimidated' not only by the tutors, but by the formal institutions: "*I'm not keen on going to strange places. If there's strange people there I get a bit nervous*." The context in which IT training and support are offered, therefore, is also important.

The authors of the report also note that the transient people they interviewed felt more comfortable and 'safer' accessing basic IT skills within less formal, and more familiar settings, such as hostels, "*because that's like their community.*" The fear of being stigmatised or ridiculed by other members of a course often discourages the take-up of more formal education and/or training outside and individual's own particular community/group (Doherty, Smillie and Cook, 2002). Moreover, within those communities there was evidence of an "*it's not for me*" attitude. One of the respondents in their study stated that , "*College is not for people like us – it's for people who expect to go from school – we need to be dragged there*." In addition, some respondents were reluctant to participate in any kind of education or training due social and peer pressure, whereby partners or spouses, for example, would question the worth or relevance of their intentions.

Within our own research we found evidence of social and peer pressure impacting upon initial adoption and more extensive use of the Internet. Here, however, there appeared to be an element of *self-exclusion*, whereby individuals were actually in a position to reject IT and the Internet, or at least limit their engagement, given that they already had access to the Internet. Rejection or partial-rejection is often associated with individual, or collective, perceptions of IT and the Internet as being too 'self-absorbing', or having too much control over individual lives. Indeed, we have provided evidence of attempts by respondents to distance themselves from what they see as 'nerds' or 'techies'. Here then, it would appear that Internet usage may be restricted by individual concerns with self-identity and the 'presentation of self', and with how others see them. Self-exclusion or limited engagement can also occur within specific areas of Internet use, such as e-commerce. We found instances of online purchasing being limited because of (a)

negative perceptions of Internet security and privacy; and (b) individuals' moral perceptions of particular companies.

5. Minimising Internet self-exclusion: some brief suggestions

To return to our original point, adoption of the Internet, and indeed other innovations, is not dependent entirely upon the provision of educational and financial resources, although these do play a considerable role. In this paper we have identified a range of additional factors that may restrict initial adoption and more extensive use of the Internet and considered the importance of these. In doing this we have uncovered some of the weaknesses in existing 'top-down' approaches to increasing access to, and usage of, the Internet. We conclude this discussion, therefore, by proposing a number of 'optimum conditions' necessary for engaging the excluded with the IT and the Internet.

5.1 Optimum conditions for engaging new and past users

5.1.1 Providing equipment and resources

Adopting a top-down approach to increasing Internet usage, with little consultation at the micro-level as to the needs and requirements of those currently excluded is unlikely to result in success. The implicit assumption underpinning this is that provision of the necessary resources and equipment to those in financial need will suffice. One example of this might be to provide computers to those without access, but this assumes that not only can the individuals or families concerned afford the telephone costs but that they even have a telephone land line. This is not the situation in many poorer communities. Moreover, within initiatives or schemes designed to increase access, there can be a tendency to provide equipment that is second hand, or contains older versions of hardware and software. This tends to give rise to disappointment with the Internet experience and can even entrench feelings of being 'second class' and so the Internet is not really meant for people like them.

5.1.2 Access to knowledge, skills and support

Even when affordable, up-to-date access is provided, e.g., through community cabling systems, care needs to be taken about providing support. The learning support must be flexible, appropriate, inclusive and meet the needs of the users when they need it. Users should be able to define their needs and have support provided by people they feel comfortable with in places they feel comfortable being in - a bottom up approach.

5.1.3 Marketing: changing the "*not for me*" attitude

Linked to these two, and doubtless affected by them, is the challenge of changing attitudes and beliefs (whether articulated or not) such as those apparent in our respondents' stories and use of myth and metaphor. These 'not for me' feelings and generalised worries about the Internet, whether brought about through poor experiences of the Internet or adverse expectations of Internet use have to be addressed not only in individuals but also in the wider community. This is particularly the case in those social groups where Internet access is particularly low. It would involve providing useful content in digestible formats for those who currently find the Internet less than useful and the information difficult to find and assess (Kubicek, 2000; Schauer, 2002). However, in view of the concerns expressed about privacy, security and even personal danger and feelings of violation we believe it is also necessary to systematically provide users with the

knowledge and skills to have some feelings of control over their own safety online. As this involves giving information to a large number of people, public education and social marketing programs would be the most efficient method of achieving this. The authors are currently engaged with trials of social marketing programs to this end and our initial results are encouraging.

(for other discussions of this subject see Kubicek (2000) http://www.mediakomm.net/documents/kongress/eslingen/kubicek_en.pdf and for a discussion of wider issues of providing learning support for socially excluded groups see Barriers to Learning http://www.northwestllp.ac.uk/areas/fylde_coast/downloads/Transience%20Final%20Report%20-%20NWLLP%20.pdf

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