

Confidential Draft -not for circulation
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A Survey of Information Technology Vendors

Prepared for:

The Digital Preservation Coalition

by:

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Management Summary

Background

This study was conducted between late July to early October 2002 in furtherance of the Digital Preservation Coalition's (DPC) aim of working with industry, and followed a forum held in June 2002 with a cross section of industry on future research and development for digital asset preservation.

Objectives

The survey's objectives were:

1. Establish the extent of industry's awareness and perception of its need to become more aware of / engaged with issues of digital longevity; and their views on how the DPC can interact with industry, improve awareness, and foster partnerships.
2. Their interest in sponsorship, membership, or alliances with the DPC, including estimating the demand for such activities, and identify areas which may be of particular interest to industry.
3. Make recommendations to the DPC board on potential DPC conditions/criteria for industry sponsorship or collaborative projects with the DPC.

Methods

A cross-section of 35 large, medium and small companies was approached with an e-mailed questionnaire sent out under Lynne Brindley's name, and which contained an invitation to proceed to a telephone interview. Twenty one (68.6%) companies completed the e-mail questionnaire, and seventeen (48.6%) were subsequently interviewed by telephone.

The survey was limited to suppliers of information technology products, specialist consultancies and professional and trade bodies. Consumers of IT products and services were not surveyed.

Findings

The following summarises the major findings:

1. The overall response rate was good, but there was a lower level of response from suppliers of specialist software and from some of the professional and trade bodies approached.
2. There was a perception among those responding that there was insufficient awareness of the digital longevity problem in industry, though most claimed to pay attention to it in their own products or services.
3. About half had already heard of the DPC; nearly all expressed an interest in knowing more about its work.
4. When asked about measures to promote wider understanding of the issues, the holding of seminars and workshops and use of the press were the preferred means; however a wide and original range of individual suggestions was forthcoming and should be reviewed.

5. It was emphasised that companies respond to market requirements: promoting awareness amongst the public and vendors' customers was therefore one of the most effective ways of influencing the vendors themselves.
6. Regarding using public money for academic research into the question the majority were in favour, though a minority view that this would not be effective was strongly expressed. It was generally felt government money should not be spent on repeating work done elsewhere in the public and commercial sectors. More than one reference was made to the Dutch government's work, which was felt to be a model in this area.
7. The idea of a digital curation centre to be set up in an academic setting in the UK was felt to be worthwhile, and suggestions were made that selection, management and economic issues would be fruitful areas to pursue. Again a minority felt strongly that commercial considerations would dominate, and the centre would be marginal to their interests.
8. Customers of these vendors do not, in general, seem to be demanding digital longevity except in areas subject to specific pressures (e.g. regulatory or legal), or in specific markets. There is however a perception that customer awareness is increasing.
9. Regarding participating in the DPC's work there is a lot of goodwill to do this, though there are some questions about the DPC's role and objectives in relation to industry. A theme emerging was the need to see some benefit in collaborating, such as access to potential customers. It was noted that the current economic climate is not favourable to cash sponsorship.
10. Overall the findings point to in-kind collaboration rather than membership. There was interest in sponsorship of events where there was an opportunity to meet potential customers.

Looking forward

1. There is support for the ongoing work of the DPC in organising seminars and workshops, and for pursuing publicity raising in the general and specialist press. If budgets permit perhaps the targeted seminar work could be extended, possibly with sponsorship from industry. Press articles could be encouraged from people not directly associated with the DPC.
2. The individual suggestions on awareness raising should be reviewed (see pages 12-13) with a view to utility. Educational settings and use of the World Wide Web may, for example, be fruitful avenues to explore.
3. Further attention needs to be directed to software companies and trade/professional organisations. The former are producing many of the products which will be at the centre of longevity problems in the future, and these are well placed to make a difference in the future if profitably engaged in the issue. The latter may be key to raising awareness and meeting these companies. Given their unresponsiveness to the survey this might not be an easy task, and may require innovative approaches. SMEs are a neglected group and merit attention.

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4. It is clear that some companies feel they cannot do much – the problem lies further down the chain with their suppliers of more basic components. This reinforces the need to engage the wider IT industry, and software vendors in particular. A key here might be to locate the key people in the (generally larger) basic IT companies. The view that business advantage will drive events indicates a need to look at the “IT consumer” side of the problem. Demand from the market would gain the attention of the producer companies surveyed.
 5. One theme which emerged and which the DPC could profitably act on is facilitating communication between groups with different perspectives on the problem. This might also be a way to furthering awareness. The one trade organisation who participated very usefully in this survey would be a good starting point.
 6. Regarding establishing a digital curation centre, this would have support, but would need to be seen to be doing new and relevant work (and to be able to generate results rapidly). Gaps identified were selection for preservation, what aspects of records to preserve, management and business practices, and the economics of digital longevity. It is the view of the author of this report that the proposed register of file formats and documentation would be a difficult enterprise to take on, though the DPC could act by supporting and informing bodies with the power to make this happen – presumably those with legislative muscle.
 7. Government may also encourage the cause by using its invitations to tender (ITTs) to emphasise the need for digital longevity.
 8. A number of leads were established in the course of this work that the DPC should follow up with a view to engaging these companies in collaboration.
 9. Clearly goodwill exists in favour of the DPC and its work, but there is also a need for the DPC to make its role and objectives clearer to industry. This survey and its findings should assist in this process.
 10. It would be beneficial for the DPC to consider a future survey focussing on industry customers of IT products and services.
 11. If the Coalition should seek sponsorship of DPC events or have separate “trade fairs” or vendor exhibitions it should draw up a set of guidelines. The ethical guidelines for sponsorship produced by the Museums Association¹ could provide an appropriate template for this. These are as follows:
 - a) Sponsorship, in kind or in cash, offers many benefits for museums but it is important to establish a clearly defined relationship with the sponsor. Museums need to recognise sponsors' needs and priorities but they should also safeguard their own needs, objectives and reputation.
 - b) The sponsorship agreement should be designed to avoid undue influence by sponsors on museum activities. There must never be any editorial input by sponsors that would affect the contents or design of an exhibition, display, publication, etc, other than agreed credits and acknowledgements.

¹ See: Museum Association, Ethical Guidelines 3: Trading and Commercial Activities. Accessible from <http://www.infosite.co.uk/masite/ethics.htm>

- c)** The agreement should specify the extent to which sponsors may display their corporate logo on museum premises and publicity, and the extent to which the sponsor may use the museum's name and logo. Some museums prohibit the association of the institution's name with the sponsor's products.
- d)** A museum should carefully consider the propriety of any permanent or temporary display of the sponsor's promotional material or products within the museum. Some museums prohibit the display of promotional material and products.
- e)** Public access to the museum should not be adversely affected by privileges granted to the sponsor. Note: Museums should be aware that sponsorship rather than donation may render the museum liable for VAT. For some museums the proceeds of sponsorship may be subject to taxation.

Introduction

The Digital Preservation Coalition (DPC) was formed in July 2001 to raise awareness of the issues raised by the need to keep and to re-use for a decade or more digital assets and resources which institutions have created or purchased. The DPC co-ordinates concerted action to address these issues in the UK and internationally. It has over 20 major organisations as members ranging from the national libraries and archives of the UK, education and scientific research, other public bodies such as the National Electronic Library for Health, and industry trade bodies such as the Publishers Association. Further information on the DPC is available from its website (www.dpconline.org).

One of the aims of the DPC has been to work closely with industry to address technical challenges and support the development of market solutions. In June 2002 it held a one-day forum with a cross-section of industry and DPC members entitled “Future R&D for Digital Asset Preservation”. A meeting report and presentations from the day are available from the events page on the DPC website (www.dpconline.org/graphics/events/rdfuture.html). At the forum the DPC undertook to follow up the discussion on future research and development with a cross-section of industry. It was also agreed to explore the level of industry interest in further engagement with the DPC and its work. As a result this survey was initiated, and was contracted to Philip Lord to conduct on its behalf.

Objectives

The objectives of this survey were:

- Establish the extent of industry's awareness and perception of its need to become more aware of / engaged with issues of digital longevity; and their views on how the DPC can interact with industry, improve awareness, and foster partnerships.
- Their interest in sponsorship, membership, or alliances with the DPC, including estimating the demand for such activities, and identify areas which may be of particular interest to industry.
- Make recommendations to the DPC board on potential DPC conditions/criteria for industry sponsorship or collaborative projects with the DPC.

In order to limit the scope of the project and stay within the set budget it was decided only to approach **providers** of IT goods and services, not consumers of these.

Methods

The following process was followed when conducting the survey:

- 1) A cross-section of 35 major vendors, SMEs and trade bodies with names of contacts was constructed from suggestions made from DPC sources and those known to Philip Lord. The full list of those approached is shown in Appendix 1. E-mail and telephone questionnaires were agreed with the secretary of the DPC.

- 2) An initial e-mail questionnaire was sent to all targets by Philip Lord with a covering letter from Lynne Brindley. This questionnaire included a question asking whether they would be willing to take part in a subsequent interview by telephone to explore more fully their views on digital preservation and participation in the DPC. See Appendix 2 for this initial questionnaire and cover letter; Appendix 3 shows a full listing of the responses received back.
- 3) Those responding positively to the invitation for an interview were sent the questions a few days in advance of the interview (the “telephone questionnaire” – see Appendix 4). Appendix 5 tabulates the responses to this and summaries of the comments elicited.
- 4) Interviews were conducted and written up. Typically interviews took 35 minutes to complete.
- 5) Those not responding to the original questionnaire were followed up by telephone and with an e-mail reminder.
- 6) For reporting the results all 35 companies were randomly assigned a numerical code [1] through to [35]. All responses provided in this report are anonymised using these codes.

The survey took place between 24th July and 4th October 2002.

The Sample and Response Rates

Table 1 shows the breakdown of the types of companies approached. Half the companies were software providers, as software is where many of the difficult issues of preservation issues lie rather than with hardware.

Table 1 Types of companies approached

Type	Number of companies
Consultancy – specialist (in this area)	3
Software – bespoke	4
Software – packaged	1
Software – specialist	7
Software – records management, document and image management	6
Hardware systems suppliers	5
General systems and service providers	3
Professional or trade body	5
Service companies	1

It was not always easy to ascribe a single characterisation of a company since they often have multiple product lines and activities, so Table 1 shows the best approximation to their main line of business so far as this survey was concerned. Four out of the five companies described as hardware suppliers were mainly in the business of supplying optical or microfilm storage and management systems. The specialist consultancies were all active in the preservation/records management area.

Table 2 shows a breakdown of responses to the various stages of the survey. The proportion of total non-respondents was 31.4%, after telephoning and sending e-mail reminders to those who did not respond to the initial approach. The response rate was a little better than expected, and higher than in many surveys of this type. Nearly 50% of those approached completed the whole process, and information was gathered from 60% of the total.

It should be noted that for two of the larger companies more than one person was approached. In both cases they elected to respond via a single individual and all figures reported here are in terms of companies, not individuals.

Table 2 Breakdown of responses

Response	Number of companies	% of Total	Notes
Sent first form by e-mail	35	100.0	
Replied to e-mail	24	68.6	Three of these answered but declined to fill in the questionnaire
Completed e-mail questionnaire	21	60.0	
Positive response to telephone interview	19	54.3	Two of these proved impossible to arrange interviews with before the study closed.
Interviewed	17	48.6	

Table 3 demonstrates how the different industry sectors responded to the call to participate, showing numbers of companies from which no information was forthcoming and those completing at least one questionnaire.

Table 3 Responses by Industry Sector

Type	No information obtained	Completed at least one questionnaire
Consultancy – specialist (in this area)	1	2
Software – bespoke	1	3
Software – packaged	0	1
Software – specialist	6	1
Software – records management, document management	2	4
Hardware systems suppliers	1	4
General systems and service providers	1	2
Professional or trade body	4	1
Service companies	0	1

Though the numbers are small it shows less interest from the specialist software vendors (which included a wide range, from accounting software, database management systems to e-learning software). The trade and professional bodies were also hard to interest (with a notable exception). This is disappointing: it is the specialist software suppliers who one could consider as being at the centre of the problem and key to its solution, and the trade organisations could be vital in helping to turn round perceptions and initiate action in their sectors.

Informal estimates of presumed prior knowledge of the digital longevity problem seemed to be associated with a high interview rate; there was a hint that those with lower awareness did not respond as strongly to the invitation.

Most the people approached were based in the UK, but four of the respondents were based overseas. All of these answered both questionnaires.

The Findings

Results of e-mail questionnaire

The results of the Yes/No questions in the e-mail questionnaire are shown in Table 4.

Table 4 Results of initial e-mail questionnaire (Y/N questions)

Question number	Question	Yes	No
1	Do you believe there is sufficient awareness in your industry of the technical issues which accompany long-term (10 years+) retention and use of digital materials?	4	17
3	Are you currently developing or supplying products which are relevant to long-term (10 years+) retention and use of digital materials (examples: long-term retention of electronic records, products and publications; access to files created in previous versions of software)	20	1
4	Have you previously heard of The Digital Preservation Coalition (DPC)?	10	11
5	Would you like to know more about its work?	18	3
6	Would you be willing to participate in a second stage of the survey, which will involve a short telephone interview (20 min)?	19	2

The consensus coming from this questionnaire was that there was insufficient awareness in the industries of the respondents of the technical issues of long-term retention (but it may be that the respondents were actually answering in a broader context – industry as a whole – see below.) That being noted, nearly all the companies responding claimed to be supplying products which were relevant to long-term retention – presumably they were not counting themselves among the ill-informed they referred to when answering question 1.

Just over 50% of respondents had not previously heard of the DPC. Almost all the respondents that had previously heard of the DPC had attended the DPC's industry forum in June 2002. All respondents except three would like to know more about its work – including, with a single exception, all the companies with previous knowledge of the Coalition.

As noted earlier, 19 of the 21 e-mail questionnaire respondents elected to go on to the telephone interview, showing goodwill towards the process – or at least willingness to proceed further.

Question 2 of this initial survey asked “Do you have any comments you would like to make on these issues?” – i.e. those referred to in question 1. Responses to this varied widely and the full list can be seen in Appendix 3. As might be expected given the cross section of companies, responses were rich and varied. Some items mentioned more than once were:

- The need to engage and train users in the issue, even suggestions this should happen in school.
- That media preservation was thought to be important, but not the complete solution.
- Defining what to preserve, what aspects of data to preserve, and organisational questions may be just as important as technical issues.
- Fragmentation of expertise and markets (both for users and suppliers)
- Costs and processes as central issues.
- Increasing awareness by industry.

Some useful quotes from a DPC perspective:

From a trade body:

“We are very interested in working with you to improve the amount and the quality of the dialogue between users and suppliers, to develop good practice and to promote successful implementation.”

And

“very interested in collaborating with you on events, projects etc”

From a specialist consultancy:

“This is an issue for all users, and RM or IM staff must shift from Registry mode into Education and Support mode.”

From a hardware systems supplier:

“We have been championing this cause for the last 5 years, convincing people about the inherent fragility of keeping information only in digital format without backing-up onto more permanent media. We would be delighted to discuss this further with you.”

From a records management software company:

“Close tracking of initiatives such as DPC is important to establish relevance and impact on the provision of current and future services.”

Results from Telephone Interviews

Nineteen respondents to the e-mail questionnaire agreed to participate in a 20-minute second stage interview by telephone. For two of these it proved impossible to find an interview date before the study closed. Results for the remaining seventeen are reported here. All interviews were one-to-one excepting one who organised an audio conference with four of their personnel.

The questionnaire used at the interviews is provided in Appendix 4 (with a few formatting changes). Summaries of the results of interviews are provided in Appendix 5, where answers from all interviewees are grouped by question to facilitate cross-interviewee comparisons.

The results are discussed question by question below.

Question 1:

Interviewees were invited to propose ways of encouraging awareness of digital preservation in their industry, and to comment as appropriate.

Many suggestions were forthcoming, in order of popularity:

- Seminars and workshops (5)
- Press articles and editorials (5)
- Advertising and Public relations campaigns (4)
- Publicising horror stories and scare stories (2)
- Talking at industry and government forums (2)
- Providing examples of best practice and pilot projects (2)
- Work in schools and colleges (1)
- Via the world wide web (1)
- Use of a video (1)
- Commercial evangelists (1)
- Engage professional bodies such as AIIM (1)
- Engage the commercial IT advisors such as Gartner and Ovum (1)
- Engage interested institutions such as the Mellon Foundation (1)
- Lobby for research (1)
- Train/educate users (1)
- Use industry “jungle drums” (1)

- Global international (ISO) standards (1)
- Make it profitable for industry (1)
- Describe the benefits of doing it better (1)

Answering this question most interviewees interpreted the scope of the question beyond just their own industry segment, which the formal wording of the question indicated.

Some responses are worth noting for their innovative nature. The leader of a knowledgeable specialist consultancy in this area made a plea to engage young people, with specific ideas for projects.

Regarding scare stories, it was noted that commercial companies who have suffered from data loss over time may be reluctant to advertise the fact, being afraid to lose face and credibility. A head in the sand attitude was mentioned more than once.

This question provided an opportunity for interviewees to express further views on the problem as a whole and thereby elicited supplementary information to question 2 in the e-mail survey. Further themes which emerged were:

- There is a lack of awareness of the problem, and the perception is that this lack is greater in the commercial sector. However in the public sector awareness may be centred on a few institutions who are “in the know”, though it was thought public sector awareness was increasing.
- In the commercial world a link needs to be made to profits, or damage to the bottom line.
- There needs to be key drivers to get awareness started – such as “painful” (i.e. costly) problems, or a disaster, or similar. One respondent noted that industry is reactive rather than proactive.
- There is a need to get different groups talking to each other: the supplier and consumer sides of industry, those in the know with those who are unaware, for example.

Again it is worth singling out a few quotations (as recorded by the interviewer):

From a specialist consultancy:

Urgently: get into schools and colleges. Start projects which relate to pupil's personal records/communications. (E.g. e-mails, photos, diaries,). One idea is to get school children to record their peers', parents' and grandparents' anecdotes digitally and ask them how it is to be preserved.”

From a records management systems software vendor:

They have had a few tenders for archiving systems (from government bodies) – they basically say, “over to you, we don't understand the problem”. On the other hand suppliers are scared of the open-ended nature of the requests made to them.

From a hardware supplier:

(He) feels there is a responsibility in [supplier] companies to spread the word - but it is a difficult idea to sell, and the burden of proof is often thrown back to his company

From a hardware supplier:

If you want industry to take an interest in this issue then you have to demonstrate there is a profit in it. Can't see a sales opportunity here.

A few comments related specifically to the DPC:

From a supplier of bespoke software:

Noted that the things the DPC are doing are good, and its publicity campaign is pretty effective.

From a general systems and services supplier:

. . . but asked if the focus of the DPC was just on UK academia, and possibly the public sector, or a wider audience. Who is its audience, and what is its constituency?

Question 2.

This asked whether more should be done using public money to help industry address the issues.

Thirteen responded positively to this and four were against it.

The question provoked a lot of comment, some of it quite trenchant. Notable comments included:

- Government initiatives tend to concentrate on the larger players; more needs to be done for SMEs. This was mentioned more than once.
- Others, such as the Dutch, are doing more and are doing it better.
- Scare stories are best done under a government umbrella, as any publicity would be less pointed and damaging.
- Use (government) ITTs as exemplars.

- Look at what has already been done and try to join up islands of effort, rather than duplicate work already done.

Some of the bodies mentioned that might have a role were the BSI, The Treasury, DTI, PRO, MoReq (sic).

A few felt that government mandates on data standards were necessary.

Again this question encouraged further suggestions supplementing e-mail question 2 and the previous interview question 1. Thus:

- There is need for digital preservation enthusiasts (rather like war enactment enthusiasts in a historical context – “dressing up”).
- A role for government in fostering communication between groups – such as pharmaceuticals with banks, the software industry with the public sector.
- The need for awareness raising – possibly government sponsored.
- The need for war stories highlighting the dangers and costs of **not** addressing the issue.

Again some quotations are useful:

From an hardware supplier:

“Not much government can do by shaking the trees”

From a bespoke software supplier:

The UK should do like the Dutch government is doing and have a program. The Dutch are doing more and doing it better.

From a specialist consultancy:

Government needs to take a “light, enabling role”

From an hardware supplier:

“The DPC can make this a national issue”

From a bespoke software supplier:

It is difficult to get the attention of industry. “A project of this size – meaning the DPC and survey – will engage attention”

Question 3.

“Proposals are currently being considered to develop a Digital Curation Centre based in the UK higher education sector to support R&D into digital preservation. What areas of publicly funded research and activities in digital preservation do you think would most usefully support industry efforts and competitiveness in this area?”

On the whole this was said or implied to be a good thing, with only four companies dissenting. One respondent (in favour of the proposal) clearly articulated a doubt that academic research would prove to be valuable in a commercial context, and pointed out that different archive solutions are needed in different contexts. Others noted that management processes are just as important as technologies, but that the USA does that sort of research better than the UK; this same respondent suggested that work be undertaken in the context of the Grid. In a similar management-orientated vein a respondent suggested economic models as one area of research. Another suggested promoting work on the selection of materials to preserve and the purpose of retention.

A useful suggestion was made that such an initiative could be an opportunity for joint funding between industry and the public sector, and would provide a bridge between academia and the commercial world.

Existing centres such as the University of London Computer Centre and the Data Archive at the University of Essex were mentioned by a few as possible starting locations.

There was a strong feeling among some that commercial drivers will dictate what happens regardless of what theoretical work takes place. A few quotations from both sides of this debate:

From an hardware supplier:

It would be good to see a UK effort – for example based around the Grid. Possibly we should have at most two focussed efforts in two first division universities.

From a specialist consultancy:

He would divide it up into two:

- 1. A university based centre for digital curation, and*
- 2. Centres where it is practiced –such as the Data Archive at Essex, and PRO, ULCC.*

From a records management software systems vendor:

Publicly funded research is fine but technology will not wait and commercial drivers are going to dictate what happens. We do not have the luxury of time for it to happen.

Question 4.

This question asked respondents what they felt they could contribute to a register of information on file formats etc.

There was a big “yes” to the concept (13 for, 3 against and 1 don’t know). Comments revealed the following suggestions on their companies contributing.

- Experience and intellectual input.
- Communication facilitation.
- Existing work they are doing on the issue.
- Educating the market.
- Providing systems (to manage the information) and related expertise.

The dissenters pointed out:

- Not their area.
- No power over data standards (de facto these are driven by a few large software companies).
- The problem lies down the supply chain with their suppliers.

Perhaps significantly, no respondents offered to submit their own file formats to such a register; most offers were on peripheral services; or they claimed, probably with justification, that they were not in control of this information. Companies who are producing software were reluctant to contribute, as commercial ownership and competitive advantage are obstacles. However one company suggested that contributing to a register with a five-year “moving wall” would be acceptable, where formats over five years old were contributed; five years is a long time in the software business and such formats would be effectively out of date.

Intellectual property issues were raised as a concern in environments where software and content were not easily separable, such as in e-learning. It was implied that it may not be just a vendor decision, but may involve vendors, customers and content providers.

There is a feeling on the interviewer’s part that companies were really saying “Yes – this is a fine idea in principle, but in practice it would be hard for companies to cooperate”.

A quotation is worth giving:

From a hardware vendor:

The real formats are the property of the monopoly supplier. They have strong commercial reasons to keep these formats to themselves, and it would be a doomed effort. Government mandating of open standards would help but would be followed by massive lobbying.

Question 5.

Does your company factor long-term retention in to its products?

The following summarises the results:

Yes	12
No	2
Maybe/depends	2
Not applicable	1

Broadly companies are saying they do take longevity into account, but there was

- a) a wide variety of comment and views, and
- b) a range of interpretations of the question depending on the business they were in. Companies were looking at it from their own perspective (naturally enough) – thus hardware vendors claiming long media life or software vendors storing their own code.

Two respondents quite explicitly said they didn't. One, a hardware vendor, citing difficulties with spare parts after, say, five years; the other, a specialist software company, saying the company was too young and had other priorities at the moment. It would have been useful to have the candid views of more specialist software companies to this question.

A few respondents felt they would need to refer to others more aware of the issue in their organisations.

Overall the positive replies show some attempts at tackling the question, but these only address fragments of the overall problem. The question of integrating all the pieces into a whole solution was left unanswered.

Question 6:

Are customers increasingly asking for long-term retention features?

This question elicited the following responses:

Yes	9
No	7
Don't know	1

In most cases it was clear that the answers really referred to the absolute value, not to **changes** in customer behaviour. Looking at the question in that light there is a pretty even split between those who see longevity being requested and those who do not.

Looking at the results in more detail it appears that demand is driven in specific sectors or by specific drivers, and the answers reflect familiarity with these sectors: Some of the specific situations cited were:

- A need for legal admissibility, implying longevity.
- Regulatory push, as for pharmaceuticals and financial institutions.
- Some public sector situations, where there is an explicit long-term need. The e-Government initiative helps drives this.
- Insurers are asking for it.
- Some markets which are more developed in this respect, such as Australia.

Even those companies saying “no” made caveats. The need may be expressed in requirements documents they receive, but it is not stressed at all.

An e-Learning company noted that the need is not expressed now, but there is a feeling it will emerge soon.

An extreme view was that customers have always been asking for long data life – but it was not stated if the view reflected implied assumptions by purchasers, or explicit wishes; I suspect the former.

Some quotations are interesting and illustrate some of the dichotomies expressed:

From a general systems provider:

Except in specialist areas the demand does not exist (or need is not recognised), though interfaces with legacy systems is often asked for.

From a hardware vendor:

They are doing this without prompting. – He gave example of a customer, a well known financial institution which is trying to retrieve data off an old optical disk

system. The data needs to be kept for 40 years, and they do not want to repeat these rescue operations every 10 years or so.

From a packaged software supplier:

No, there is no increase, they have ALWAYS done this.

From a hardware vendor:

No – generally the opposite! – the company suggest it [longevity] to them. It may be requirement buried in a specification, but is not emphasised.

Question 7.

Participating in DPC work.

By far most respondents showed a willingness to participate or cooperate with the DPC. The only person replying with a direct “no” was based in the USA and was working in a large corporation. Another US-based respondent expressed doubt. A few thought it was a good idea but said they would need to refer the question back to others in their companies. There is an action point for the DPC to follow up these leads.

These answers show a high measure of goodwill towards the Coalition.

A number of companies clearly indicated that they would require something from any collaboration, notably introductions to (potential) customers. Two companies mentioned they would need to assess each DPC event on its merits on a case-by-case basis.

A theme from many was payment in kind rather than a cash subscription, such as offering printing and scanning services, supply of editorial materials, case studies, intellectual input etc. This is obviously a financially tight time for the IT sector –one interviewee characterised his company as now “being a not for profligacy company”.

Question 8

Asked for further contacts.

Only a few suggestions were made. Contacts in Pfizer UK, CAP Gemini (Netherlands), AIIM, BSI, were offered. Where they fitted the criterion of being a vendor or relevant trade body, they were followed up and asked to participate in the survey. The DPC may want to take an action point to follow up on the others.

One company suggested our contacting their major competitor!

Question 9.**Any other comments?**

A few asked whether they would see the final report. One respondent made a strong plea for anonymity.

Some mentioned the need to clarify the DPC's role.

Lastly a number asked to be kept in touch with, asked that their sector not be lost sight of, and to hear about the outcome of the study.

A few quotations of value to the DPC:

From a supplier of bespoke software:

The DPC is doing useful work and has made a good start. Would like to know more regarding its long-term aims, and suggest it moves away from a "for the librarians" image.

From a hardware vendor:

He is very pleased the subject is being taken seriously now.

Interviewer's remarks

A few remarks are needed to report on observations which were made that do not relate to specific questions.

- A few of the respondents felt the DPC should make role and objectives clearer, particularly in relation to industry.
- In some minds the DPC is associated with the library, museum and academic communities, which are removed from commercial preoccupations.

Appendix 1 Companies approached

Company	Sector	Notes
Adlib Systems	Software - specialist	Library system software
AIIM	Professional/Trade body	
Audata Limited	Consultancy - specialist	
BCS	Professional/trade body	
Blackboard	Software - specialist	e-Learning software
British Educational Suppliers Association	Professional/trade body	
Cairs	Software - specialist	Text retrieval
Cendris	Software - records/document management	
CIMTECH	Consultancy – specialist	
Computer Horizons	Software - bespoke	
Computing Suppliers Federation	Professional/trade body	
Diagonal Solutions Limited	Software - records/document management	
Digital Content Forum	Professional/trade body	
DS Limited	Software - specialist	Cataloguing/libraries
Fabasoft Ltd	Software - records/document management	
Hewlett Packard	General systems and services providers	
IBM	General systems and services providers	
Iron Mountain (UK) Ltd	Storage services	
Kodak	Hardware supply	
K-Par Archiving Software Limited	Hardware supply	
Luna	Hardware supply	
Meridio Ltd	Software - records/document management	

Company	Sector	Notes
Microsoft	Software – packaged	
OCE Limited	Hardware supply	
Oracle	General systems and services providers	
Power Team UK	Software - records/document management	
Sage	Software - specialist	
SAP	Software - specialist	
Secure Sciences Limited	Consultancy - specialist	
Specialist Computer Centres Ltd	Software - bespoke	
Sun Microsystems Laboratories	Hardware supply	
Tessella Limited	Software - bespoke	
Tiger Team	Software - bespoke	
Tower Technology Limited	Software - records/document management	
WebCT	Software - specialist	e-Learning

Appendix 2 *E-mail Questionnaire and Covering Letter*

Cover Letter

Dear -----,

I am writing to you as chair of the Digital Preservation Coalition (DPC) to introduce the industry survey being conducted for the DPC by our consultant Mr Philip Lord.

An increasing number of sectors, organisations, and individuals need to be able to sustain and re-use for a decade or more, the digital assets and resources they have created or purchased: in some cases this need will last for centuries, e.g. for government archives or national archives of electronic publications. The technical and organisational challenges involved are substantial.

The Digital Preservation Coalition was formed in July 2001 to raise awareness of the issues and co-ordinate concerted action to address them in the UK and internationally. We have over 20 major organisations as members ranging from the national libraries and archives of the UK, education and scientific research, other public bodies such as the National Electronic Library for Health, and industry trade bodies such as the Publishers Association. Further information on the DPC is available from our website (www.dpconline.org).

One of the aims of the DPC has been to work closely with industry to address the technical challenges and support the development of market solutions. In June 2002 we held a one-day Forum with a cross-section of industry and DPC members on Future R&D for Digital Asset Preservation. A meeting report and presentations from the day are available from the events page on the DPC website (www.dpconline.org/graphics/events/rdfuture.html). At the Forum the DPC undertook to follow up the discussion on future research and development with a cross-section of industry. We also agreed to explore the level of industry interest in further engagement with the DPC and its work. As a result we have initiated this survey to be undertaken by Mr Philip Lord on our behalf.

The first stage of this survey is a short email questionnaire below. I would be extremely grateful if you could complete a response on behalf of your organisation and email your reply to Mr Lord by xxxxxxxx. All information you supply will be treated as confidential by the DPC. If you have any questions on the survey please do not hesitate to contact Mr Lord (telephone: + 44 (0) 20 8607 9102, email : philiplord@britishlibrary.net) who would be happy to assist you.

A second stage of the survey will be a series of short telephone interviews. If you would also be willing to participate in this second stage please indicate this at the appropriate point in the questionnaire. Your contribution to the survey would be greatly appreciated.

Yours sincerely

Lynne Brindley
Chief Executive, British Library
Chair, Digital Preservation Coalition

DPC Industry Questionnaire

Awareness of the issues

1. Do you believe there is sufficient awareness in your industry of the technical issues which accompany long-term (10 years+) retention and use of digital materials?

YES/NO

2. Do you have any comments you would like to make on these issues?

Comments:

Current Status

3. Are you currently developing or supplying products which are relevant to long-term (10 years+) retention and use of digital materials (examples: long-term retention of electronic records, products and publications; access to files created in previous versions of software)?

YES/NO

Awareness of the Digital Preservation Coalition (DPC)

4. Have you previously heard of The Digital Preservation Coalition (DPC)?

YES/NO

5. Would you like to know more about its work?

YES/NO

Telephone Interview

6. Would you be willing to participate in a second stage of the survey, which will involve a short telephone interview (20 min)?

YES/NO*

If yes please complete contact details:

Tel:

Postal Address:

Preferred date for interview

Date

Time(s):

Alternative date for interview:

Date:

Time(s):

Appendix 3 Results from the E-mail Questionnaire

Companies are anonymised here using randomly assigned numbers as identifiers for cross-question comparisons.

The notes column in the following tables contains any comments made in covering memos or additional comments to questions 1 and 3-6 with the question number.

Comments not related to specific questions

Company Code	Notes
[08]	It's short so hopefully you will get a good response generally. Sounds like interesting work ...
[10]	I have few comments about the questionnaire. I think the approach you have taken with the questionnaire is good (cunning!) - keeping the first one short and simple but asking for some thought (Q2) and, with the web link to the DPC, getting the respondent to do his/her homework twice, assuming they go for the Q&A session.
[13]	Talking of questionnaires, perhaps you are already in touch with the ERPANET project (www.erpanet.org). In case not, this is a European funded project on electronic archiving involving the Dutch National Archives, Glasgow University, Urbino University and the Swiss national archives. There might be a bit of synergy between the ERPANET plans and the DPC plans.
[27]	The questionnaire was easy to answer and navigate. A question on what the company has to offer the DPC maybe worth considering together with a question asking what problem do they think archivists of the future may face.

1. Do you believe there is sufficient awareness in your industry of the technical issues which accompany long-term (10 years+) retention and use of digital materials?

Company Code	Response	Notes
[02]	No	
[05]	Yes	
[06]	No	
[08]	No	
[09]	No	
[10]	No	Re 1 Question 1 asks about awareness " in your industry" - are you going to ask respondents later about awareness on the part of their customers? In the IT industry, NO, although there are increasing claims
[11]	No	
[13]	No	
[14]	No	
[15]	No	
[21]	Yes	
[22]	No	
[23]	Yes	
[24]	No	
[25]	No	
[26]	No	
[27]	No	

Company Code	Response	Notes
[28]	Yes	Re 1: Yes. The company is fully aware of the technical issues in the industry, which accompany long-term projects such as the British Library's DLS project. The company has been involved within the IT arena for over 25 years and has long standing projects with clients that exceed a 10-year relationship and all the issues involved therein.
[31]	No	
[33]	No	
[34]	No	

2. Do you have any comments you would like to make on these issues?

Company Code	Response ²
[02]	(None)
[05]	The company has extensive involvement in this topic in both research and customer situations.
[06]	We are actively both seeking and proposing solutions to specific problems
[08]	(none)
[09]	This issue has been surfacing as universities wrestle with how long to archive courses/what types of content from within the course to archive, e.g., modules, student discussions, student presentations, etc; how to tag content to allow for retrieval; how long to retain the "display" software (older courses will not always run in newer versions of the software, etc.)

² **Note:** Received texts have been edited to correct obvious spelling and typing errors. Comments have been anonymised by use of phrases such as “the company” or by their numerical code.

Company Code	Response ²
[10]	<p>The technical issues actually form a central part of our business focus, as do the business issues involved. However, a few comments here, not in any order.</p> <p>i) The technical issues are complex, not least because digital preservation is not a simple matter of just one area of IT.</p> <p>When you consider what you get when you pay lots of money for, say, a software licence in the light of the digital preservation problem, you realize that you are probably not getting as good a deal as you thought. The big IT companies make their money through change, but this is one of the main preservation problems. Several will seek to generate income on the back of digital preservation [claims]. But new products also allow progress.</p> <p>I'm thinking about these tensions and future trends at the moment, but one suggestion I have here is that it would be worthwhile for the DPC, at a later stage, to involve a one or two lawyers (who join as paying members of the DPC!) with expertise in licensing and also product liability.</p> <p>ii) I can also foresee that some companies/entities may wish to take the discussion down the standards route. Standards probably have an important role, but they're not a solution, and standards bodies in IT which have set themselves up (how often because of real consumer pressure?) in the past have usually got caught up either in lengthy wrangling between vested interests or cronyism of groups of vested interests, all progressing slowly and at risk of losing sight of the reason for the standards in the first place.</p> <p>iii) I think archivists will play an increasingly important and prominent role in business, in large part because of the costs involved in retaining digital data. I think this also has training implications. Also, digital preservation education should be covered in schools and higher education.</p> <p>iv) The UK's e-government initiative means increased public-sector exposure to the problem, but it also means tremendously increased exposure for members of the public.</p> <p>A last comment on awareness - Aside from the quite frequent claims from IT vendors about archiving, I also see more and more musings on the web in quite unexpected places, which essentially formulate (according to their own vocabularies) questions about digital preservation</p>
[11]	<p>It is necessary for commercial organisations involved with the delivery of Information Management services to develop consultative approaches to the provision of these services that take account of the issues surrounding long-term retention and use. Standards-based approaches are necessary. Close tracking of initiatives such as DPC are important to establish relevance and impact on the provision of current and future</p>

Company Code	Response ²
	services.
[13]	I think the awareness has now started to increase and a useful by-product of the current trends in interoperability of present-day computer systems (e.g. use of XML for messaging, web services etc.) may be better facilities for storing information in more durable formats. Long-term preservation is after all a kind of interoperability of systems separated in time.
[14]	That the "Open endedness" of the need to store "everything" for, potentially, ever, needs to be considered in more detail and some acceptable limitations and accepted standards put in place. Such action on the part of the prospective user community would drive the enthusiasm to develop solutions. Otherwise IT proposals will continue to be largely bespoke and assumptively qualified.
[15]	Yes, but that would take a long time.
[21]	We have been championing this cause for the last 5 years, convincing people about the inherent fragility of keeping information only in digital format without backing-up onto more permanent media. We would be delighted to discuss this further with you.
[22]	The process of digitisation, what to store, what constitutes an original and which versions are best for public access, should "enhanced" versions of image data be stored - all of these issues are repeated anew in every project, indicating that this is not a mature application.
[23]	We are a not-for-profit organisation representing specialist sectors of the IT industry. We are very interested in working with you to improve the amount and the quality of the dialogue between users and suppliers, to develop good practice and to promote successful implementation.
[24]	The recent studies show there is lethargy among the public sector and private sector IT community about the fundamental issues associated with record keeping in an electronic format.
[25]	There is awareness of the high level issue of format obsolesce, but not of the detailed issues.
[26]	Retention and re-use are distinct issues. Currently expertise on this issue is fragmented. Storage businesses have pretty good understanding of lifetime issues around storage media. Real issues are organisational (who operates and pays for management of preserved materials), technical - how to preserve materials across epochs of operating systems, applications, computer architecture, and policy - what to preserve and what aspects of data to preserve. Domain is very

Company Code	Response ²
	wide - from content to domain specific data so poor differentiation of distinct segments of this problem.
[27]	The long-term retention of digital materials should not be a problem. There are several archiving packages around which manage the long-term storage of data. The emphasis must be on the future use of digital data and how it is going to be read in the future.
[28]	<p>From [a] purely storage management perspective the traditional methods and technologies employed to retain data for long periods were more centred around the deployment of robust media technologies such as Magneto Optical and Phase Change devices (35-50yrs). Whilst this is still a good practice for long term data retention the main hindrance to this type of technology is the relatively low capacity of each piece of media: 9Gb compared against the relatively high capacity demands of contemporary data requirements.</p> <p>When contemplating very high capacity demands tape technologies are often considered over optical devices since they achieve a better economy of scale: 9Gb for an optical Platter against 200Gb for a Tape Cartridge. The main issue with tape technology is that it is in no way as robust as optical. Due to this an aggressive verification and life cycle management process will have to be applied, essentially this means that data is read and media is replaced at regular intervals to ensure consistency of the data set.</p> <p>If one is to accept the management burden of a verification and life cycle management process as opposed to a robust media strategy then the most efficient media to practice these processes on is disk. Traditionally, the cost of disk has perpetuated the use of lower cost near line media technologies such as Tape and Optical. Although, the current cost of disk has decreased to a point where it is now economically viable to assess for large capacity content management requirements</p> <p>As answered in Question 1, the company does believe that the IT Industry is aware of the need for long term data retention solutions and has provided a range of storage mediums. As to which solution is correct for this project only further qualification will uncover</p>
[31]	Current Status: The company is currently raising awareness of digital archiving through a range of marketing activities. Regulatory bodies such as the SEC in the US are mandating the creation of digital storage of transaction records and emails relating to trading activities.
[33]	People do not know how to create or keep reliable born-digital records. This is an issue for all users, and RM or IM staff must shift from Registry mode into Education and Support mode to achieve this through all of their PC users.

Company Code	Response ²
[34]	(none)

3. Are you currently developing or supplying products which are relevant to long-term (10 years+) retention and use of digital materials (examples: long-term retention of electronic records, products and publications; access to files created in previous versions of software)?

Company Code	Response	Notes
[02]	Yes	
[05]	Yes	
[06]	Yes	
[08]	Yes	
[09]	No	
[10]	Yes	Re 3 Yes - independent consultancy and also separately, what we hope will be a solution
[11]	Yes	
[13]	Yes	
[14]	Yes	
[15]	Yes	
[21]	Yes	
[22]	Yes	
[23]	Yes	Re 3: (our members are)
[24]	Yes	
[25]	Yes	
[26]	Yes	Re 3: storage systems, and also system solutions
[27]	Yes	Re 3: The company provides software that manages the archiving of data to DVD, CD or MO optical disk in a standard format. What we don't do is ensure that the

Company Code	Response	Notes
		equipment and software is around to ensure that the data can be read back.
[28]	Yes	Re 3: The company has clients with long-standing relationships where these types of applications have been satisfied. We are not at liberty to divulge these organisations without their prior permission but we are willing to seek permission should the need arise.
[31]	Yes	Re 3: The company has developed a digital archive product. This product currently stores images, email, electronic statements, office documents and will be developed to store video etc.
[33]	Yes	
[34]	Yes	

4. Have you previously heard of The Digital Preservation Coalition (DPC)?

Company Code	Response	Notes
[02]	No	
[05]	Yes	
[06]	Yes	
[08]	No	
[09]	Yes	
[10]	Yes	
[11]	Yes	
[13]	Yes	
[14]	No	
[15]	No	
[21]	Yes	
[22]	No	
[23]	No	
[24]	No	
[25]	No	
[26]	Yes	
[27]	Yes	
[28]	No	
[31]	No	

Company Code	Response	Notes
[33]	Yes	
[34]	No	

5. Would you like to know more about its work?

Company Code	Response	Notes
[02]	No	
[05]	Yes	I have the DPC seminar notes
[06]	No	
[08]	No	No - I will look at the DPC website.
[09]	Yes	
[10]	Yes	
[11]	Yes	
[13]	Yes	Yes - I would like to continue to be kept informed. Already receive Neil Beagrie's email news list, which is very informative.
[14]	Yes	
[15]	Yes	Not sure, probably
[21]	Yes	
[22]	Yes	
[23]	Yes	Very interested in collaborating with you on events, projects etc.
[24]	Yes	
[25]	Yes	
[26]	Yes	I'll be at the next meeting ...
[27]	Yes	
[28]	Yes	Yes. We would welcome the opportunity to increase our knowledgebase of the DPC project and further our understanding of your requirement.

Company Code	Response	Notes
[31]	Yes	
[33]	Yes	
[34]	Yes	

6. Would you be willing to participate in a second stage of the survey, which will involve a short telephone interview (20 min)?

Company Code	Response	Notes
[02]	No	
[05]	Yes	
[06]	Yes	
[08]	No	
[09]	Yes	
[10]	Yes	
[11]	Yes	I am willing to participate in telephone interview.
[13]	Yes	Yes - if you think it would be useful, I'd be happy to have a chat.
[14]	Yes	
[15]	Yes	Maybe
[21]	Yes	
[22]	Yeses	
[23]	Yes	
[24]	Yes	
[25]	Yes	
[26]	Yes	
[27]	Yes	
[28]	Yes	

[31]	Yes	
[33]	Yes	
[34]	Yes	

Appendix 4 Telephone Questionnaire

Telephone Questionnaire

1. What would you consider the three most effective ways of encouraging awareness of digital preservation in your industry?

a)

b)

c)

Comments:

2. Do you think more should be done to support UK industry in addressing these issues by the government or other publicly funded bodies?

Yes

No

If yes, how?

3. Proposals are currently being considered to develop a Digital Curation Centre based in the UK higher education sector to support R&D into digital preservation. What areas of publicly funded research and activities in digital preservation do you think would most usefully support industry efforts and competitiveness in this area?

Comments:

4. Previous digital preservation research has suggested the need to develop and then maintain a register of information on file formats, and repositories of documentation and software to support archiving activities. Do you believe you would be able to contribute to such initiatives?

Yes

No

If **Yes**, in what ways could you contribute?

If **No**, what are the barriers to contributing?

5. Do you factor long-term (10 years plus) retention into your products?

Yes

No

If **Yes**, in what ways?

If **No**, do you expect to do so?

Comments:

6. Are your customers increasingly requesting features which facilitate long-term (10 years+) retention and use of data?

Yes No

Comments:

7. The DPC currently has two categories of membership and contributions to its work Associate (£2k per annum) and Full (£10k per annum) for not for profit organisations. It has entered into formal alliances with two other organisations on shared events and activities (see www.dpconline.org for further information on participation in the DPC). It is also considering how it could engage in future with or develop membership for individual companies. Would you be interested in any of the following ways of benefiting from or contributing to the Digital Preservation Coalition's work?

Sponsorship

Membership

Alliances

Other

Comments

8. Is there anybody else in or outside your organisation whom you suggest we contact in this survey?
9. Do you have any other comments you would like to include? If so please add them below.

Keeping in Touch

Finally, if you would like to be kept informed of digital preservation activities and the DPC's work, we maintain a moderated, low traffic email list on JISCmail. This has approximately 800 members worldwide and is the most cited resource for digital preservation on the Web. To subscribe or view the list archive see www.jiscmail.ac.uk/lists/digital-preservation.html.

Data Protection and Confidentiality

The Digital Preservation Coalition (DPC) is being registered as a data controller under the 1998 Data Protection Act. The data you have provided on this form will be used by the DPC for research purposes only as part of the Industry Survey project. Any findings which are published as a result of this research will be done so in an anonymised format only. If you have any questions regarding the processing or confidentiality of your personal data, in the first instance please contact Philip Lord, address below, or Neil Beagrie, Secretary Digital Preservation Coalition, JISC, Strand Bridge House, 138-142 The Strand, London WC2R 1HH.

Appendix 5 Responses from Telephone Questionnaire

These responses are grouped by question to facilitate comparisons between interviewees. The Notes column contains remarks by the interviewer. All answers are as interpreted by the interviewer; no attempt was made a recording verbatim replies, except to record specific quotations.

1. QUESTION: What would you consider the three most effective ways of encouraging awareness of digital preservation in your industry?

Company Code	Response	Comments	Notes
[05]	a) At the industry – customer interface. Point out the pain of data loss. b) Scare stories. c) Raise in the forums and interfaces between industry and government.	<p>He has asked colleagues in the company about the long-term preservation issue and they have difficulty appreciating the problem – they look blank.</p> <p>A lot of education is needed on both sides of industry, suppliers and customers. People are not aware of the problem until it gets painful (e.g. when they can't lay their hands on vital but old information, information which might determine the success or failure of a company). The current asbestos liability issue was raised as an example. It is hard to think of an industry, which does not have the problem, though they may be unaware of it.</p>	
[06]	(None)	<p>If you want industry to an interest in this issue then you have to demonstrate there is a profit in it. Can't see a sales opportunity here.</p> <p>Also remarked that the public sector equates cheapest with best value, and this leads to problems in the area he is familiar with. Have to get away from a "get a student to do it" mentality.</p>	

Company Code	Response	Comments	Notes
[09]	a) Suspect librarians will make the difference – they will remind the company (and others) of longevity issues b) Student registrars and records managers	The problem may be more acute for the campuses they sell to than the company. They have to deal with legal issues related to student records (such as challenges to grades) and also the discontinuation of courses – what is to be kept? Deciding what to keep is an issue – the content, html pages, simulations, and students' communication with the system? There are no standards or conventions yet. Will the software be around in the future to display content?	One of the few who answered in relation to their industry only.
[10]	a) A big lawsuit, in particular one against an IT vendor. b) Financial incentives would do wonders. c) Fashion	The company is a specialist consultancy and IT company Comments refer to the IT sector as a whole.	
[11]	a) Seminars are key b) White papers and reference and guidance documents (such as those from the PRO) c) Articles in trade magazines	The problem is seen to be of “mind boggling” complexity, and people do not understand the issues.	
[13]	a) Workshops and seminars b) Press articles	The company sees itself in the bespoke software development business The industry itself tends to be reactive: they are aware of the issue only if the customer is aware of the issue. (For example company X coming to the company with its archiving problem). The long term is only beginning to creep into document and records management systems; customers often do not realise that there is an issue. Noted that the things the DPC are doing are good, and its publicity campaign is pretty effective.	
[14]	a) Offer seminars on the problem	Defined his industry as software. Suppliers need to know what to do – there is ignorance on the issue.	

Company Code	Response	Comments	Notes
	b) Advertising	Noted that preservation lies outside of records management per se. They have had a few tenders for archiving systems (from government bodies) – they basically say, “over to you, we don’t understand the problem”. On the other hand suppliers are scared of the open-ended nature of the requests made to them. Noted there is a need for pragmatism to deal with the problem.	
[15]	a) Publicize the horrid current situation b) Describe the benefits of doing better (mostly the benefits are for future generations) c) Lobby for a research agenda (research is cheap and has high payoff)		
[21]	a) The company has been providing seminars for customer and prospects. They use the “Into the Future” video” which they find as a good opener, and has the merit of being independent of vendors. b) Use the video. c) In [21] there is a subdivision of the sales group to evangelise this topic.	He feels there is a responsibility in companies to spread the word - but it is a difficult idea to sell, and the burden of proof is often thrown back to their company He noted that there is however a certain amount of awareness from customers. On the other hand there is also a lot of ignorance, and/or a “head in the sand” attitude. He also noted that people and groups are not talking to each other (e.g. academia with the commercial sector etc.) It is also difficult for companies to go public if they have lost old data – it is an admission of failure. He primarily concerned with commercial customers such as banks and finance institutions and feels the public sector customer may be better informed.	
[23]	a) Access to independent information. Need to get this into people’s hands, either by the web, or via print (probably	We are a trade association and therefore speak for our members, not as a supplier.	

Company Code	Response	Comments	Notes
	<p>most effective). Run a PR campaign.</p> <p>b) Networks and groups where good practice etc. can be exchanged</p> <p>c) Workshops – particularly small, focussed and interactive. Focused on specific issues or sectors.</p>		
[24]	<p>a) Make people worried – or even scared – about business continuity in the case of loss of records. Use current scares like the recent German floods (insurance), September 11th, schools personnel vetting, etc. to highlight issues of data loss / need for well-kept records.</p> <p>b) Educate users</p> <p>c) Train people to get used to being as careful with filing, logging transactions etc. in an electronic environment as they would be with paper – and being aware of their liabilities if they do not. (said in a records management context).</p>	<p>Defined his industry as records management software.</p> <p>He cited examples where chains of responsibility could result in chains of litigation, and adverse outcomes if authentic electronic records could not be produced. (e.g. a householder has erosion of land, sues the builder, who claims from the insurer, who claims of the re-insurer, who sues the Environmental agency for incorrect information on a geological survey.)</p>	
[25]	<p>a) Best achieved by a global standard for preservation, like the ISO standard.</p> <p>b) Articles in papers, document management magazines</p>	<p>These remarks apply to the “whole” industry – Records Management and Document Management (in answer to a supplementary question he said Content Management as just a buzz word). Records Management and Document Management are tending to merge</p>	
[26]	<p>a) Publicity around storage in particular, spread of best practice stories and horror stories. Need to look at management practices/processes as well as technical problems.</p> <p>b) Forums and commercial seminars.</p>	<p>The answer really has two dimensions – depending on whether one approaches it from a manufacturing or systems/solutions viewpoint.</p>	

Company Code	Response	Comments	Notes
	c) The DPC in the UK. (but asked if the focus of the DPC was just on UK academia, and possibly the public sector, or a wider audience. Who is its audience, and what is its constituency?)		
[27]	<p>a) Engage the AIIM and CIMTECH (they have all the contacts)</p> <p>b) IT consultants and advisors like Ovum, IDC and Gartner These have a way of presenting issues which make people think</p> <p>c) Press articles (like the BBC's recent web article on digital photos – see http://news.bbc.co.uk/1/hi/in_depth/sci_tech/2000/dot_life/2143979.stm)</p> <p>d) The Mellon Foundation – they are into preservation.</p>	There is not enough awareness by the public and industry (as suppliers of systems)	
[28]	<p>a) Workshops,</p> <p>b) Editorials, and</p> <p>c) Marketing tools.</p>	<p>Noted they are starting to educate themselves after doing some work with the BL (or bidding for it), and in response to this survey.</p> <p>Noted that once the message gets going the jungle drums work well in the IT industry.</p> <p>One participant noted there was a lot of the awareness of preservation, but what was the scope of digital preservation? Long initial discussion about the scope of the DPC project and what is meant by digital archiving (is it about continued existence or continued “access” (meaning continued usability?)) It was suggested that pro-active data lifecycle / storage management is needed; it is easier to do this if on-line media are used rather than off-line or near-line.</p>	

Company Code	Response	Comments	Notes
[33]	<p>a) Talking about it in industry –specific forums (e.g. pharms, banking etc. . . .) - and not to our friends and fellow enthusiasts.</p> <p>b) Encourage pilot projects – that will get people to understand more in industry sectors.</p> <p>c) Urgently: get into schools and colleges. Start projects that relate to pupil's personal records/communications. (e.g. e-mails, photos, diaries,)</p>	<p>Noted informal histories are in danger and will disappear, including local histories. One idea is to get school children to record their peers', parents' and grandparents' anecdotes digitally and ask them how it is to be preserved.</p>	
[34]	(None)	<p>Industry is chiefly hardware provision with systems software in addition.</p> <p>From the company's point of view it is not very interested in the issue – it does what customers will spend money on, implying it will be important once this happens. From the company's viewpoint it would not be a good way to spend dollars.</p> <p>There are some intelligent storage products (e.g. from EMC) but these address storing and retrieving “stable bits”, not preservation. There is no market for preservation equipment.</p>	

2. QUESTION: Do you think more should be done to support UK industry in addressing these issues by the government or other publicly funded bodies?

If yes, how?

Company Code	Response	Comments	Notes
[05]	No	A qualified no. Large companies are able to take care of this themselves, but the SMEs probably do need assistance, and government can help. Noted that the legal issues need to be identified and discussed first and then government may have a role	
[06]	No	Noted a personal view: the public service organisations waste money by being inflexible in their procurement processes. Also they tend to spend a lot of money minimising risks to the detriment of getting a proper job done. It is necessary to take some risks, as a commercial company would do.	
[09]	Yes	A personal view, not a corporate one. Yes, probably. Look at the work already done in the BL, NARA etc.	
[10]	Yes	Tax incentives, and encouragement of awareness and good practice. Conversely, the government may be building a huge problem for users of IT from households, local authorities through to large industry from its e-government initiative through lack of awareness.	
[11]	Yes	The main drivers come from the government's e-commerce and e-government push; the government therefore needs to be active in promoting appropriate standards and processes.	
[13]	Yes	"Some kind of awareness campaign. Not regulation." It is an awareness thing, which goes back to suppliers and purchasers, who do not know they need to take note of the long term.	
[14]	Yes	A government responsibility. ITTs need to be used as examples (or exemplars?) to companies. There needs to be a more formal collaboration between the public sector and the software	

Company Code	Response	Comments	Notes
		industry; “working to an agreed middle ground” - which I [the interviewer] took to understand meant a set of standards.	
[15]	Yes	Yes, but I do not know the UK scene.	
[21]	Yes	From the company’s point of view one needs to publicise data loss stories, illustrating the costs that loss has incurred. It is better if this is done under a government umbrella – the publicity would be less pointed and be seen as independent. Believes the DPC can make this a “national issue”	
[23]	Yes	A problem is that government (e.g. DTI) led initiatives tend to be directed to the larger, front line, players (e.g. Sun, Oracle, Microsoft, . . .). This means that the less sexy back office work tends to be passed over, as do the SMEs. The BSI might have a role, but is not sufficiently focussed at the moment	
[24]	Yes	Noted that the PRO work, MoReq etc showed government is doing something, but said they are only producing guidelines and not recommendations or mandates. The PRO is still very paper-orientated, and does not have enough teeth. More push is needed	
[25]	Yes	The UK should do like the Dutch government is doing and have a program. The Dutch are doing more and doing it better. The Dutch have done good marketing on their work. The UK should first study what has already been done and then do something new – perhaps by “joining up” existing islands of effort.	
[26]	Yes	Not sure – depends on the level of funding.	
[27]	Yes	“Someone needs to be clear about what information is going to be important in the future and if so what format to keep it in.”	PL note: this response seems to refer to, or implies, having some guidelines established – possibly government sponsored or funded.
[28]	Yes	It was suggested the Treasury has a role in raising profile of the issue – they hold the purse strings. Prompted on the role of the DTI they suggested that it had many departments and	

Company Code	Response	Comments	Notes
		<p>which should take it on – perhaps a new one was needed for this issue.</p> <p>It is difficult to get the attention of industry – but one participant said “A project of this size – meaning the DPC and survey – will engage attention”</p> <p>There was a comment to the effect of making it more economic easy to engage in the problem.</p>	
[33]	No	<p>But noted that government might be able to foster cross-industry fertilisations and meetings (e.g. pharms and banking). This may help identify gaps, problems, and opportunities. Government needs to take a “light, enabling role”.</p> <p>He asked if government has a moral duty or cultural duty to collect digital examples. He cited the case of fears for lost railway company records at the time of privatisation. “We need people who indulge in “digital dressing up”, in the same way as wars re-enactors, or archaeology experiments are conducted.”</p>	
[34]	No	<p>Not much governments can do by “shaking the trees”</p> <p>Mandatory preservation and storage standards from the government (e.g. for tax returns etc.) might help, particularly if they were backed up by penalties for non-compliance.</p>	

- 3. QUESTION** Proposals are currently being considered to develop a Digital Curation Centre based in the UK higher education sector to support R&D into digital preservation. What areas of publicly funded research and activities in digital preservation do you think would most usefully support industry efforts and competitiveness in this area?

Comments:

Company Code	Comments	Notes
[05]	<p>It would need to be outward looking work.</p> <p>Do research into the benefits in relation to the risks and penalties?</p> <p>Saw this as an area for research collaboration between industry and higher education. He may be able to make a case internally. It would need a “matching” project from HE to come to pass.</p>	
[06]	<p>R&D not necessary – no need to re-invent the wheel.</p> <p>Academia is not the best place to develop systems for commercial use. However there are a few areas which are not well addressed by the commercial sector – e.g. verifying the bit failure rates of DVDs - a system for this and similar would be useful.</p>	
[09]	<p>Useful? – yes. For example about making decisions to what to preserve and to what purpose. For example there may be institutional drivers, but also records may take on value as historical records, showing for example how and what students learnt, recording students’ dialogs and responses with the system.</p>	
[10]	<p>This might be akin to the work being done in the Netherlands and Denmark.</p> <p>For the public sector putting information about hardware, software, peripherals, user groups, forums, etc. into a database or library would be useful. (Noted that there are software yearbooks etc, but these would not adequate.)</p> <p>Regarding “industry efforts” she commented there are several companies making claims about archiving which, she thinks, fail to address the digital preservation question.</p> <p>She wondered why public sector money should be spent on something to support the IT industry; questioned whether an industry which is making money should be given subsidies; IT is not (yet) in the same doldrums that, for example, shipbuilding, is in! On the other hand public sector activity in this area which would bolster the competitiveness of UK companies</p>	

	would be a good thing.	
[11]	This would be a very good thing, and provide an opportunity to build bridges between the academic and commercial worlds. Could look at joint funding between (large) commercial companies and government. High profile applications would help, such as the US Library of Congress' Making America project.	
[13]	If problems are solved once in this area then the solutions tend to be ones that can be applied to everyone. E.g. technology watch systems such as PRONOM at the PRO. Need to let everyone have access.	
[14]	"It would be a good ground for finding skills". Would provide a "middle ground" - e.g. to define standards in XML as a neutral format for data formats.	
[15]	Economic models, measures of media durability, curation tools.	
[21]	Believes there is little need for more basic R&D, we need to publicise the "practical stuff", facts and figures. Noted there were plenty of media deterioration studies done in industry, mainly in the USA, (e.g. the US Media Center); he is not sure we need to replicate this in the UK We do need a mechanism to judge the life spans of new media as they are introduced.	
[23]	Some difficulty in deciding what to answer here. Is there a real need for basic research? Perhaps the real need is for models to follow, funds of practical experience, best practice and case studies. "People will want to know where to go with a 5" diskette or an old data format." Some universities with information management departments might be interested. Then there is the Records Management Society, and Society of Archivists. IRMT?	
[24]	Publicly funded research is fine but technology will not wait and commercial drivers are going to dictate what happens. We do not have the luxury of time for it to happen. Cited GCHQ having a 2006 deadline for an ERM system - but in 5y time everything will be different – technologies will have moved on. "There must be a better way".	
[25]	Yes. Two sorts of solution are needed: <ul style="list-style-type: none"> • Firstly on the hardware side – we need reliable long-term storage media/systems 	

	<ul style="list-style-type: none"> Secondly we need software independent formats. <p>It might turn out that the best medium for the long term is paper.</p> <p>Believes that management of digital archives is not difficult – in general metadata is easy to migrate from one database to another.</p>	
[26]	<p>Research should be as much about management and processes as well as technologies. The US does this – management research- better than the UK.</p> <p>It would be good to see a UK effort – for example based around the Grid. Possibly we should have at most two focussed efforts in two first division universities.</p>	
[27]	<p>The UK Data Archive group at Essex University may be a kernel from which to start. Noted that it is a worldwide problem and may need worldwide answers, particularly where it may need to put pressure on the likes of Microsoft and other corporations. Also mentioned work done at the University of Illinois by Richard Campbell.</p> <p>Questioned whether it was necessary to replicate work done elsewhere in the UK.</p>	
[28]	<p>No. There is enough work being done in the industry anyway (though it may not be visible). For example, significant sums are spent on tape and disk research and longer life spans.</p>	
[33]	<p>He would divide it up into two:</p> <ol style="list-style-type: none"> 1. A university based centre for digital curation research; and 2. Centres where it is practiced –such as the Data Archive at Essex, NDAB and PRO, ULCC. <p>He wondered (questioned) if these would prove to be good industry models – maybe an interesting research area?</p> <p>Noted that the high-energy physics and astronomy communities seem to do it well.</p> <p>Archives have to be managed for the different sources they serve. Everything is different and therefore need theory that supports different populations. As a corollary it is better to have well-structured specialist archives which can communicate together than broad archives that may poorly serve mixed needs.</p>	
[34]	<p>There have been some discussions about setting up a laboratory in the US National Institute of Science and Technology. It would probably be helpful.</p> <p>He did not think such work would drive technology change, but may show how fitting existing technologies together may help.</p>	

4. QUESTION Previous digital preservation research has suggested the need to develop and then maintain a register of information on file formats, and repositories of documentation and software to support archiving activities. Do you believe you would be able to contribute to such initiatives?

If **Yes**, in what ways could you contribute?

If **No**, what are the barriers to contributing?

Company Code	Comments	Notes
[05]	To be defined - it would be somewhere in the company, but not sure where. But noted there is obviously an IP issue here which lawyers would need to look at.	
[06]	Noted that they would not want to give anything away which would be of use to the competition. Material over say 5 years old would be OK – it is then out of date. In this context he noted too that there is great dynamism in technology - to the extent that standards used may differ (slightly) between one project and the next.	
[09]	Would have to give some thought to the role as a company. We are strong on partnerships with our customers and need to balance vendor and customer needs. There would need to be consensus about what such things as utilities to compress and tag files and how these were to be implemented. There would also be some concerns about IP – both software and content (The latter could be very complex when applied to course materials – “almost untacklable.”)	
[10]	But difficult to specify at this stage of the company’s development what it could contribute. But note – For the company there may be IP questions In general there will be commercial tensions with companies anxious to preserve their sales corners. Also noted that company lawyers tend now to advise putting software purchased into ESCROW, and having this written into contracts.	
[11]	The company would be a user of such information (e.g. for file formats) and could provide documentation on the same. In principle a good idea, but not sure how it would work in practice.	
[13]	The company does not have data it could contribute, nor software, unless paid for it.	

	However they can contribute ideas. Agree this is a good thing to do.	
[14]	Could contribute their expertise, if relevant.	
[15]	I am working on astronomy data, and more generally scientific data	
[21]	From a global point of view - [21] originated many of the standards. On other hand there is not a lot of variation in the document imaging world (using TIFF Group IV and JPEG mostly)	
[23]	As a trade organisation by linking into suppliers for old discontinued file formats, knowledge on how to transition (migrate) information etc. Facilitate communication between users and suppliers. In answer to a supplementary question on perceived competitive advantage, she replied it depended on the maturity/grown-up-ness of the supplier's attitude. You could argue that conformance to standards and openness is a competitive advantage.	
[24]	Not directly as question implies – but by educating the market. We find ourselves in a dual role – as sellers of software and as consultants educating the market.	
[25]	This is a big task, but not relevant for the company. They could provide the front end for managing collections, and provide a records management perspective.	
[26]	Firstly through a joint programme. Secondly through the storage equipment division of the company. Do it! – bring the current technologies together.	
[27]	A good idea, but not sure the company has much to contribute. Maybe a role for the NCC?	
[28]	The problem lies “above us” in our suppliers of hardware and software (they describe themselves as a VAR). They do however have visibility in their supplier community, and have access to privileged information under NDA on what they are doing and will present in say the next 5 years. They may be able to broker a meeting with these people.	
[33]	Intellectually – and a little from the few experiments they have conducted. The burden here is on the likes of Microsoft. However he noted that successive products are increasingly easy to migrate between. Perhaps commercial pressure will eventually, but slowly, drive standards – the market will force it. Maybe there is a role here for government as a large IT buyer.	
[34]	The real formats are the property of the monopoly suppliers. They have strong commercial reasons to keep these formats to themselves, and it would be a doomed effort. Government mandating of open standards would help but would be followed by massive lobbying.	

5. QUESTION Do you factor long-term (10 years plus) retention into your products?If **Yes**, in what ways?If **No**, do you expect to do so?**Comments:**

Company Code	Response	Comments	Notes
[05]	Maybe	All tapes from the company carry a 10-year warranty! The problem is multi-factorial (e.g. media, file formats, etc.), and items like this are just point solutions in a wider whole. He would like to research this. Their research people may be the right people.	
[06]	No	There is a legal obligation to keep equipment for, say, 5 years; after that they would want to replace it. (Commercially driven?) . One issue is sourcing spare components, which can be a severe problem – such as the right transistors or chips.	
[09]	No	We are a 3-year-old company and the focus has been on getting the next version out. As the company (and similar ones) mature they will become concerned with the issue.	
[10]	Yes	We are developing products to support very long-term retention.	
[11]	Yes	“It is inescapable that we do it.” The company has awareness if the issue and incorporates measures into customer requirements, such as for media refresh, migrations, and into documentation of, for example, file header information and image formats. These are set out in service level agreements.	
[13]	Depends	We do not make software products that are boxed up and sold; all of it is bespoke for a specific customer. It depends on whether the customer specifies it as a requirement. However they would make the customer aware of the issue and let them decide.	
[14]	Yes	By compound storage – ability to store applications, data, and metadata. Not into storage of hardware. Commented that requirements are mainly being driven by the public sector at the moment.	

[15]	Yes	Yes, data formats, careful records, constant refresh	But note – referring to a very specific environment – PL.
[21]	Yes	Noted they do not sell scanning technologies (software). Noted also that many people are backing-up / archiving to microfilm, and that indexes too are committed to the film, thus giving complete independence from software. Their motto is “use digital where appropriate, and analogue for long term retention.”	
[23]	No -	Not applicable.	
[24]	Yes	We have to! By putting information in a secure place (folder) where it can be found. Our product is sold to customers who require this (e.g. an oil company for oil rig schematics, which have to be kept for ever, a car manufacturer which, due to insurance issues, feels it needs to keep information for as long as the life of an individual driving a car.)	
[25]	Yes	In the following ways: <ul style="list-style-type: none"> • The product preserves context: where the file came from, what it does, the business transaction it represents. • Viewer technology for many (old) file formats (WordStar was cited as an example.) • Storing multiple renditions – e.g. a PDF rendition of Word files. (But has no built in converters) 	
[26]	Yes -	Through active research on products and storage.	
[27]	Yes	It is implicit in what the company does (writes software to drive optical jukeboxes). Noted they maintain all versions of their software back to 1989; however there is a problem with the software which runs on old operating systems, as support for these is waning. Noted that, fortunately, most of the old work was for Unix on a Sun platform, and Unix has been pretty stable over the years, except for the change from 32-bit to 64-bit architectures.	
[28]	Yes	A qualified yes – they have sold solutions with a requirement for fixed data retention times. Repeated that the issue isn’t the technologies but the need for constant good data and media management In a sense the answer is that retention it is “in process” at the moment, through	

		incorporation into systems, though dependent on the specific data and product.	
[33]	Yes:	By factoring it into our consulting projects. We sell on software, and the issue is then in our suppliers' court [For] Pocket PCs – long-time means 6 months. With new products like these the phrase “long-term” may always be meaningless, and we will always lose the initial products from them before standards emerge	
[34]	Yes	A tricky question. The company can claim to be more aware than other players in the industry because its software strategy which is carefully designed and has long term potential.	

6. QUESTION Are your customers increasingly requesting features which facilitate long-term (10 years+) retention and use of data?

Comments:

Company Code	Response	Comments	Notes
[05]	No	Not from what he sees in the higher education market. (his line of business, which deals with student records, payroll, etc. . . .). Except in specialist areas the demand does not exist (or need is not recognised), though interfaces with legacy systems is often asked for.	
[06]	No	NO – generally the opposite! – the company suggest it to them. It may be requirement buried in a specification, but is not emphasised. Companies are more concerned with live systems and the immediate problems they represent and rely on data being around as long as is necessary protected by back-up procedures. He noted that that museums and galleries are given say 3 copies of digitised records in high resolution, and these are then stored away somewhere; a copy is made, often converted to a more amenable standard for day-to-day use on line. The online degraded copy is well managed but the “real” copy of the data is not managed well. It is not so serious when a work is popular and multiple copies are made - they will probably survive. “Put a red flag on data which is seldom or never used!”	
[09]	No	Not yet. But it is there under the surface, and may emerge within a year.	
[10]	Yes	Because of legislation and regulation. It is interesting to watch digital records in the courts: sometimes admitted, sometimes not.	
[11]	No - not really	Typically they are not aware of these considerations. However some highly sophisticated users (e.g. the PRO, some government agencies) are very aware. Awareness is much higher in the government sector than it is in the commercial. Cited the Irish land registry where on the advice of CIMTECH quite detailed requirements were specified.	

[13]	Yes	But slowly. Pharmaceuticals have been aware of it for a while under regulatory pressure. Government now is more aware. But the majority of customers away from these areas in general are unaware. Their problems are focussed at a day-to-day level, such as controlling e-mail and long-term preservation is icing on the cake. Most do not even have good document and records management systems.	
[14]	Yes	Depends on type of customer. In the public service they have experience of one or two fairly complex proposals which have a retention /archiving intent. In the commercial sector one would have to prompt for this. The difference is that there are few records managers in commercial companies, and therefore no centres of responsibility where needs can be identified. The need is there but not recognised.	
[15]	No	No, there is no increase, they have ALWAYS done this.	
[21]	Yes	They are doing this without prompting. – he gave example of a customer, a well-known financial institution that is trying to retrieve data off an old optical disk system. The data needs to be kept for 40 years, and they do not want to repeat these rescue operations every 10 years or so. Noted there are major stories to come out - (in addition to the well known ones like NASA's loss of 30% of the Viking mission data. If this happens it will help. We need a disaster! (Digital family photos?) In this context he noted [21] was working with the disaster recovery community. (Analogue gives a quick return to business). On photos – this was giving some concern - mooted an icon on PC desktops which would activate submission of photos to a central repository where they would be imaged and stored.	
[23]	Yes	Records management has shot to the top of the public sector users' agenda over the last 8-10 months. This is linked to the e-government agenda. Commercial companies are more concerned with controlling the sheer volume of live information they are faced with, but post Enron etc they may be catching up (though there is a tendency to think, in the UK, it is an "over there" problem for the US). Her members see e-government as a god send in the current business climate, post Sept 11 and with the down turn, as the public sector is continuing to invest whereas commercial companies are not.	

[24]	Yes	Customers are saying our insurers/re-insurers are insisting on it. Some customers have a 100 year + requirement.	
[25]	Yes	Depends on market: In the Netherlands and Australia – yes, more so than in the past. In the UK there is a short-term view, 2004 driven (reference to e-government objectives) and people are sorting out messes. Noted that VERS was marketed well in Australia, and much was spent on this.	
[26]	Don't know.	People inside the company will know, and need to be located to get their views. Noted we need to educate content managers in consumer industries - that will create a demand.	
[27]	(Yes)	Again it is in the nature of the company's business. Customers have demanded longevity. In general the customer knows they want to keep data for say 20 years, but they do not think past the storage issue and media issue, to consider how they are going to access and use the data in 20 year's time. "Awareness extends only to the medium." Interestingly customers are now demanding legal admissibility, and not longevity. She cited the storage of security camera output, speed cameras etc. She also noted that there is a tendency for the document management and records management systems companies not to talk about the preservation issues, and surmises this is because it makes products more difficult to sell.	Interpolated "Yes" by PL
[28]	(Yes)	Customers don't ask for this specifically, they ask for reliability – if that is what is meant, then the answer is yes. However starting to see some demand. They are building a system with a possible 1Pb storage requirement. Some sectors require long-term life cycles – such as the financial industry.	
[33]	No	No – we keep telling them they need it (except on the specific preservation projects they undertake!) Industry's customers do not perceive the problem the same way as we – the active and knowledgeable – do.	
[34]	No	Except in so far as they buy the company product which solves some of the problem – but only incidentally, independent of the purchasing rational.	

7. QUESTION The DPC currently has two categories of membership and contributions to its work Associate (£2k per annum) and Full (£10k per annum) for not for profit organisations. It has entered into formal alliances with two other organisations on shared events and activities (see www.dpconline.org for further information on participation in the DPC). It is also considering how it could engage in future with or develop membership for individual companies. Would you be interested in any of the following ways of benefiting from or contributing to the Digital Preservation Coalition's work?

Sponsorship

Membership

Alliances

Other

Comments

Company Code	Response	Comments	Notes
[05]	Yes	It could be a research level collaboration, and he will raise with the research director. Collaboration would "need to hit hot buttons in a business area of the company." Possibly could host meetings on the company's premises.	
[06]	No	No, not on a financial level. He can offer technical support. He can also contribute knowledge and contacts.	
[09]	Doubtful	"Doubt it; – but honestly don't know"	
[10]	Yes	We are not a not for profit organisation! A link would however be of high priority to the company. The company regards the DPC's work as very important.	
[11]	Yes in principle	He would have to discuss this with his management and could not say at what level support might be given. "Would see benefit in involvement".	
[13]	Possibly	Times are hard in the IT industry and the cost would have to be justified. We would need to know what the events are, and either directly or indirectly they provide marketing worth. They would be happy to accept long-term or indirect potential.	
[14]	Yes	Yes. Open to this, but would treat each event on its merit. A market opportunity is there and would like to see such collaboration to open it.	

		Also welcomes forums outside commercial discussions.	
[15]	No		
[21]	Yes	He will look into sponsorship. He is not sure if it should be done at a local level or globally within the company. Possibility of financial sponsorship?	
[23]	Yes	<p>The group is hosting a trade show this autumn, which is free to the user and is an awareness-raising platform (e.g. by hosting round table discussions, presentations etc). It is also running a 3-stage industry awareness project on information management issues. There is an opportunity for the DPC to get in involved in these.</p> <p>She noted there needs to be a more mature communication between suppliers and users. Lack of maturity in the relationship hampers effectiveness – the partners do not allow themselves to get close to each other. Example: supplier Y puts a system into organisation X after a complex bid, but the next time a similar system is required by X they do not use the relationship built up with Y and repeat the whole costly bidding process again – which might in turn lead to fragmentation within X's IT infrastructure. Another example: clients claim that suppliers do not understand their needs, and suppliers say customers are too secretive.</p>	
[24]	Yes	<p>Yes – if it has gurus like X and Y associated with it!</p> <p>Possible membership. Editorial materials, case studies (cited for example telling how and why the British Council went about specifying a records management solution).</p> <p>Sponsoring events, provided the participants were potential prospects.</p>	
[25]	Possibly	Would certainly work with it – e.g. by being event sponsors, exhibitors. Bottom line is can we meet potential customers. Would determine on an event-by-event basis. Our managing director can give a definitive view on further investment.	
[26]	Yes	<p>In the current economic climate, the company is a “not for profligacy company”! Notwithstanding that yes, the company (i.e. he) is happy to work with the DPC and can sign off at the £2K level; at the £10k level he would have to go back to the organisation.</p> <p>Speakers could be provided regarding storage technologies; but they would need instruction to not give sales presentations.</p>	

[27]	Yes	They are interested in becoming an associate member – if that is possible now. However the company does the easy bit – and is not sure what they can offer.	
[28]	Yes – depending.	They seemed keen on contributing and did not see any problem in getting commitment. However said they need to understand a bit more about it. What would be the benefits to them; would they get workshops? Newsletters? Info? They will get back to me concerning this.	
[33]	Yes	At the moment it would have to be at an alliance level and “in-kind” work- it is a cost issue. What would the company get from it? They could pay the company to do work!	
[34]	Possibly	Would have to pass this in. Not an issue the company’s research laboratories are addressing.	

8. QUESTION Is there anybody else in or outside your organisation whom you suggest we contact in this survey?

Company Code	Comments	Notes
[05]	Possibly X and Y, at our laboratories. He will check if this is appropriate.	
[06]	No. He is probably the only person in the company.	
[09]	Our largest competitor – X.	Note: the company referred to was canvassed but did not respond.
[10]	(none)	
[11]	(none)	
[13]	(none)	
[14]	No. But their technical people later if needed.	
[15]	(none)	
[21]	He would like to take the issue to the marketing manager's meeting, and report. (In context of question 7 above)	
[23]	Possibly AIIM and BSI.	
[24]	Our company President.	
[25]	Nobody comes to mind.	
[26]	Their storage group.	
[27]	They are only 15 people.	
[28]	Manufacturers – hardware (storage) and software.	
[33]	Possibly people at Pfizer, CAP Gemini and IBM.	
[34]	He is the point contact in the company.	

9. QUESTION Do you have any other comments you would like to include? If so please add them below.

Company Code	Comments	Notes
[05]	Overall the company can get involved in the DPC if it is still on their agenda in their laboratories. He did not think the company would neglect the topic.	
[06]	Their major competitor X is not known to be doing anything in this area.	Very commercial outlook.
[09]	No. But please keep this industry in your sights.	
[10]	Some of the risks and hurdles in the digital preservation problem today may be transitory. The problem may lessen with developments such as XML and hardware interoperability – but will not go away.	
[11]	(none)	
[13]	The DPC is doing useful work and has made a good start. Would like to know more regarding its long-term aims, and suggest it moves away from a “for the librarians” image.	
[14]	(none)	
[15]	(none)	
[21]	He is very pleased the question is being taken seriously now. Noted tests show data CDs can expect to lose 5% of their information in each copying!	
[23]	Can we see the final report, i.e. get a copy?	
[24]	Business drivers are becoming evident now. Be proactive about scaremongering on electronic records. Get cited on company’s web pages. Public sector more careful with records, commercial companies more cavalier.	
[25]	(None)	
[26]	Need to clarify the role of the DPC. During the discussion he noted the importance of metadata for preservation. Noted that San Diego’s SRB was a good bit of work but only addressed access, making data available.	

[27]	Repeated AIIM may be a good contact. Noted even 7 years is a long time in the software business – retrieving information that old could be “iffy” and expensive.	
[28]	Would like to understand how to progress from this point, how do they get involved. Will feed back information.	Only multiple person interview:
[33]	(none)	
[34]	(none)	Was on vacation in UK when we spoke Spoke for himself. Knowledgeable on issue.