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Citation: Bawden, D. (2009). Sharing knowledge and information, three views of the future. Paper presented at the Inforum 2009, May 2009, Prague, Czech Republic.

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Sharing knowledge and information: three views of the future

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Summary

This paper considers the ways in which library/information services can contribute to the sharing of knowledge over the next two decades. It builds on the imaginative thoughts of several commentators who have considered future scenarios, while including the implications of recent events. These latter include the current world economic problems, which are already affecting library/information services, sometimes in surprising ways. They also include the result of the steady move towards a largely digital information world. Within this, we should note particularly the introduction of 'cloud' computing, which offers a way to share knowledge and information, as well as music, movies and so on, 'on demand', avoiding the idea of 'ownership' or 'collection'.

Three possible views of the future are presented.

The first is a continuation of the current situation, with library/information services continuing, and perhaps growing in importance, in something very similar to their current form.

The second is a change to the current situation, with some forms of library/information service diminishing, or even disappearing, and others expanding, and changing their nature considerably.

The third, and most radical, sees the disappearance of most current forms of library/information service, and their replacement by a very different 'information landscape'.

The likelihood of these views prevailing, and their consequences for library / information specialists, and for the sharing of knowledge generally, are discussed.

Introduction

We will first briefly examine some current trends and issues, and consider their possible significance for library / information services. Then we will look at some possible future scenarios, based on extrapolating these trends.

Current trends and issues

It is well known that the library/information world has faced a variety of challenges over the past decade, associated with changes in the technical, social, business and economic environment. The information landscape has undergone remarkable changes in consequence; most particularly as a result of the move towards a predominantly digital and networked provision of information. All sectors of library/information services – including national, public, academic, industrial/commercial and governmental services – have changed greatly in response, though in different ways according to their situation.

In the past two years, these forces for change have intensified, and their effects – actual and potential – on the library/information world have been seen more clearly. While one might point to a very wide range of such forces and influences, it is possible to identify a few particularly significant examples, in order to examine their effects.

The economic situation

The economic downturn worldwide, and the likelihood that it will last for some years, with enduring effects thereafter, cannot fail to affect all the library/information sectors.

We may assume that many of these effects, at least initially, will be negative. In the UK, we have seen a local municipality attempting to close the majority of its public library branches in response to economic problems; this provoking appeals to central government to over-rule

the action. We have similarly seen an immediate decline in information-related jobs in the commercial sector. No doubt such problems will continue, and will be observed worldwide.

On the more positive side, in the UK at least, the economic situation has prompted a 'back to basics' mentality. There is some evidence that this includes a re-found enthusiasm for libraries, for books, for borrowing rather than buying, and for sharing and collaborating. Not least, there is a renewed emphasis on the sharing of knowledge and expertise. All of these things could, paradoxically perhaps, result in more, rather than less, support for libraries and other 'information institutions'.

Digital world

We have now reached a situation where, in most situations in Europe and North America at least, digital information is the norm. Printed materials are either by-products of digital originals, or are ripe for digitisation, as in the massive book digitisation projects being supported by Google, Microsoft and others. Academic and professional journals are now invariably wholly or mainly digital in form, as are almost all business information resources. E-books are only slowly gaining in popularity, but new developments in e-paper and e-readers imply that a tipping point to wide availability of e-books, and perhaps also e-newspapers, may come soon.

This has led many commentators to make assumption that all libraries and other information collections are on a track towards a necessarily all-digital future.

However, one of the aspects of the economic downturn noted above, and consequent feelings of uncertainty about the current and future state of society in the developed world, has been a renewed enthusiasm for the 'real'. This has included an enthusiasm for collections of real things, including real books. This offers an interesting possible corrective to the idea that the move to an all-digital world is inevitable and universally welcomed.

Web 2 and the Amazoogole

The success of internet-based information systems, from search engines to online retailers, has led to such systems providing a 'ideal type', by which all information provision is to be judged. Google has had such an impact in this respect that 'to Google' is now a respectable English verb, meaning to search for information. Similarly the Amazon book retailer has provided a model for digital interactions which has proved more acceptable than the kind of interface offered by libraries and information services. Wikipedia, for all its known deficiencies, has become the model for reference information, for most people.

The rapid penetration into everyday life of social networking sites such as Facebook, and other Web 2 facilities such as Twitter, has been another factor which has altered the way in which most people – including students and professional workers - expect to receive information.

Library and information services have been slow to respond to these developments; not surprisingly, in view of their rapidity. Responses have generally taken one of two forms. Attempts have been made to point out the limitations of these new models, and the dangers of relying on them; this has generally been ineffective, pitted against the great advantages of speed, simplicity and 'image' possessed by Web 2. Alternatively, libraries and other information providers, have attempted to join the new world, by providing 'Google-like' interfaces, and by linking to social networking sites. While this approach offers advantages, there is a danger that the value of sophisticated access to structured collections – one of the main advantages offered in 'library-like' environments – may be dissipated.

The new generations

Studies of, and anecdotal experience with, the younger generations who have grown up used to ubiquitous digital information give a mixed viewpoint. There seems little doubt that Gen Y, the Google generation, the 'digital natives', or however we might want to label them, have different expectations of information provision, and different information practices, to their predecessors. But studies do not always agree with received opinion. They show, for

example, that younger people, while certainly confident with technology, lack an understanding of its nature, and even more lack understanding of information resources, and lack the skills to interpret and use information well. Their fluency with digital information is more apparent than real. And while it is often assumed that the new generations have no interest in libraries, and no desire to use them, studies show that they read more than their predecessors, and appreciate advice from 'information experts'. The idea that there is a novel capability for multitasking, and absorbing and using information from many sources, is countered by concerns about 'attention deficit syndrome' and 'continuous partial attention'.

Solid information on our users of the future is largely lacking. It seems unwise to plan the future based on assumptions. It is this concern that has led the British Library to support the 'Google Generation' study mentioned in the further reading, and in 2009 to sponsor a study of the preceding 'Generation Y'.

The cloud

One of the most interesting new trends is the movement towards 'cloud computing', whereby information resources of all kinds will not be held in a collection, owned by a person or an institution, but will be stored on a networked, with wireless access from any place.

In 2009, this has been illustrated strongly by public enthusiasm for the Spotify software, which enables music and videos to be downloaded on request from the cloud. This, if widely accepted, could mean an end to personal collections of CDs, DVDs, etc. It may not be too far-fetched to imagine that books, newspaper items and journal articles could be delivered in the same way. This would call into question the whole need for the 'collection', which has been the basis for libraries and information services since their inception in the ancient world. There are of course many issues here, and whether it would be acceptable for all purposes, is a debatable point.

Trend summary

This brief overview of some currently prominent issues gives us a rather mixed picture. We see some general trends, but often with 'counter-movements' to suggest that the future is not entirely clear.

Futurology and scenarios

There is a long tradition of 'futurology' in the library and information sciences, with a particular interest in outlining possible scenarios of what the information world will be like in future years. Shuman's collections of scenarios for 'libraries of the future' have been especially influential, and the writings of Sapp and Pennevaria are also interesting.

We will now look at three possible, very general, futures for the library / information world, based on, and accepting some of the contradictions of, the trends noted above.

Scenario 1: business as usual

Libraries, and other information providers, have a generally good 'brand image', much goodwill, and an established place in many settings. One possible future would therefore be largely a continuation of the current situation, with library/information services continuing, and perhaps growing in importance, in something very similar to their current form. This seems unlikely, especially in view of the increasing emphasis of digital networked information. On the other hand, we might set against this the observed continuing, and to a degree renewed, enthusiasm for reading, for collections, for 'real' things in general, and for a more shared and community-minded approach. If these trends continue, and in particular if there is a back-lash against immersion in a virtual environment, then we might expect to see the traditional 'collection and place' form of library and information service regaining something of its former status.

This would almost certainly be true in some sectors more than others, and in all cases will involve a considerable extension into digital provision. But we should not assume, as it often is assumed, that radical change is inevitable.

Scenario 2: changing landscapes

This scenario involves a change to the current situation, affecting the library/information sectors in various ways. Under the influence of the negative (at least for traditional library / information provision) trends noted above, we might expect to see some forms of library/information service diminishing, or even disappearing. Others, conversely, might be expected to expand, and to change their nature considerably.

We can already see some evidence of the sort of change which may be anticipated from developments in university libraries in Europe and North America. Many are moving from a role purely as a rather passive information provider, to a more active involvement in teaching, and to provision of study spaces extending into a 'social space' dimension. Similar changes are to be seen in the public library sector, with UK libraries morphing into 'Ideas Stores' and 'Discovery Centres'. Throughout Europe, there is a trend to involve the public library service more closely in the wider social and cultural environment. In a commercial environment, this is seen as an increased emphasis on knowledge management, though perhaps not using that term.

Diminishment can be seen in the UK public library examples noted above; falls in usage can be seen in many European countries, leading to fears for the long-term survival of such services. Reduction in provision can also be seen in commercial and industrial information services, as the economic downturn exacerbates longer-term trends.

Conversely, information services in law and in healthcare are, if anything, expanding in the UK, albeit accompanied by many changes in their structure and functions. This illustrates the way in which the various sectors are responding differently to the changing environment.

Perhaps the one constant in these factors is the extent to which the successful services are managing to refocus the balance between physical and digital presence. This, along with a good awareness of user needs, and an ability to 'play to the strengths' of the 'library brand', seems to still be the requisite for success.

Scenario 3: into the clouds

This scenario is the most radical. It assumes that the 'cloud' computing model has become pervasive, that it delivers texts and images in the same way as it is currently beginning to deliver music and video, and that such delivery has become accepted as the norm by most people. We might also expect that much more of this material would be free to use, in an extension of current trends with entertainment material, of the open access movement for academic resources.

This would mark the end of the 'collection' – whether of books, of music, or of photographs – as a feature of the lives of those who relied on cloud delivery. Similar, even one's own documents would not be stored on any local device, but would be uploaded to the cloud, to be retrieved when needed. This would involve a fairly major change in attitudes, as well as information practices, and it is not clear to what extent this would be welcomed. Issues of preservation, both technical and cultural, would become a particularly important issue.

The impact of library / information services would be profound. Their collections – hitherto their defining feature – would now take the form of criteria for selection of material from the cloud. This would take the process begun by the move to the 'digital library', with collections being defined by selection criteria rather than by ownership or by physical location, to a much greater limit. The library might cease to exist as an institution, and might take the form simply of advisory services, assisting patrons with selection of cloud material, and subsequent use. Lacking a physical location, and managed collection, library / information services would, if they were to survive at all, have to become more deeply embedded in the life and work of their patrons.

Conversely however, we might find that a reaction might set in to the cloud environment. There might be a demand for a return to the 'traditional' values of managed and organised collections, and for a revival of the 'information place' for study, reflection, and social interaction focused on cultural issues. Libraries and information centres would be seem to be well placed to meet that need.

Conclusions

Current trends show a number of paradoxical and contradictory developments. Predicting the future based on them cannot therefore be straightforward. The history of prediction and futurology in the library / information sciences has shown both the failures of imagination and of nerve identified by Arthur C Clarke. For the most part, the most striking developments, from the home computer, to the web, to the cloud, were not clearly anticipated before their arrival.

Yet, despite many grim predictions to the contrary, libraries and information services have survived so far. They have done so by a mix of holding on to their traditional purposes and roles, and of reinventing themselves to suit their new environment. In the inherently unpredictable times to come, a mixture of these strategies will be needed. So, also, will be research and reflection on developments, and on the ways in which information providers can be respond. The sharing of knowledge is likely to be more important than ever in coming years, and information specialists have a great contribution to make.

Further reading

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