



Managing email: the UK experience*

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Introduction

While there are commercial and policy concerns about some of the negative aspects of email, there is a limited amount of research on the issues people face when actually managing their email. The concerns that have received some high public visibility relate to the damage that can be done by viruses and the issue of spam emails, although the latter is problematic in that what counts as spam is itself contested. This point will be explored in more depth later, but for the moment let us consider this to be unsolicited email from people outside of known social networks. However, more anecdotal evidence suggests that there are more issues involved in managing email that deserve some considerations; ones relating to emails from known social networks.

After setting the scene by looking at findings from US research, this report aims to examine British people's experiences, evaluations and strategies when managing their email. It brings together the OII's own survey results for the UK¹ and material from an exploratory, qualitative study conducted in Britain, details of which are given in the Appendix to this report. Hence, most of the quotations that follow are taken from a selection of in-depth interviews that examined email user experiences, while others come from staff in organisations asked to reflect on these issues.

Given existing public and research concerns about whether the rise of spam is degrading the experience of email (Fallows, 2003), the first half of this report deals with British email users' experience of spam in some depth. It starts with a review of the spam issue and examples from the UK of how IT professionals dealing with spam within organisations have fared. It then briefly considers what we can learn from the US, where the topic has received more academic attention. What follows, as the main part of this spam section, is an outline of the British research on how users of email define spam, the extent to which people experience spam as a problem and the strategies used to cope with spam. By way of comparison, the following section looks at how these same users deal with viruses.

As noted above, if spam is the subject of a public debate, previous research had suggested other issues concerning email that do not necessarily have such a high profile. Therefore, the second half of the report focuses on email from known social networks and the organisations in which people work. In fact, the questions parallel many of those relating to spam: what problems do people experience with email.

Clearly the report is framed in terms of exploring problems or issues and hence it does not deal with every aspect of email communication, such as how emails have the nature of communication or relationships with others, both local and distant. Some of these questions have already been addressed in other research.² One aim of this report is to provide a framework indicating

¹ See: <http://www.oii.ox.ac.uk/research/project.cfm?id=8>

² For a summary, see Haddon (2004).

what kinds of research would be of value and hence to propose an agenda for further projects that might follow.

Spam

Spam as a public policy issue

Especially following the rise in the volume of spam, a variety of organisations worldwide, including both companies and governments, have met to formulate policies for dealing with the problem (Ahn, 2004). Indeed, some countries such as the US have even passed anti-spam legislation (Rainie and Fallows, 2004). Meanwhile, various reports on email in the workplace (Fallows, 2002), and spam in general (Fallows, 2003), have pointed to the high profile given by the media to stories about spam.

Those charting the rise of spam over the last few years especially have noted a variety of reasons why spam is a problem. For example, one OECD report (Ahn, 2004) describes how ISPs' spam can slow Internet speeds, overload email servers and simply cost a good deal of money in resources to combat spammers. There are also concerns that spam undermines more 'legitimate' direct marketing (Ahn, 2004) or that the very filters that stop spam will also block such email (Fallows, 2003). In fact, the UK research outlined below will show that this is problematic when some people regard any direct marketing as being spam.

Spam: the burden on employers

The burden for companies and other organisations tends to be the amount of employer time taken up by spam, and subsequently the resources used to combat spam. For example, in the UK qualitative research undertaken for the OII, two employees were interviewed—Mathew and Simon—who had organised the installation of spam filters in a large British company. They noted how the company had started addressing the spam issue in 2003 as the number of people complaining about the volume of spam grew. Some employees were getting 100 spam messages per day by then, and overall the company was getting 100,000 spams a day. Meanwhile, Mathew,³ working in a university IT department, noted that by 2003 the level of spam '*got to the point when it was completely unacceptable, the volume of stuff that was coming in and the amount of time it was taking people to delete it or even read it and then delete it was completely out of all control.*' In fact, in some cases the rapid growth of spam would have threatened the capacity of their email system altogether.

Richard: 'Had we not stopped the spam our mail systems would have fallen over. That wasn't the motivation when we decided to (install the filter). But had we not done it we would have been in big trouble, it would have been a disaster'.

³ Names of interviewees have been anonymised.

However, we must add some caveats here. First we might consider one US study of spam in the workplace, admittedly before a period when spam grew rapidly and become more sophisticated (Fallows, 2002). Having discussed the problems and predictions, the researcher was surprised to find that spam was not really considered to be a major problem in the workplace. Despite some other issues, email was generally valued in that setting. Second, the UK research suggests that spam can be distributed very unevenly within an organisation. In the large company described above, the IT staff explained that perhaps 70% of employers received no spam at all, 20% got some but 10% had a lot.

Spam and individual email use

This leads us to the central focus of this report: the individual end user of email, be that in a working or a private capacity. Previous reports have commented on the problems of time taken up by spam, the offensive or otherwise negative content of spam as well as questions of whether spam will ultimately affect trust in the Internet and email usage (Ahn, 2004). The UK studies discussed below attempt to throw further light on these issues, both through survey findings and glimpses of how spam is experienced in people's everyday life.

To provide some context for the British studies, let us start by looking at an overview of US studies of spam by the research organisation Pew. Although these emphasise various concerns about the degradation of email through spam, the statistics reported show a mixed picture (Fallows, 2003). On the negative side 70% say spam has made being online unpleasant and annoying (indeed this rose to 77% the next year; Rainie and Fallows, 2004); 46% say spam has made being online more complicated. 52% say that they are less trusting of email (63% in 2004); and possibly most worrying, 25% say they have reduced emailing because of spam (29% in 2004) (Rainie and Fallows, 2004).

On the other hand, one third say 25% of emails or less are spam; 35% say it takes just a few minutes a day to clear up spam, 25% spend 5-14 minutes doing so, 59% find spam annoying but not a big problem; 14% say it is no problem at all.

In other words, people have different experiences of spam. Clearly for many it is an irritant. In the following sections, a number of questions are addressed:

To what extent do people define spam differently, and what do they include?

Who experiences spam as a problem?

To what extent is spam a problem and why?

How does it compare to other unsolicited messages and other issues for users?

Are some spam messages more of a problem than others?

How easy is it to recognise spam?

What strategies do people use to avoid spam?

How do they deal with it when they get spam, especially when filters are used?

Spam: The findings of the UK research

Defining spam

Even those interested in promoting international collaboration to combat spam note that there is no hard and fast consensus on what counts as spam and that different national bodies have slightly different definitions (Ahn, 2004). According to Pew's US study, equivalent differences in definition exist amongst email users themselves (Fallows, 2003). For example, for each of the following types of email, only about three-quarters felt that unsolicited messages with religious content, political messages and personal or professional messages count as spam.

The UK research reported here found similar results, both on the part of users and the IT staff trying to combat spam. For example, Richard led the project that had installed spam filters in a university IT department. For him the easiest spams to classify were those that were not requested and that were in some sense offensive, or a scam, or at some level made an attempt *'to sell you something that you could not possibly want'*—or which came in large volumes. However, product ads from firms, especially well known ones, were *'a real problem, because as I say to people "one man's spam is another man's roast beef" (...) and if you take this a stage further you realise that spam doesn't necessarily come from outside, it can come from within the university.'*

If we turn to the users of email, it was sometimes easier to give examples of spam than to define it (Viagra adverts, pornography, cheap degrees, weight-loss schemes, penis expanders, 'you've won something', one inviting you to take part in some fraud, etc.). Sometimes people differentiated between types of emails. Gunter defined spam in this way: *'Well actually all the mail that is not addressed to myself as a person, which is anonymous somehow is junk mail. But there are different degrees. If I am feeling molested in a way ... or if it doesn't matter.'*

Lorraine, who with her husband had a personal website devoted to their hobby, differentiated between spam that was simply unsolicited things she did not want and *'semi-spam where people have found our website and are trying to get us to buy their produce'* who had at least targeted them out for a *'positive reason'* that somehow related to their interests. For example, she had recently received emails from China and Pakistan trying to sell her hats and belts, which had obviously arisen from people looking at their website. *'I don't really think of it as malicious spam, because it's someone just trying to get business'* although the messages were still a nuisance, and she simply deleted them. However, she also admitted that rather than always making distinctions between different types of mail, how she reacted to them also depended on how many unsolicited messages she was getting overall.

Lorraine: *'I also think how annoying it is depends of the quantity. If you get a couple a day you just delete them and think "Well, sod it", but once you start*

getting 10 or 20 a day it gets very annoying and whatever they are you consider them as being spam because they're annoying!

Some of the people in this study thought that emails containing product news from known companies with whom they had already traded did not count as spam—whereas others thought that they did. And whether they were or were not specifically defined as spam, several of the interviewees experienced and treated them in an equivalent way. We saw that Lorraine did this and so did James, who did not define emails from known companies as spam, but nevertheless found them to be a minor irritant.

James: 'I suppose it's hard to define (spam). If I haven't had contact with that company and they send it ... then that's spam. But I think one of the other things that I get quite a lot of is where you have contacted somebody in the past and they keep on sending something. Because then you've got to go to the trouble of telling them you don't want it. Which is a pain. So I just keep deleting them. But I don't really mind them too much ... you can delete them.'

More strikingly, as will be discussed later, some felt that a number of the emails sent within organisations were in effect spam as far as they were concerned. Or at least, once again, they treated such emails in the same way as other spam messages: by hitting the delete key.

Who suffers from spam?

We can now look at the British quantitative data from the OII's Oxford Internet Survey 2003 (OxIS). Considering socio-demographics first, it turns out that age, class and education made no difference to attitudes towards spam.⁴ Only gender was weakly correlated to attitudes, with women being more annoyed than men.⁵ Given that a sociologist will point out how important these socio-demographics are in so many walks of life, as reflected in a variety of statistics, it is itself noteworthy that they are not so important in this case. Spam is a hassle for the young and the old, the working-class and the middle-class, and, with some difference in emphasis, males and females.

If we now look at whether the experience of using email makes a difference to the experience of spam, one scenario could have been that the spam problem lay chiefly with novices, who had not yet developed the skills to block or otherwise deal with spam. Moreover, if they are just starting and in the process of evaluating the Internet and are suddenly confronted by a good deal of spam (as opposed to experienced users getting used to the build-up of spam over years) then this could have serious consequences. It might have the potential to put them off email, or indeed put them off the Internet.

In fact, the OII data show that in practice it is the more experienced users that actually receive more spam. And their years of experience have not made

⁴ And apart from the fact that older users received less spam, on the whole, socio-demographics do not make a difference to the amount of spam received. This contrasted with the US Pew results, where young people were more tolerant of spam (Fallows, 2003).

⁵ In the US Pew research, women were more bothered by all aspects of spam (Fallows, 2003).

them more tolerant.⁶ Given that people who receive more spam are more likely to complain about it,⁷ it is unsurprising that experienced users also complain more.⁸ And yet, the fact that they get more spam, or rather more spam gets through, is surprising. One would have anticipated that after filtering and other precautions they might have received less spam.

In addition, the OxIS survey found that the strongest predictor of negative attitudes to spam was the amount received. This is followed by the frequency of checking email (to be discussed below) and the number of functions you performed online.⁹ The amount of non-spam email you receive even has a bearing on whether spam is annoying.¹⁰ And those rating themselves as being more highly skilled are more annoyed—perhaps frustrated that they cannot deal with this (again weakly correlated). In other words, it is the experience of spam and how you use the Internet that are the most important factors, not the type of person you are.

Turning to how we use email in more detail, it is those who check their email infrequently who complain more. And one can imagine why. They have a build-up of spams waiting for them—this makes it even more striking, they have to spend a period just to remove them (as when people have to deal with email after they come back from holiday).¹¹ Both light users of email and heavy users complain more if they check less, so frequency of checking, this particular style of use, has an independent effect.

What about those people who have multiple emails—another style of use? At the outset of the research there was more than one way to interpret this practice, to anticipate what it indicated. One possibility is that having multiple emails reflects a more sophisticated approach to handling email, in terms of dividing it up into different types. Would these types of people be more sophisticated in their handling of spam? Or should we again question any assumptions about what counts as sophistication and quite simply if people have more emails addresses, this gives rise to a greater chance of them getting more spam? In fact it does. People with multiple email addresses are more likely to get spam.

At first sight the choice of ISP seems to make a difference to the experience of spam, in the sense that the users of some providers such as Virgin, AOL, and BT complain a little less. But it turns out that they are the providers with more novices and we already know that novices receive less spam and complain less. In other words, the fact that there are fewer complaints seems

⁶ Both of these findings are broadly in line with Pew's US research. In the US, experienced users did not receive any less spam, despite employing more means to combat it. They were more intolerant, and more likely to consider every kind of unsolicited message to be spam (Fallows, 2003).

⁷ This is demonstrated in the data and discussed below.

⁸ If we take this into account, controlling for the different amount of spam, there is no evidence of more tolerance—experienced users certainly do not complain any less about spam than do novices.

⁹ The more things you do online, the less annoyed by spam you are—for some reason.

¹⁰ The more non-spam email you receive the more annoying spam is—but the correlation is weak.

¹¹ Apart from complaining more, those who check more claim to receive more spam—but this may reflect a psychological process whereby they overestimate spam because they see it all at once.

to reflect the type of person who signs up to different providers. In which case it is less clear that the particular ISPs themselves make a difference to the experience of spam. Spam remains a general problem for all service providers. Finally, people with broadband receive more spams and complain more, although the effect is not statistically significant. This result suggests that as there is a progressive move from narrowband to broadband there is no reason at the moment to believe that the issue of spam is going to diminish simply because of a change in the mode of access.

The extent to which spam is a problem

Even within this limited qualitative study it was possible to show quite diverse experiences of spam. We can start with those who have found or do find spam to be a major problem.

For example, Linda referred to the experience of her private account. Until a few months before the interview in April 2004, her ISP had had no spam filtering software, arguing that if they installed this they might stop the email arriving that people wanted. But by that stage Linda was receiving 100 emails a day, the vast majority of them being spam, which *'almost made my personal email account unusable. Because I was so worried about missing something from somebody that I wanted in all this junk that I nearly just stopped using it.'*

At the time, Linda and her husband had been thinking about setting up a new email account and only giving the address to friends. They had not bought spam filters because by the time the problem had become really serious, their ISP had already promised to introduce its own filters. Once these came online the problem declined dramatically.

Andrew was the co-director of an SME. He had not had any spam on his original Compuserve account. The spam problem *'got significantly worse about a year ago. Before that the level of spam was in balance with the volume of mail I was getting, you know maybe 10% of work mail was spam. But then it had just exploded and suddenly I was getting 40 a day, 80 a day, 100 a day ... to the point where I couldn't find my own mail.'*

Having talked about the problem with colleagues they had decided to invest in spam management software. Prior to that, spam had at one stage been a nightmare, clearing the spam being one of the main tasks of the morning. One week when he had been away he came back to find 1000 spam messages waiting for him. It had also had a psychological effect.

'That is fucking infuriating because you want to get on with your work. OK, (now) 90% end up in the spam folder, but then there are 20 that haven't ... so I've got to go through and pick them out. I can either ignore them and try to get to the ones I want to get to or I can systematically delete all the spams that got through ... and then I can get on with my work. By which time I need a cup of coffee. By which time it can be quarter past, 20 past nine. I've hit the desk at 9, and I'm still sorting out my email. It's something that had to be done! These things matter, don't they. You come in fired up, you've got ideas on your mind, you want to get on with something ... and all these things are just a bloody nuisance.'

In fact, before Andrew got the spam filter it had been an 'absolute nightmare. It was becoming one of the main tasks of the morning, to clean the spam out of the mail. And psychologically also. With early email there was a sort of buzz in a way. You've got some email! It's now gone because if you click on and you see that you've got 140 emails and you know 120 of them are spam it does not give you quite the same buzz and incentive to get stuck into them.'

Meanwhile, while interviewees like Paula felt that spam was not a problem now, they were nevertheless wary of it becoming one and said that if it ever got too bad they might give up email.

Paula: 'It's not a problem at the moment. But it's like a lot of other things. You tend to notice they're gradually beginning to increase and as you widen your own ... I use the Net occasionally to look up things like when my brother was coming down, I looked up when Kew Gardens were open, is there a map and what's the parking like, that sort of thing. And you open yourself up and you begin to wonder "well, how did they get hold of my address then?"'

In fact, while spam was not so much of a problem for interviewee Meg, she referred to her mother-in-law's case: '*Geoff's mum's experience of spam was bad—she's just about stopped using it now*'.

If those are some of the more extreme experiences, for others spam was more 'bothersome' than a 'nightmare'. For example, Meg had talked with friends about how annoying it was,¹² since for every valid email she received on her private account she got about five spam messages. '*You don't want to be bothered with having to delete emails. (Spam) is very annoying because it's time consuming because you have to delete them all. And it's on-line time, so you're paying the phone bill as well. And it's annoying that people can just get your address when to my knowledge I haven't given it out to anybody or put in on any mailing lists.*'

At the other extreme from the 'nightmare' scenario, some received so little spam, or else they could remove it so easily, that it was simply not a problem, more a 'fact of life'. For example, Ioin had email both for private use and to help him in his efforts to see up a small business. He was not a heavy user of email and received about 5-10 spams a week.

Ioin: 'I usually try to block them, so I don't really keep a track. But you do get them. If it's something unusual or something I don't recognise I'll block it straight away. They come and go. They don't bother me too much.'

Student Penny received about 30 messages a week on her private account, of which one or two were spam, and maybe 30 emails on the university account, three of which were spam.

¹² Although Meg and a few others had discussed spam, one interesting measure of its lack of prominence as a 'problem' was that many of those interviewed had not discussed spam, or had only exceptionally done so. For instance, as a university secretary Julia had no idea whether others in the department got more or less spam than she did. The only time she might discuss spam was if there was something outrageous or else it had led to a question. For example, one of her friends had recently been receiving spam inviting her to lesbian porn sites—the friend had been having doubts about her sexual orientation and had asked Julia whether others had also been receiving this type of spam. And student Penny had not discussed spam with others, apart from once when she received one message that she felt was amusing, asking her whether she wanted a Russian bride.

Penny: 'I don't find any of them very annoying ... OK, I would prefer not to receive them but it's not a big problem for me'.

And to show that the reaction to spam is not just a matter of quantity but an attitude of mind, manager James commented on the period when he was getting about 30 spam messages a day on his account.

James: 'Well, I just went through and deleted them. It didn't take very long. It's a bit like when you get junk mail through the post. Just glance at it, then throw it away. It's bearable.'

University secretary Katy had received over 100 emails a week on her account, only about five of which were valid, usually things she subscribed to—the rest were spam. While they had been a problem in the past, the fact that the spam filter now sent most spam to spam folders meant that she could manage spam better now—she just glanced at these. On the whole '*it doesn't bother me*'. Meanwhile, on the university account, where email traffic varied between 20-100 a day, spam came in waves. Katy thought that this was partly because '*the system learns what's junk*'. At the time of the interview things were not so bad and so Katy might receive two or three a day, or maybe 10 a day when the spam was bad. Hence, she did not feel that she was overloaded by spam. The exception was when she was away for a month or during the Christmas vacation, she remembered coming back to quite a build-up of emails which was a problem, '*especially when the majority of emails were junk*'.

If the amount received, or at least the amount that gets past the spam filter, is one of the most important factors shaping reactions to spam, how much of it do you have to receive before it becomes an issue? The seriousness of the problem can be measured in different ways but let us start with the degree to which people complain about spam in the survey—assuming complaints are one indication that spam is an issue. In the OxIS survey over four out of five people (82%) said that they received far too much spam when this exceeded 30 messages per week. In other words, by this time many people were complaining seriously. Spam was identified as a problem. But if we go to a lower number of unsolicited messages, 7-29 spams a week, on average between one and four a day, nearly half (48%) still complained heavily and they were joined by a further third (31%) who complained lightly, in that they said they received 'a few too many spam messages'. In other words, the threshold is low: people do not have to receive many spams before they start complaining.

In fact, for some people it is not the amount that counts—over a third (38%) of those who received fewer than two spams a week still complained heavily. This experience was actually described by one of our interviewees. Kenneth, a consultant in his 60s had only experienced 5-10 spams for a two-week period three years earlier when he first acquired a private email address. He now blocks all spam: '*Anything with one item of junk mail was a big problem. I am quite a disciplined person and I do things in a disciplined way. And I'm not having people do things to me in an indisciplined way.*'

Contextualising the spam problem

To contextualise spam, we can ask how it compares to other problems of annoyances. For instance, US research by Pew found that spam was more intrusive than mobile phone use, door-to-door solicitations and junk letters (Fallows, 2003).

The UK qualitative study compared spam with other forms of unsolicited message, asking not only which things were worse, but why. Take junk mail through the post. Many thought that this was very similar to email and it was dealt with in a similar way—in effect by ‘binning it’. For example, Julia noted that at home, although she received more spam than junk mail through the post, it was easier to get rid of the former so the annoyance factor was about the same. Linda added that when she had been on a pay per use system, spam had been worse because it was costing her something to receive the messages as well as taking up time. This had been ‘*frustrating*’, especially when she had also received attachments at what were by today’s standards low transfer speeds.

For Julia the fewer telemarketing calls she got were much worse than spam, more of an invasion of privacy, and it took more time to get them off the answering machines; it was not just one click. For Katy, too, telemarketing calls were definitely more annoying than email, usually arriving at dinner times or the weekends. Like most interviewees, she was not very pleasant to the person at the other end and recently had started asking them where they got details of her address. She felt bad about being rude to them, but it was really annoying. Most other people interviewed took the same view, as articulated by the two interviewees below:

James: ‘They’re more irritating partly it’s because you have to stop it, you can’t just hit delete. You’ve got to say something. And usually these people have a long spiel. Plus they’ve interrupted YOU. When you go onto email and start going through you immediately see the junk stuff ... it’s not really interrupting you. It’s just wasting your time. (But) the phone rings and you think it might be somebody interesting to talk to ... pick it up and somebody’s got a long spiel. It’s quite irritating.’

Meanwhile:

Paula: What annoys us is people who get on the phone and ring you up at 9 o’clock at night! I think that is totally out of order! And they do get shouted at or mildly sworn at, told to “bugger off” or whatever. There’s got to be a cut-off time when people can have some peace and quiet, hasn’t there.’

Few of those interviewed had unsolicited faxes, except at work. But once again, Linda, a university manager, thought that these were also worse than spam, ‘*using up resources*’ such as ink and paper (especially when they had ‘*enormous black headers*’).

Apart from comparing different forms of unsolicited messages, we can put such complaints into perspective by comparing what people say about various aspects of the Internet. In the UK OxIS survey data, when asked about their concern as regards a variety of unpleasant experiences, the three more prominent ones in descending order were concerns about high bills for their

Internet use, receiving obscene or abusive messages, and receiving emails not intended for them. The point is that two out of the three concerns are not to do with spam, while the obscene messages picks out a particular kind of spam (although abusive messages may include other emails beside spam).¹³

Different types of spam

We saw in the qualitative research that, on the whole, if spam was a problem it was because it required time to deal with it. For the most part, people did not differentiate between different types of spam in this respect. Only occasionally were some spams more irritating than others, sometimes not because of content, but because of other factors such as the tactics used by spammers.

Meg: 'I had one recently. My email account is Megsmith.@(ISP).co.uk. I got one from MegsmithMegsmith@(ISP).co.uk. They'd registered an address MegsmithMegsmith. That was annoying!'

For Andrew, it was again the tactics used to avoid filters that irritated him:

Andrew: 'The ones that really get up my nose are those where you get names 50 characters long and they s/e/xld ... with slashes and dashes and asterixes. You can see the logical, trying to get past the spam filter.'

Whereas Paula differentiated between personalised email and other junk mail:

Paula: 'There was one on their yesterday and it said "Hi ... My name is Joanna and I'm 25 ... and I'm looking for this that and the other". That is presumably what you consider spam I don't know where it came from. It was like a personal thing and I think that's definitely spam. The other things that come through from companies, they're a bit like the stuff they post through the letter box ... they're unsolicited and a nuisance so you get shot of them as quick as you can.'

And student Penny noted how emails that pretended to know her sometimes had details concerning her age and lifestyle that made her feel insecure, in fact '*quite scared*', that some people knew so much about her.

Occasionally the content was a problem,¹⁴ as when Gunter was offended by some race-hate mail he had received. But the content that was more likely to create difficulties was pornography.

Andrew: 'I was with John a couple of weeks ago ... and we were looking for something in his email and he hit the wrong message and suddenly there's this bloody great penis on his screen. One hasn't quite become inured to it,

¹³ Interestingly, while experienced users might have been as willing to complain as novices about spam, overall they were less concerned about unpleasant experiences in general—even though we can show that experienced users receive more 'bad' emails, in the sense that they are obscene and abusive, contain viruses or encourage fraud. They may, therefore, have actually become more tolerant in terms of being less worried about the Internet in general, even if they still do not appreciate the hassle of spam. In terms of demographics, the main receivers of such email are educated and in their 20s.

¹⁴ In the US Pew study, 76% were bothered by offensive or obscene content of spam (Fallows, 2003).

but compared with say 10 years ago it's not nearly as shocking as it would have been then.'

Gunter remembered the response at receiving pornographic email where he used to work in Germany. 'Some female colleagues, they really felt ... not embarrassed. They were very, very angry. They definitely were much more engaged, because I was saying "It's junk mail, just forget it." But they felt personally insulted, somehow.'

In fact, the Pew US research showed that pornography is objected to most. What is also interesting, though, is that many of the anecdotes cited in that research refer to being seen to have porn-related emails (Fallows, 2003). Similar sentiments occurred in the UK qualitative study. For example, James, the manager of a small department, commented: '*You worry that other people might open it ... by mistake! So I don't like those.*'

University secretary Julia had been embarrassed the first time she received a pornographic spam because people constantly came in and out of the office. She had been to see the IT people but they had told her not to worry—no-one was monitoring email and they said that many people at the university received this kind of porn spam. Julia noted the worst case was when the spammers removed the close box, and so she had to struggle to work out how to close the porn spam.

Meanwhile Lorraine described the concerns her husband had had when encountering pornography online at work: 'Neal was once trying to get into a site at work of one of the product suppliers that they used and he typed in *www.nameofproductsupplier.com* and up came this pornographic site, and he thought "How am I going to get rid of this" ... He leapt out of it before anybody could pick it up (Laughs). It's very difficult when you do get something up accidentally at work (...) most companies have policies about pornographic surfing. It's usually a dismissible offence.'

In fact, two interviewees made comments illustrating the suspicion that pornographic email can create. First, Linda, managing a university research unit, described what their current secretary had said when she took over from the previous one, who had been male: "*We get all this ... I don't what kind of web-sites Lawrence must have been visiting*" (Linda then commented to me) *and he probably hadn't been at all, actually ... I mean, he did used to use the Internet for his own purposes but as far as I could see it was for classic cars and holidays (laughs).*'

Meanwhile Ray observed in the course of the interview. 'My previous laptop was stolen and I picked up this new one. It was somebody else's before. In fact it was a female. And I've had more traffic like that (invites to pornography) on this than ever before.'

Like the secretary described above, such comments suggest he thinks the previous user must have been accessing pornography to cause this change in traffic. Lastly, Paula told the following story illustrating the mistrust that can be generated:

Paula: 'My daughter-in-law said that one of her granddaughter's friends, a little girl of roughly 10 or 11, (was) chatting in the playground. Apparently someone said 'there's a world wide thingy you can dial up'. (So the girl tried

this) And her mum thought that it was her husband that had been making some enquiries. But it was the little girl. And of course they couldn't get shot of (the pornographic emails) then. The parents were obviously not amused. The little girl was frightened about it. They dealt with it quite effectively within the family. I think they closed that email account and got themselves a new address to stop the stuff coming through.'

To end this section, though, it's worth pointing to an anecdote that shows how the concerns about the consequences of pornography can have further implications. Janet had a personal webpage related to her interest in art. She had at one stage talked with the people operating the server on which this was based.

Janet: 'They said if there's anything of a sexual nature on it they said they didn't want it. And I said "is that because of moral standards?" And they said "No, it's because we just get bombarded with email that we can't cope with on our server. We're not trying to monitor what you're using the website for. We're actually managing our own ability to manage the volume of data that's transacted through our server.'"

Clearly the very threat of, what is from the ISP's perspective, spam is having a bearing on policy even in what might be considered by many to be a legitimate arena for exploring sexual matters: the field of art.

Identifying spam

If we turn to the UK qualitative study, whatever individuals chose to count as spam, they were usually fairly confident that they could identify spam very quickly,¹⁵ which was clearly important for their ability to manage it. Typically, they could normally make this judgement just by looking at the origin and the header.

For example, one secretary, Julia, observed that 95-98% of the time she could identify spam straight away by looking at the headers as they were usually not very subtle. Occasionally, like some of the other interviewees, she was uncertain because the spammers had tried to disguise the spam, for example, by copying something from the subject line of her other emails e.g. 'media' or 'application'. And sometimes she did read spam out of curiosity. For example, there had been a rash of spams from the US that had spoof but interesting headlines, such as 'Bin Laden has been captured'. She had checked one or two of these. Meanwhile, another Secretary Katy sometimes read the West African fraud emails, since they were '*fascinating*'.

However, some of the problems of recognising genuine emails were noted by Richard working in a university IT department. Their staff had recently been contacted from Hong Kong by somebody claiming to be from a Chinese company who said it was receiving spams from a university account. But staff had been unsure what to do about this. For example, was the company itself legitimate, and if not, might they reveal information that could help potential spammers? '*You do have to be very careful reading these things that sound perfectly genuine.*' They had had some doubts. More generally, Richard

¹⁵ This is in line with the findings of the US Pew research (Fallows, 2003).

agreed that the whole spam phenomenon created more mistrust: *'Ten years ago when you received an email you thought it was genuine. Now if there is the slightest doubt you assume it's not.'*

Strategies for avoiding spam

In the UK qualitative study a number of those interviewed took precautions to avoid spam in the first place, which would be in line with some of the research results on what actions are most likely to draw the attention of spammers.¹⁶ These precautions were also the ones recommended in some guidelines issued within the company whose IT staff were interviewed. Basically these precautions concerned public visibility.

One measure involved avoiding letting their email address appear on a public website.¹⁷ Understandably this was not even an issue for most people since there was no reason why this should happen. But sometimes it was not a viable option either. For example, Katy reported how staff email addresses were on the university website and in the department there had been some discussion about removing them because of spam. But they had decided not to. They realised that they simply needed to be contactable and spam was not that much of a problem. The same applied to Andrew, who needed to be visible online and contactable as co-director of a small SME.

A measure of pertinence to more people was not giving out email, if this was possible, when filling in forms. For example, when Meg had signed up to Yahoo she had indicated that she did not want to be included on its directory. Meanwhile, when Janet signed up to her ISP she had been careful to tick the box saying she did not want any further information. And she always ticked opt-out boxes when buying things on the Internet.

The experience of using filters in general will be discussed in the next section. But here we can note that one measure offered by filters was the option to only be reachable by emails from the interviewee's own email address book. For example, Kenneth took this approach. When he wanted to initiate contact by email he would explain this to the other person and give him his email address and put the other person's address in his own address book. The other person would then send Kenneth email and he would reply to see if the link worked. *'I sacrifice spontaneity for control. I want to be in control. I don't want people wasting my time.'* Others had a policy that had the same effect without having to set up a filter. Where the only people likely to email them were those known to the interviewees, they simply ignored emails that they did not recognise. But once again, this option was not open to everyone. Lorraine and her husband had a personal website dedicated to their hobby of folk costume and dance that contained information accessed by others in this community of interest. So Lorraine knew about the control setting to block all emails not from their address list *'but we can't do that because we get emails from people (we don't know). (If we do that) then we won't get emails in from people we want.'*

¹⁶ Center for Democracy & Technology: 'Why Am I Getting All This Spam?' Unsolicited Commercial E-mail Research Six Month Report.

¹⁷ In one US Pew study 60% avoided posting their addresses on public websites (Fallows, 2003).

A number of the interviewees had subscribed to discussion groups and newsletters but then discovered they were not interesting. In effect, from then on, emails from these sources were also treated as spam. Some interviewees, like secretary Katy, had unsubscribed from certain discussion groups, and tried to unsubscribe from some others, without success—which had been annoying. Others could not be bothered—they thought it was too much effort to go to the appropriate website. For example, despite the email generated by her subscriptions, student Penny did not unsubscribe from these newsletters. *‘Because I don’t like the whole process (of having to go to a website to do this) (...) for me its very time consuming. (...) I feel as if I’m sometimes forced to use my email account and I don’t like this kind of communication.’*

Similarly:

James: ‘I tend to delete them rather than unsubscribe because unsubscribing is a bit difficult. Well, it probably isn’t difficult. You have to go to a website and (...) it’s easier just to delete it.’

But sometimes the decision not to unsubscribe was itself a strategy. In fact, one Pew report on the US experience of spam had pointed to the ambiguity that people feel about pressing the option to unsubscribe from mailing lists, feeling that this might actually attract more spam (Fallows, 2003). Among these interviewees, Janet fitted into this category. She had built on a strategy she had developed previously in relation to junk letters.

Janet: ‘Following various conversations I’ve had with people the practice I work to is that, because I have got control over the spam, I don’t tell somebody I don’t want it. I just ignore it. Like all that stuff that comes through the post. I just throw it in the bin. I never do anything with it.’

Finally, Paula explained her precautions, which also showed her worries about hackers and clearly inhibited any thought of participating in e-commerce: *‘I’ve kept a very low profile, protective of my own privacy I suppose. And I’ve never, ever, never put any financial details into the computer. I’ve never, ever bought anything over the Net either.’*

But others did not let the spam dangers from online commerce worry them. In this respect, one of the more unusual strategies had been adopted by Andrew’s wife. When she wanted to buy something she set up a new account for the purpose of the transaction and then simply did not use it again, to avoid any spam that resulted.¹⁸

Dealing with spam: filters

The main way to manage spam was simply to delete it.¹⁹ When this involved only a few spam messages, people hardly thought about it. If it involved more, the process was not so bad if the spam could be organised into blocks and deleted at once. In effect, this is what (some) spam management software did, as well as the solutions implemented by some public ISPs and in companies. Rather than just block all spam, and run the risk of blocking

¹⁸ In the Pew study, 23% created separate (i.e. multiple) email addresses (Fallows, 2003).

¹⁹ In the Pew study, 86% said they ‘immediately click to delete (Fallows, 2003).

legitimate emails, this quarantined emails that looked like spam, and gave the user a chance to check whether this was spam or not. Since this involved glancing down a list of headers it was usually perceived to be a quicker process than starting from scratch and considering whether each email was spam or not. Under this system something is considered spam until proved otherwise.

Several of the interviewees described how their spam management strategies had changed over time, in part as new options were offered by their ISP. For example, the level of spam had got worse on Katy's private account about four years ago. In fact, at that time a number of friends had left to go to an ISP with less spam. Katy had thought about changing her email address, but had not got around to doing it. In the early days one strategy she had used to block spam was to specify particular email addresses that could be blocked. She had managed to block all email from MSN, since much of the spam came from this source and none of her social networks used that particular ISP. Finally, she was able to set up her account so that it only received email from people on her mailing list. The rest was sent to a spam file that her ISP had provided about three years earlier. This had enabled her to manage the spam better.

Some interviewees had succeeded in finding ways to make filtering more efficient. For example, Andrew used a laptop at work, connected to the Internet. He had found that one strategy was to leave his laptop on overnight because the filtering software checked his mail every 30 minutes. So as the spam came onto Outlook, it would be picked up and cleared by the filter. Then it would be easier to check the spam and then delete it in the morning, rather than have the filter start its work when he first turned it on. However, he did note that leaving the machine on all night was '*environmentally not so hot*' but it helped solved the problem. Obviously he could not do this if he needed to take the laptop anywhere.

There was always the danger, under any system such as those outlined above or user spam management strategy, that valid emails will not get through or be deleted by mistake—the IT staff referred to these as 'false positives'.²⁰ For example, Ioin had deleted some valid email by accident that related to the organic farming business he was trying to start.

Ioin: 'It was some test results that came over freemail from Moldova. I don't know whose fault it was. Maybe the Internet out there does not work properly or somewhere along the way. The email said in the attachment you will find the results. And it was just like Greek character letters. Those I don't usually open and I deleted it.'

LH: 'So how did you find out you'd done this (...)'

Ioin: 'Well, I just spoke to them on the phone and said where are the test results?'

In this case, the email was important but the situation had been resolved. This was not always the case. University secretary Julia recalled that there had

²⁰ In the Pew study, 30% were concerned that filters might block incoming email, 23% were concerned that their emails to others might be blocked by filters (Fallows, 2003).

been a problem at one stage when the IT people had installed an anti-spam program on her machine and it had *'swallowed up a whole load of stuff'*. So she had asked them to remove it. *'When I got the filter I was so worried at the thought that I might lose some emails that it made me less incensed about spam. It put it into perspective.'*

Meanwhile, Linda explained a problem they had had at the university:

Linda: 'They introduced the new system and it was unfortunate because the day they did it I was sent a message to do with collecting a friend from hospital. And by 6 o'clock I was still waiting for this and nothing had happened. The message was disallowed. And Dennis and I poured over this to see why it was disallowed and we could not see (why).'

Linda had approached the IT department about the incident, whose staff noted that about a dozen emails had been stopped that day by the new system. The staff said that they would amend the rules on the software in the light of Linda's experience. However, she took a different view from Julia, reflecting on the problems of spam she had had on her private account: *'Having had this massive amount ... I'd rather put up with losing the odd message.'*

Sometimes people took the view outlined above simply because they did not think the consequences of losing the odd email would be dire. As far as she knew, Meg had never deleted any private email that she should have kept. But she added that in any case, if she did not reply to a family member or friend they would phone anyway. *'So I don't need to worry about deleting things.'*

In a similar vein, Paula did not worry so much about missing valid emails.

Paula: I leave it sitting in the little box. You can always email then or send them a letter saying "Did you send me something or other?" If you really want to check up, if it's really important, they'll send it again or contact me by phone or something.'

In other words, if you are not email dependent and no messages are vital, it is easier not to worry about mistakenly deleting something, especially if you can rely on your social networks to sort out any problems, including using alternative means of communication.

For university researcher Janet, the strength of the firewall on her private account was the *'first line of defence'* to protect her daughter, aged 8. Janet and her partner gave her free access and were confident that the child was not going to come across anything. But, just as in discussions of the pros and cons of filters, it had some costs. For example, the firewall marked all AOL email with spam alerts. And the firewall sometimes hindered any communication at all—although on balance she was happy that it was so strong. For example, recently she was having difficulty with a site at Budapest University:

Janet: And we tracked and looked at it all the way through and we could see our machine was pinging their machine but the firewall wouldn't allow their machine to interact with ours. But on the basis that if it was that important someone could pick up the phone and ring me then I'm quite happy with that

arrangement. (The head of the department) has emailed me a couple of times and said “Why does your server say that you don’t exist?” And I said “Well, I think its more to do with you.” He’s the only person that’s ever told me that.’

Over and above the issues faced in trying to detect spam, Janet also noted that she needed to take spam into account when actually writing emails.

Janet: ‘I was around my brother’s a couple of months ago and every time he logs on he has maybe one email and about 60 spam. So his first thing is to just scroll through it. It’s just a standing acceptance that if he’s a bit tired sometimes your email gets deleted. So you have to sort of entitle it so that as he’s scanning through it very quickly he somehow recognises it’.

Viruses

For Richard, dealing with spam issues in a university, viruses were in comparison to spam not so much of a problem—because they stopped them, or most of them. Spam was more problematic because it was *‘desperately complicated’*, whereas the virus issue was more a *‘black and white thing’*.

To some extent the same was true for the end users of email who were interviewed. Viruses were generally felt to be less of an on-going problem than spam, although it was a sufficient concern that many of the interviewees had simply bought anti-virus software that was updated regularly.

Some, like Katy the university secretary, had had some viruses on the work machine, but none had been a major problem—in fact, even when they had been caught by the IT staff she did not even know what effects most of them had had. She remembered the ‘I love you’ virus because its effects had lingered on for weeks. This virus had sent a message to everyone on the PC’s address list, and even after the virus had been detected and removed, it still led to people sending emails about it for some weeks.

Meanwhile Lorraine described how she and her husband had not received any viruses until they bought some anti-virus software, and it had stopped two Trojans since then—one the week after buying it. They had had virus checkers in the past, including a free one from a work colleague, but they had never had the automatic updates—and at that time this had been good enough. *‘But things now have got to the stage when you have to have the automatic updates (...) I think things change so quickly with viruses, if you don’t have it you’re asking for trouble now I think it’s a necessity of having a computer.’*

However, Lorraine went on to outline one more recent type of software, not as bad as viruses, which had been causing them problems. Helen, her step-daughter, used their email address to play games online when she came at weekends. Those sites had produced pop-ups and led to four or five sets of spyware being download onto the machine—this software then sent back details of what sites they visited and sent the information back for market research. Lorraine’s anti-virus software had detected these and put them in

the 'at risk' files and then Neal would find and delete the files. *'They're not drastic, they're not viruses, but they're a bit annoying.'*

In fact, the degree to which interviewees bothered with virus-checkers varied. James, a manager, had at one stage had anti-virus software that came with the new home PC. He then paid a subscription for one year but when it ran out then they did not bother any more since he and his wife did not use the PC at home so much. Meanwhile consultant Kenneth had at one stage bought a virus checker for his own account, but then found out that he had to update it and that he would be charged for this. Hence he decided to rely on the ISP's checker. He had never received a virus.

Student Penny had never received a virus, but she was worried by them, worried about the files (both personal and academic) that might be destroyed. Hence she bought a new virus checker every year, choosing the brand that seemed to offer the most coverage. On the other hand, she did not update the package in between. She had got into this habit because that is what her friends in Greece were doing when she first encountered the Internet eight years earlier. And since she had never had a virus, she had not changed that practice. In contrast, Linda's husband Dennis kept the virus checker up to date once a week and they also had never had a virus.

Emails from known social networks

Although much of the public discussion of the experience of email is about spam and viruses, the interviewees were also able to indicate some of the problems with email more generally, including email from known sources. This included known social networks—be that friends, colleagues or acquaintances—as well as from the organisations within which they worked.

The same time cost problems can arise from unsolicited communications from social networks. For example, dealing with unwanted jokes, gossip and related communications may also take up time. Some communications may be unnecessarily broadcast to a wider audience when they are really more applicable to a smaller circle. This could also include copying or cc-ing email to others to make sure that one is publicly accountable.

Sometimes the problem may not be the time costs, but the nature of the communication. For example, people sometimes receive copies of some debate by email because the protagonists try to make it public. Yet, those receiving the email do not necessarily want to be involved in this process. It can be tedious or downright unpleasant, or a hassle to read—especially if it involves 'flaming'.

In this second half of the report we consider the following:

- Why people consider some emails to be unnecessary
- The specific problems of copying and forwarding
- Why some people consider email to still be an immature medium

Issues about reachability via email and non-response to email

Issues arising from the timing of email and social emails at work

Unnecessary email

As noted earlier, sometimes emails from known sources were regarded as being spam or else treated as such. Richard, in the IT section of a university, noted that some of the departments were guilty of generating unsolicited messages, particularly catering—with its special offers for the day in the canteen—and the sports department, advertising the sports facilities they offer. Some people ‘*complain bitterly*’ about these, but IT staff ignored them. ‘*What can you do? (...) At a staff level you have to assume that people are fairly sensible. If we were getting 10 of these emails a day it would be different. We get a couple a week. I can imagine that if the numbers grew we would have to revisit it and decide whether we needed a policy.*’

But it’s not only advertising that generates what some people regarded as unnecessary emails. The problem is equivalent to the one about spam from known firms—one person’s spam is another’s useful information. Here Janet talks about the problem, part of it being that she feels obliged to read this material when she would not read commercial spams.

LH: ‘Do you ever get any spam on the university email?’

Janet: ‘Only from people within the university (Laughs). There’s a huge amount of unnecessary, pointless emails sent around the university.’

LH: ‘What type of things?’

Janet: ‘Things about people’s retirement. I know that they don’t want to miss out on anybody but I don’t think it’s necessary to email the whole university every time every time there’s a social event. I say a huge amount, but it’s probably not a huge amount. I don’t feel it’s relevant to me at all but I feel I ought to read it because there might be something in it (...) Christmas events. Some of the social things. It would probably be better served by the university setting up user groups and blogs ... different ways of communicating with people.’

Janet could understand the efforts to promote a sense of social inclusion, as well as the official health and safety notices. But she nevertheless questioned the need for such emails.

Janet: ‘I probably get about a dozen a day from (my immediate boss) and I have no idea how to handle most of them. Most of them she’s just passing on, so she’s doing what she should do. But I look at them and I think “Well what do I do with this then?” I’ve got two at the moment about the staircase being shut. I read “Eastern staircase shut”. So I came in this morning and I thought “Does this mean the staircase I use, or does this mean the staircase by the lift, or does this mean the staircase in another part of the building?” It’s informing me of something from a health and safety point of view so I accept it as a necessary email. But it’s spam as far as I’m concerned because I’m going to find out the staircase is closed when I try to go up it, aren’t I?’

Gunter, a student, also differentiated between such emails and spam, while treating them in the same way: 'For me (such) mail is in a way similar to spam in that I'm not answering. But maybe it's interesting. Spam is never interesting (...) It's easy to see this mail as being like a flyer'.

Penny, another student, would always read and then usually delete them. '*Usually they provide me with information that I don't really need*'. Examples within the university were notices about job vacancies, and research projects asking for subjects. She would have preferred to have received fewer of these messages.

In fact, it was not just these social event and practical information emails that were sometimes treated as unnecessary—it could also apply to emails relating to professional practice. Kenneth described how his consulting company broadcast various emails to staff to keep them informed: '*It's dreadful. And it doesn't work*'. So he treated them like spam. However, he acknowledged that it was difficult for this well-known company because they '*were at risk of demonstrating what was perceived as being inappropriate behaviour*', if they did not try to keep staff informed. '*They have to try to keep people aware. And it's very hard in organisations. Things like compliance ... 'Thou shalt...'* If someone doesn't get what they're supposed to get and go and land the company in it. Before you know where you are you're in court defending somebody. So it is quite a challenge.'

In fact, Kenneth's company had produced some guidelines on communication, but he thought that this approach was not effective. Since he was reasonably careful when writing emails, he had ignored them: '*Reading 18 pages about how to say "Please" does not seem to me to be a good investment of time. Those things tell you what to do but they do not try to put in your mind an understanding of what you're trying to achieve. They are just a set of rules.*'

Nor did such emails always originate from the top down, or even from staff. Katy, working as a university secretary but studying at the same time, commented that some students on the distribution list sent quite a few emails. Although she did not class them as spam, they still took up her time. She had actually tried to register the email addresses of the students as senders of junk mail but the system had not accepted this.

Most interviewees were positive about emails from friends and most messages were not problematic. However, Kenneth was one of the few who did not use email for private communications at all. '*It has an aura about it that is inconsistent with personal friendship.*' He would prefer to write because '*there is something very individualistic about handwriting (...) it just seems so much warmer, so much more personal.*' He noted that some friends word-processed updates of what they were doing when sending Christmas cards and they were '*the most boring Christmas cards you get from anybody.*' This decision had not come from the experience of email, but was more '*an attitude of mind. I've had a reasonably extensive experience of email for work and it's fine for that ... within reason. But that kind of communication is not the style of communication that I wish to characterise the relations with friends.*'

But among the interviewees who did use email for social contact with their social networks, there could still be problems of unwanted mail. Lorraine complained about the chain letters she received (including ones from her father) while Katy was less keen on some of the long newsletters she received from fellow Australians reporting on their travels.

Ray was one of those interviewees for whom all unsolicited mails counted as spam, including those from large firms, firms he knew and even some social emails from friends. *'Even some of my friends' stuff I count as spam as well. I just find that they waste my time.'* Right at the start of the interview he commented that he had friends who sent him *'stupid things. I told a few to stop, to get me off their lists.'* There was one female friend who had been writing depressing newsletters while she was travelling so he had asked her to stop sending those. A couple of other friends sent things that he didn't particularly find funny—they were *'daft Jokes'* but which took time to download as files. These, like photos that some people sent, were time consuming. *'I want to use email for just pure messages and information.'* Once again, he had asked them not to send such attachments or sometimes when he could see this was what was happening he just hit delete.

Apart from the hassle of deleting such mail, a few of the interviewees had accounts where the email sat on the ISP's server (rather than being automatically downloaded to the local PC). The problem here, relating both to the type of spam described in the earlier part of the report and emails from known social networks, is that if not regularly checked the accounts could reach capacity and block future emails arriving. Manager James had to regularly clear his account because of this, as emails and attachments from the groups in which he participated could clog up his account. And student Penny described how this was sometimes more problematic with known emails when they arrived with large attachments. Her university account sometimes went over the limit, because of this or because she had been so busy that she had not checked it for a week. The extra problem in this case was that even if she cleared out her mail to go below the limit, she was still not able to use the system for 24 hours.

Copying and forwarding email

Some email that was copied, or forwarded, to specific people (rather than broadcast in an organisation) was also sometimes thought to be unnecessary.

Kenneth: *'There's a real problem that there's a fine line dividing keeping people informed and swamping people with emails, and I have to say I still don't know how to balance that.'* Sometimes he would add a note saying, *"This is for your information."* This is a problem of keeping busy people informed of things on the periphery of their activities.'

Andrew was very articulate on the various problems of copying email, and so this section draws on several of his anecdotes and observations. He thought that within his SME they had got c-c messaging under control. But he was tangential to a project in Hong Kong and noted:

'The culture there is to copy everything to everyone. Which drives you absolutely barmy. Because you get all of this incomprehensible trivia ... as it

seems to you because you're not involved in the exchange. And then you're as likely as not to miss the one message you really wanted.'

Andrew gave the example of the project with Hong Kong, which relied on email. When they were having a problem he had taken part in an email correspondence with one of their senior sponsors. The other person had initiated an informal style, and so Andrew responded in kind. They were *'having a chat'* about the issues, some of it being *'quite tricky material'*. Then the other person broadcast the email correspondence, saying he had copied the discussion to the rest of the partners *'so that they can join in the debate. I was absolutely furious. I felt it was the equivalent to if he had been tape-recording our telephone conversations without telling me and then chosen to copy these on to others ... some of whom we had been talking about ... in confidence. And it taught me that there is no confidentiality in email whatsoever. You cannot tell if it's being blind copied. You cannot tell if it's being forwarded. And you have no way of controlling where the exchange goes thereafter. It caused me intense anger. Almost irrational. I really felt that I had been tricked by this guy. And since that day I think I've definitely gone out of my way to formalise my emails. I try not to chat to people in email anymore ... as I was writing a letter. There is no etiquette yet about what it is fair to do or not do with email.'*

Andrew also drew attention to the politics of copying in that sometimes it took place *'to cover your arse'*, especially *'copying up'* (to bosses), as opposed to *'copying down'* and *'copying across'* (to colleagues), which is much more likely to have the aim of keeping people informed. *'Because (copying up) actually allows that person to countermand what they have done if they choose to. But of course if they don't choose to they have effectively endorsed what I've done. So I'm safe.'*

To illustrate how copying up was a minefield Andrew also knew of a case where a Chinese firm was fitting out a new Italian fashion shop in Hong Kong. The company that traditionally supplied the carpet did not have it in stock and so the Chinese firm agreed to find a new supplier for this particular situation. Someone asked for a written copy of this but then the problem started when this was c-ced to superiors. They misinterpreted the message, worrying about the implications of changing supplier. The message then got back to the client Italian firm, by which time the impression had evolved that something was going disastrously wrong with the whole fit out and the client immediately sent staff out to Hong Kong. Ultimately this led to the various parties involved suing each other. This, for Andrew, underlined the dangers of automatically c-cing emails to others.

Andrew: 'So copying people, up in particular, is a very dangerous game because people don't know the full picture behind the email, and rather than go and find out the full picture they often then copy up themselves to try and protect themselves and it can escalate very readily.'

Occasionally other people simply copied an email to him by mistake.²¹ Sometime this could be amusing, but at other times it raised questions of how to deal with this.

Andrew: 'We actually had one here. A lady who had been working with (from another company) who was leaving the company. And we found out from this email. It was telling how many annual days leave she had left before she left the company. And we had a debate. What should we do now? Should we pretend we never got it? Should we send it back? And I said to Andy "Just ring them up and say verbally that we've got this email, we're deleting it. End of story." At one level it was embarrassing but at another level amusing.'

This was just a mildly difficult situation, but inappropriate forwarding can create even more of a problem, as illustrated by the anecdote below.

Andrew: 'Probably the worst experience I ever had with email was when I was working with (another company). They were in trouble and we were working with them as an associate company. Their managing director came to me and said "Look, we're going to have to offload some of our people ... one of them, I think you might be interested in taking on. We talked about it and I said I would think about it. A few hours later I sent him an email about this fellow, talking about what we liked about him, didn't like about him, etc. Unbelievably—he said to me later it was because he was short-sighted and couldn't read the screen very well—he forwarded my email on to the fellow that we were talking about! And the next thing I know, he's coming at me across the office with steam coming out of his ears about to strangle me. Because who the fuck am I to be sending emails like this about his future? And my protestations that it was his managing director who approached me didn't go down particularly well anyway. It was intensely embarrassing and I still know the guy and I believe that our relationship has never recovered.'

Ray's example also illustrated how difficult a situation copying could lead to, as well raising questions about using email as a medium at all for some purposes.

Ray: 'I had an incident at work. At the time I was asked to do something ... I was on paternity leave and it was perfectly acceptable for me not to do that. I was severely reprimanded and in fact it was copied to the team and the support team as well. And it got to a debate and the managing director got involved. I got a verbal apology from the manager who sent it, but I was arguing that I wanted everybody in that team to know that an apology had taken place. I saw it as a written warning and I wanted to take it much further. But in the end it all simmered down. It was an interesting case of whether it was a written warning or a verbal warning, or whether it was a warning at all. But I was incensed by it (...) since that took place I've always been very careful (with email). That's why I keep my work extremely separate, and on a separate computer, to my personal stuff.'

Sometimes there could even be copying problems, or embarrassments, relating to more social email, as Meg, working in arts administration, pointed out.

²¹ In one Pew study of email at work, 10% said they had accidentally sent an embarrassing email to the wrong person (Fallows, 2002).

Meg: 'I have got one friend who likes to do 'reply to all'. Like, if you send out emails to friends saying "Do you want to go for a drink on Saturday night", then he'll always do 'reply to all'. Then he's telling everybody in the world everything else that is going on, that you don't need to know about ... what his friends are doing. In my old job I sent out an email about my leaving do. I sent it to my team at work and then my group of friends. They were all sort of people that I trusted. And he put 'reply to all'! And it went back to my director about what his friends were doing at the weekend ... friends that I didn't even know!'

LH: Did that get you into trouble at all?

Meg: 'No ... a lot of people laughed about it. But I know that one of my other friends in the same circle gets that as well. She sent an email to me saying that she gets really annoyed with Tom doing 'reply to all'.'

Email as an immature medium

A number of the interviews told stories that in various ways showed email as being, in their opinion, either misused or at least handled in an inappropriate way. Andrew commented on a lack of etiquette in certain social emails.

Andrew 'Occasionally my son's student friends have contacted me about certain things ... and there is a certain pressure on me to do something about that. For example, they're travelling to Hong Kong and can they suggest anyone I might meet. Or they're working in Africa, can they suggest a research topic that might be good. My response to that has been (Groan) ... eventually to reply and then to be fucking irritated that they never acknowledged the email. In other words, I've gone to the trouble of responding to their request and then they don't say 'Thank You'. Or let me know if when they went to Hong Kong they saw any of those people ... The etiquette around email is still very, very raw ... very undefined ... very unsatisfactory in many ways.'

For Linda, managing a small unit in a university, the problem with email in general was that '*it's too easy to reply too quickly*'. At times in the past when she had been cross with a work-related email she had '*hammered back an answer*' and then after a while wished she had not sent that message. Now she always tried to exercise self-discipline and wait 24 hours before replying in these circumstances. She had learnt never to be angry in an email, nor to be sarcastic or ironic since these could be misinterpreted. Nor would she send something that was libellous or could be embarrassing. Nowadays Linda treated emails as if they were in the public domain. For Linda email was '*not a mature communications system*', things could go wrong or cause trouble. She added that senior people like herself were often more sensitive to how they wrote emails now, being aware that they could leave an audit trail.

Kenneth perhaps summed up the difficulty when he started describing the benefits of email. Its ease of use had improved; certainly it was easier compared to the days of writing letters or sending paper notes. '*But because it is so easy to use people do respond less thoughtfully (...) people don't realise that they are not doing justice to the communication.*'

He frequently saw other people's emails were not as clear as they could be. And although it did not just apply to email, he was critical of those email users who tried to use jargon to impress people or used language loosely. He also agreed that people sometimes dashed off things because email was so easy to use or else responded too quickly without giving the matter enough thought.

'There are organisations that have banned email for that very reason ... if you want your staff to be focused email is actually dissipating that.'

However, total bans were a 'bit over the top' in his view. 'For me the issue is the management and control of communications ... not chopping it off.'

Reachability and non-response

One of the promises of email is that it is yet another channel to reach others. The reverse side of that coin is that the potential for more messages to reach us raises the question of communication overload. In addition, one of our interviewees raised the question of how the reachability issue affected rules about who could be contactable by whom. Andrew discussed how in the early days of email, what was special was that in theory you could send an email to anyone. *'What it did initially was cut right round the secretarial ringfence on senior people. So you could go straight to them. They then had the dilemma of what to do about it. We're a small enough organisation not to particularly worry about that but in an hierarchical organisation this is a big issue. How do you actually maintain hierarchical integrity when anyone can talk to anyone any time about anything.'*

In fact, one strategy for managing contactability, and message overload, involved not responding to emails. But of course, from the perspective of the sender, this was becoming a problem:

Andrew: 'Non-response to an email is becoming more and more common because of this. Email has lost its edge considerably in the last months. People are not responding to emails in the way that they once did. And everyone says it's the volume.'

Here he was referring not just to spam but also to 'legitimate' email. He explained: 'Email is not an impactful mode of communication. It's very easy to ignore an email, purposefully or neglectfully. They drop off the bottom of the screen very quickly. I had an example just this morning. I sent a forceful email to a guy three days ago, asking urgently for his support. I don't know him, I was given his name. He was at one of the professional institutes. He should be a straight guy. He's their marketing director. I rang him up this morning, I said "I'm following up on my email" ... He said "What email". He said "I didn't get it" and he immediately said "I expect my spam filter has blocked it. It's a pretty fierce spam filter ... it blocks out emails from IBM assuming they're trying to sell me hardware." Well ... it was all a bit convenient. It's a lovely let out for people, saying "It's my spam filter".'

Andrew noted that he was trying to stop sending so many emails because of what for him were 'problems' of non-response or delays. If he wanted something to happen it was better to pick up the phone. However, he later acknowledged that the issue of reachability and the problem of non-response

did not just apply to email. He started by explaining why he had originally been enticed to use email. *'Because of the ease of it. Partly that and partly because you feel you're getting more control. You can sit and compose an email, get the right words. And people are getting so difficult to reach on the phone. They hide behind their answering machines, they hide behind their messaging services. They don't bloody return your calls! (...) For all of the accessibility of modern technologies, people are becoming less accessible. And I think they're doing it in part to survive.'*

That said, he at least raised the question of what non-response (and spam) implied for the future of email.

Andrew: *'We feel as if we've gone through a sort of period of innocence with email (...) I think it's not out of the question that the Internet will actually implode through overuse and ultimately unreliability. Once it stops being responsive, once you can't get your email fast enough. The convenience starts to go.'*

The timing of emails

Apart from outlining some of the motives people had for copying email to others as part of the politics of communication, Andrew also had some observations to make about the timing of when emails were sent.

Andrew: *'The other problem is timing—emails are great for covering your arse in terms of timing. You're about to go to a meeting, you haven't done what you're supposed to have done, so two minutes before you walk in you send out an email to everybody telling them a few things and you get to the meeting and say "Well, you did get my email, didn't you?".'*

Shifting to international emails across time zones, he also noted the implications of when the SME of which he was a co-Director was involved in email contact with clients abroad.

Andrew: *'Time shifting on emails is a big thing. When we were dealing with Hong Kong somebody could send me an email as they walked out of the door at 6 o'clock at night. I would get it at 9 o'clock in the morning. They would expect to have a reply on their desk at 9 o'clock the next morning. So I would effectively have a day to respond. Now that can be very positive, that's 24-hour working. But it also puts intense pressure on me, because they are setting the agenda all the time. They're always a day ahead of me. And equally when I wanted to send them something I was always a day behind them. I get in at 9 o'clock, send them an email, it arrives at 6 o'clock in the evening. Nothing's going to happen.'*

Social emails at work

The comments of some interviewees pointed to the informal dimensions of work, where the workplace is a social space in its own right. Here we should bear in mind that some sociability is often considered good for morale, for the work atmosphere, for the appeal of the job (as evidenced by Christmas, parties, retirement events, etc.). People's use of internal work email

contributed to that sociability.²² For example, Lorraine described some of the pranks going on in her previous work for the civil service.

Lorraine: 'People would go out of their rooms without locking their computers and someone would nip into the managers room and issue an invitation to all to be in the pub on Friday at one o'clock on his computer and send it to everybody. That was the atmosphere with the people I worked with. They were all very harmless, they don't hurt anyone. But they were quite amusing.'

However, Janet pointed out how different organisations set different limits or rules²³ as regards what type of social email could take place.

Janet: 'I think that what goes on is there's that sort of counterculture that I could remember when I worked at (my previous company) where people just fired off jokes "Have a look at this" ... it was sort of Dilbert ... and it would just make your otherwise mundane afternoon more interesting. But I was quite surprised at the content of some of the things that do get bandied around (the university) I mean, at (my previous company) you would have got fired for it. (...) I think what worries me about things like that is that if you're the unwitting recipient ... if a trawl went round, as I believe happened at (my ex-company) if you were on an email list of something all of a sudden you might find yourself on the receiving end of some disciplinary action.'

Conclusions and future research

As in other research, the UK qualitative study found that if there was a problem with spam this was mainly about the amount received and the effort required to do something about it. This was consistently raised as the first issue, rather than the content of the message. There were some content problems, but one, pornography, was interesting in that one key dilemma was being seen to receive it, and the suspicion that this could create.

However, in this small study it was interesting that it was not simply the case of private, often home-based, users suffering a problem of overwhelming amounts of spam on the main ISPs' networks while institutions had much better spam filters. Sometimes the main problem of spam was actually in companies and institutions such as universities, while private accounts could be relatively spam free.²⁴

People's definitions of spam are clearly somewhat varied, as noted in previous research. This has implications for direct marketing and efforts by companies to contact customers with whom they have already had dealings. One concern is that spam is undermining these practices. It would be true to

²² In the Pew study of email at work, 43% said email offered some relief during their workday, 39% had sent jokes or chain emails, 26% used email to discuss personal life, and 15% had gossiped about work on email (Fallows, 2002).

²³ The US Pew study of email at work quoted another survey in which managers thought that 20 minutes per day of personal web time was fair and acceptable.

²⁴ This is just to point to the range of people's experiences. In the Pew study, people reported more email in the private accounts (Fallows, 2003) but we do not have the equivalent statistical data for the UK.

say that in some cases the quantity of spam, which for some people can be relatively little, hardens their attitudes to all unsolicited mail. But the picture is mixed since it is clear that for others all such mail either counts as spam as well, or else they treat it in the same way, deleting it on sight.

The experience of spam is clearly very varied, as shown in statistics and brought to life in the qualitative studies. There are, indeed, cases where spam degrades the experience of email, or at least leads people to seek other providers rather than give up on email altogether. But it would also be misleading to focus on just the complaints and the negative experiences, which are often the ones that will get reported in the media. Given the amount of spam they received and the way they dealt with it, spam was sometimes more of an irritant than a more serious problem, and for others was a mere 'fact of life', or at least part and parcel of email use. What is more, if we put spam into perspective by contrasting it with other unsolicited communication, 'junk' postal mail is often perceived as a similar problem, sometimes slightly better or worse, while the interviews in the qualitative study were unanimous in explaining that telemarketing calls were in many respects worse and why this was so.

For most of the interviewees, and the organisations that were interviewed, the overriding impression is that recently there was a period when spam got worse, but at this moment in time things have improved to some extent. In particular, the filters now in place mean that some people are better able to manage spam (rather than eliminating it). That said, the staff from the company interviewed for this research characterised spammers and anti-spam software developers as being engaged in something like an on-going arms race. In which case, it might be prudent not to predict that the spam wars were being won. In addition, even if there are lower levels of spam they remain a nuisance for some, and an on-going issue for others.

Further research on spam would include the on-going monitoring of the amounts received, attitudes towards them, control strategies, and whether this affects email usage—some of which have already been captured in previous survey questions. Then we could see how the experience of spam develops over time.

Perhaps partly because spam has been researched and key issues identified, there is more scope for suggesting new research in relation to the second half of this report: email from known social network members, including internal email within organisations.

If we start with what our interviewees have felt to be 'unnecessary email', this is comparable to the spam discussed above in a number of ways. One person's unnecessary email is another person's legitimate one, and they can be time consuming to read, especially when some feel an obligation to read them. Hence, various types of emails, including the ones broadcast internally by organisations or even sent by friends, are sometimes considered to be spam—although this is far removed from most official definitions of the term. However, as with some of the interviewees' experience of spam from unknown sources, the impression from the qualitative research is that at worst such emails are occasionally an irritant.

Some of the issues raised about unnecessary emails would fall under the broader heading of communication policy within firms and would relate, as one interviewee noted, to 'communicating effectively'. Indeed, previous research has noted how some organisations have training on this very matter, including when it is appropriate to send email and how to do it.²⁵ That said, it may be that many organisations do not consider such matters, in which case there is a role for further research in a number of directions. One would involve an effort to ascertain the scale of some of the issues outlined through questions within surveys about email in general or surveys directed specifically at work practices relating to email and the Internet. Qualitative research, for example in the form of case studies of firms or focus groups of managers, could provide us with more details of what happens in organisations, what is identified as a problem or not, training practices and formal and informal regulations. One additional outcome maybe a report to highlight what might count as 'good practice'.

If we turn specifically to the practices of copying and forwarding email, on the one hand they can contribute to the volume of 'unnecessary email' if done inappropriately. In other words, while at times these practices can be useful to keep people informed, at times they can be time consuming and hinder effective communication. But, these practices also raise additional issues of whom it is appropriate to send such emails to and about what—i.e. who should see what messages? Inappropriate forwarding in this sense occasionally hits the news when, for example, emails describing sexual experiences are broadcast around companies. But this report shows there are many more examples of when things go wrong, sometimes accidentally, sometimes because of the unreflective use of email. However, in the examples we also find some intentional copying as part of the politics of communication—and in this sense there is a related strategic use of email involving the timing of when it was sent. These areas are under-explored and might merit further study. Once again, case studies of organisations, firms or focus groups might be the best research tools.

More generally, the above practices, but also the very way to write emails, might be considered to be part of a modern digital literacy, which is in the process of being defined (e.g. Livingstone, 2003). This literacy is often thought of in terms of how to use and evaluate what one finds on the web, but it could equally well be extended to all forms of electronic communication. It could include such matters as when it is appropriate to use email rather than use another channel, forms of expression through this medium, etc. Sometimes the interviewees in this study have referred to such issues in terms of 'email etiquette', or else argued that email is an immature medium as ease of use can lead to relatively unreflective communication. Some of these issues could equally well apply to more established forms of communication such as letters, paper memos and phone calls. Indeed, strategies developed in relation to these may have carried over into email. Hence, one approach would be to examine email alongside other channels, but noting its own specificities.

²⁵ This emerged in interviews for the study by Vincent and Haddon (2004).

Reference by some interviewees to the culture of organisations also reminds us of the informal culture of the workplace, where a certain degree of sociability can be important. The question is, how much and of what kind? Of relevance to this report, there are issues concerning the constraints on internal social email, both in terms of the time it can consume and rules about appropriate or inappropriate communications or content. There are also different degrees of tolerance as regards how much of private life can be brought into or organised from work, one relevant question being whether and the extent to which personal emails are allowed. Once again, there is scope for further research here.

The last issue touched upon in the interviews was that of reachability by email. People develop ways to manage their contactability. But from the sender's perspective this can raise the 'problem' of non-response or delayed response. To put the whole issue into perspective, this is an issue about communication in general, where there are similar discussions in relation to phone calls on the fixed line, mobile calls and texting.²⁶

If we consider both the spam and other email sections together there is scope for longer-term research on the changing meaning and experience of email. In the interviewees' accounts we have already glimpsed some of the ways in which the 'career' of this communication form has evolved, and continues to evolve. For example, some referred to what email meant to them in the past and what it means now, how they have changed in responding to email requests over time and how their strategies for managing email have developed. Beyond this individual level of experience there is also scope for examining how email use, as well as problems, develops within particular groups, within particular social networks, as well as how the experience changes at a societal level.²⁷

Finally, email needs to be contextualised in that it is not the only 'new' addition to our wider communications repertoire (Haddon, 2003). At the time when the Internet was developing as a mass market, so too was the use of the mobile phone for voice and texting. In fact, if you look at the literature relating to this other field of technology, some of the issues emerging are ones shared with email. For example, as they all provide new options, new channels to reach others, they raise questions about when we want to control our reachability and how many and what types of communications we have. And so some people control to whom they give their mobile number, just as they control to whom they give their email address. There are related questions of the appropriateness of a particular channel for a particular audience. Indeed, there is now some interest in how to manage spam texting. In other words, many people are having to learn how to manage new communications channels on several fronts simultaneously, perhaps applying lessons from one to the other. In which case, there may well be some merit in a more holistic approach that did not focus on email in isolation from these other developments in people's lives.

²⁶ For a discussion of some of the issues related to controlling communication, see Haddon (2004).

²⁷ For example, this is addressed in some of the very first US statistics cited in this report looking at whether spam leads to people using email less.

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Appendix 1. Methodology

The UK statistics cited in this report come from the Oxford Internet Survey (OxIS) 2003, based on a random sample of the British population aged 14 and over. 2030 persons were interviewed face to face. The survey covered a wide range of issues, but as a first, a number of questions of potential relevance to the goals of this report were identified. These included the amount of spam people received, the degree to which they complained about spam, how often people checked emails, who their ISPs were, years of experience online and whether they had multiple email addresses or Broadband.

Because it is tempting to rationalise explanations of findings after seeing the data, and in keeping with a positivist methodological tradition, a number of hypotheses, sometimes conflicting hypotheses, were generated before looking at the results. These specified why we might expect to get certain results, partly to clarify why we might be surprised if some expectations were not met. The analysis was then conducted by Adrian Shepherd at the OII, which formed the basis of a preliminary report. This later fed into this main report.

Qualitative interviews were then conducted with 14 users of email users. Since the survey indicated that socio-economics was not such a major factor, there was not so much of need to structure the sample in these terms. It was more important to find a range of different types of user, using email to different extents, in different ways. The problem here is that it is often difficult to know how people use email until the interview starts. Sometimes the interviewees were known, or vaguely known, to me, or else they had said something to indicate their use of email—e.g. in comments made when, as part of social conversation, they asked what I was researching. Ultimately the goal of getting a range of different types of users, and different backgrounds, was achieved, although there is an over-representation of the university sector because of my social networks. For some people either spam or other types of email raised issues, for others they did not. Some were more articulate, some less so. And some had already reflected more about the issues while others had not. All had something to contribute. But ultimately the aim was not to find people who all 'had good stories to tell', because that might misrepresent the experience of email, just as only looking at those who complain about spam might do.

In order to get another perspective, two interviews were also conducted with IT staff in a large firm and a university, who were specifically responsible for dealing with spam issues. Hence, when our end users were describing changes in their experiences over time, we could appreciate what was happening in the background, in terms of how spam was growing, changing, and the efforts to combat it: there is some use of this material in the main text. There had been plans to speak to the appropriate people dealing with spam in ISPs, but there were some difficulties in locating these and eventually this part of the research was dropped due to time pressures.