



Jan Cornelisz. Woudanus, Leiden University Library in 1610. From *Stedeboek der Nederlanden*, Amsterdam: Willem Blaeu, 1649. Source: https://commons.wikimedia.org/wiki/File:Leiden_1610.jpg

Thomas D.
Wilson
UK/Sweden



Is There a Future for Library and Information Work?

Introduction

Forecasts affecting the future of librarians and information workers have come and gone over the years. Some, like Lancaster's forecast of the paperless society (1978), have failed completely, since the consumption of paper is now higher than it ever was, and shows no signs of faltering, in spite of the decline of the newspaper industry (*Who killed...*, 2006; Meyer, 2009). Others, like Lewis's 'doomsday scenario' (1980) were, perhaps, a little early in their estimation of the 'death of libraries'.

There is little doubt, however, that the nature of library work has changed significantly over the last 30 or 40 years and, if the changes are not really increasing in pace, there is a distinct impression that they are! Perhaps the biggest changes, so far, have been experienced in the field of special libraries: those libraries in business, industry, government and local government administrations, medical institutions, the military, voluntary agencies and cultural institutions. From the end of the Second World War onwards there was a massive increase in the number of such libraries, and the field offered considerable career opportunities. Today, however, in some of these sectors, there has been a significant decline in the number of libraries or information units, although information workers continue to be employed, often moving into information systems departments, which now control access to online information resources, throughout the organization.

Forecasting the Future

Forecasts of the future are inevitably limited in their success because we cannot know what agent of discontinuous change is going to come along. As a result, we base our forecasts on trend lines, making the unstated assumption that things are going to continue in much the same direction as they have taken in the past. But those agents of discontinuous change are always unexpected and bring unexpected consequences, and they are generally unknown in advance. Thus, a famous (at the time) forecast of the world in 2000 (Kahn and Wiener, 1967) made a number of successful forecasts, including, for example, applications of lasers, new high-strength materials, and so on, but, in relation to the world at large, did not foresee the collapse of communism. Lewis (1980) in his 'doomsday scenario' noted (drawing on data from Barwise, 1979) that by 1985 there were likely to

be 19.5 million online searches carried out in the USA and Europe and that, if the trend continued, by the year 2000, there would be one billion online searches a year. What Lewis did not foresee, along with everyone else, was the emergence of the World Wide Web. The impact of that invention is such that as I write this (22 June, 2017), on Google alone, more than four billion searches are being carried out, at a rate of 60,000 a second, and the annual volume is 1.2 trillion searches worldwide. If, as suggested (Sullivan, 2013) Google has 65.2% of the search market, this suggests that the total daily search volume is something over six billion. We can add that no one in the UK forecast the financial crash of 2008 and its impact on public services, and public libraries in particular, such that the sector is now in crisis.

The Agents of Change

A useful way to approach the idea of foretelling the future is explore the potential impact of developments in the environment of the organization, community, or whatever we wish to focus upon. This mode of analysis has various names: STEP, STEEP, PEST, PESTLE, all of which cover social, technological, economic and political factors, with STEEP and PESTLE adding the environment, and with PESTLE including legal factors. Here, I shall restrict my analysis to STEP—the social, technological, economic and political factors that currently appear to be influencing the production, distribution, management and use of information and the professions that support these functions (which I shall call the ‘information sphere’), with a particular focus on what we know as the ‘information professions’. My understanding of these developments is, of course, influenced by developments in my home country, the United Kingdom, but I have travelled enough and worked enough in other places to have some understanding of what is happening elsewhere.

Of course, it would be foolish to imagine that these factors are separate from one another: clearly, they are all intimately related. Political decisions influence the economy, and these two, together, influence reactions in society. Depending upon whether the politicians have a strategy towards technology, their influence will also be felt there, and changes in technology can have significant effects on society at large. Witness the emergence of the motor car as a vehicle for personal transport, or the influence of social media on social



relations among people. We can picture the situation of the information professions in Fig. 1:

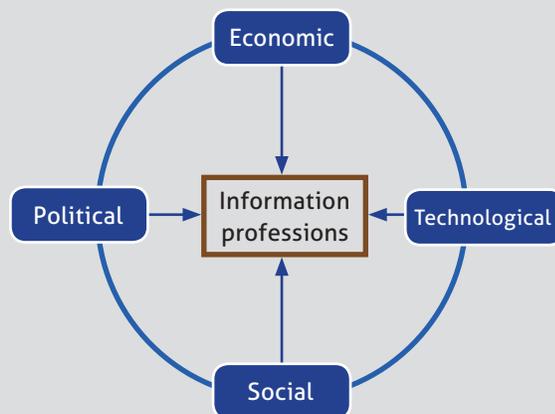


Fig. 1. The STEP factors

Political Factors

I begin with the political situation, since the decisions of national legislators have major impacts on society at large, through the laws and regulations they create and through their policies, which may support or seek to limit the extent of the 'public sphere', and which may support or stand aside from technological developments, and which may aim to reduce inequalities in society, or, by accident or design, increase those inequalities. In the world at large, there is no single political philosophy or ideology, consequently, I can refer to the situation in the UK, although some of the features of politics there are replicated in other places. The present Conservative government (at the time of writing functioning without a majority in Parliament) came to power with the intention of reducing state spending and reducing the impact of regulation on business. At the same time, it has been continuing the economic policies of austerity, implemented as a result of the financial crash of 2008.



Fig. 2. The Reading Room at the British Museum. Photo by ceridwen. Source: <http://www.geograph.org.uk/photo/433966>

The result of its policies has been hugely damaging to public libraries (along with other public services), to the extent that an investigation by BBC News (Wainwright D. et al. 2016) reported a loss of 8,000 jobs in public libraries in six years, with more than 300 branch and mobile libraries closing, and almost 200 libraries transferred to community groups to be run by volunteers. The loss of funding by local authorities is the main cause of this problem and one can understand that when faced with decisions on which services to support, care of the elderly, protection of children, and education are more likely to be prioritised than public libraries. Whether, and how, the public library service of the UK can survive is now an open question. These events have their consequences for education for the information professions: no data are available, but, given the loss of jobs in the public library sector and the likelihood that it will take years to recover, even if recovery is possible, one can imagine that the number of people thinking of a career in public libraries has declined rapidly and that postgraduate degree courses in the relevant departments must be surviving mainly on overseas students.



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Fig. 3. Still existing public libraries. Borås public library. Photo by T.D. Wilson

In all of this the Government has also, in effect, ignored the Public Libraries Act, which requires local authorities to provide an efficient library service. The relevant Government department's Website notes:

It is the statutory duty of the Secretary of State for Culture, Media and Sport to:

- *superintend, and promote the improvement of, the public library service provided by local authorities in England (section 1(1))*
- *secure the proper discharge by local authorities of the functions in relation to libraries conferred on them as library authorities*

However, the present Secretary of State (and it is worth noting that the position is usually given to someone who has no chance at all of proceeding to any more significant job in

government) has failed significantly in her ‘statutory duty’, having taken no action either within Government or outside it, to ensure that local authorities meet their responsibilities.

Of course, what has happened in the UK will not, necessarily, be repeated in other parts of the world, but it has all been the result of the mindless adoption of deeply flawed ‘neoliberal’ economic policies, which, sadly, have also infected other countries and which are proving difficult to shift, since such policies favour the existing power elites.

Economic Factors

The account above exemplifies the strong relationship between politics and economics, since it is the direct result of a political response to an economic crisis. However, the economy has other effects on the information sphere. Thus, whatever the state of the economy overall, entrepreneurs still come into the marketplace and not all of the population is unemployed and without income. We see, for example, the emergence of the e-book and audio-book subscription services, such as Scribd, based in the USA but operating internationally; Storytel, Swedish, but also operating in Denmark and the Netherlands; Skoobe in Germany; and, of course, Amazon’s Kindle Unlimited, also international. For a monthly subscription (less than the cost of a single paperback in the UK) the reader can access thousands of books and those with sufficient disposable income might well regard this as an alternative to the public library, convenient for the busy life-style. None of these services provide much guidance on the number of subscribers they have secured, although Scribd claims 500,000, paying \$8.99 a month (Owen, 2017)—whether this is in total or only the USA is not apparent.

The key to the success of such services is, as noted earlier, that the target market should consist of sufficient people with sufficient disposable income to pay the subscription price. We might expect, therefore, that, if the global economic situation improves, such services will prosper and demand for public library services will fall. Already the economic situation in the UK has resulted in a massive decline in the number of books lent, and even in Sweden, which has been less exposed to the consequences of the 2008 crash, public library borrowing has been falling over recent years and alarm has been expressed at a 3% decline in loans in 2016, with reductions as high as 15% in some places (Nordström, 2017).



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We also see the economic impact in developing countries, where education authorities are promoting the use of e-books in schools as an alternative to more expensive printed textbooks (see, for example, Leshilo, 2015). In the USA and the UK, also, universities are experimenting with various models of e-textbook provision, in some cases involving traditional publishers (Cyphers, 2014), and in other cases encouraging academic staff to produce e-textbooks for local use (e.g., Grinberg, 2014). Given that, in the USA, the cost of college textbooks rose by 82% between 2002 and 2012, while the consumer price index rose by only 28%, the economic imperative is clearly dominant. If these movements become global, the role of university libraries could be affected in different ways: we can assume, perhaps, that access to e-textbooks could be a university library function, but it may not be necessarily so. Many universities, for example, have offices to supervise the teaching and learning function, and it is not inconceivable that such offices could assume responsibility. Or, as the resources are digital, provision of e-textbooks could be managed by the campus information technology services. Whatever the outcome, the development is certainly disruptive.

The academic monograph, often developed from a Ph.D. thesis, or from a major research project, or the work of a humanities scholar over several years, has never been a major seller in the printed book market. Gasson (2003, p. 150) has commented:

The only way to make a lot of money from monographs is to publish a lot of them. If you can get an editor to put 80 or 90 books through the machine each year rather than the 20 to 30 which used to be the average for the industry, you can increase your profit quite dramatically.

He also notes that the problem with such a strategy is the danger of a loss of quality control, and the fact that libraries reduce spending on monographs to pay for journal subscriptions.

The emergence of the e-monograph is one response to these problems and, coupled with open access, may ultimately become the standard method of publication, just as some university libraries in Sweden are now the base for newly-revived university presses, publishing mainly academic monographs as e-books.

Fig. 4. Study Area in Seattle Public Library. Photo by brewbooks. Source: <https://www.flickr.com/photos/brewbooks/4457571448/>



Technological Factors

Just as the political and the economic are linked, so are the economic and the technological: indeed, reference is made above to the technological development of the digital book as affecting the economics of information provision. The vast majority of information products are now digital products: even though they ultimately result in the production of printed products, they now all have their origins as computer files. Information has become digital information and this has had a significant impact on academic libraries, world-wide. The shelving for printed books has been removed from large areas of university libraries, to be replaced by casual seating, group work sections, and computer terminals.

The signs are that this development can only continue: even when, for example, research shows that students generally prefer printed books for study purposes (Woody, Daniel and Baker, 2010), the economic imperative and the convenience of 24/7 access for 365 days in the year is driving the adoption of digital resources, just as the earlier development of the e-journal drove the changes to journal acquisition.



All of the new developments are building on decades of involvement in technology by libraries, from the early adoption of computer-based cataloguing, to bar-coded labels for books and, subsequently, RFID tags, to e-journals and e-books and digital resources generally. And there is no reason to suppose that the impact of technology will lessen: recent developments in artificial intelligence and ‘machine learning’ will lead to new and more sophisticated search engines and alerting services, and these, in turn will mean a reduction in the demand for human skills in these areas.

Social Factors

Today, the social and the technological are deeply entwined, as we may see from the term ‘social media’, i.e., computer-based, networked communication systems, upon which sit applications such as Facebook and Twitter and many more. The often seen humorous trope of a couple texting each other while at the same table is not always a fiction, and, for many, communication means communication by smartphone or tablet computer, or by Skype on the desktop computer.

Along with the adoption of social media as the dominant means of communication among people, we also see the rise of podcasts and ‘catch-up’ television sites, along with new entrants to the entertainment industry such as Netflix and Amazon Prime. Entertainment now becomes something you carry around in your pocket, handbag or briefcase, and which can be accessed while you walk, drive a car, or sit in a train carriage, not something that you sit down to at a fixed time in the evening to view the once-only programme on television.

Fig. 5. Facebook fanpages of libraries



People in general now have a much wider range of entertainment and enlightenment services than ever before, and most of these can be accessed whenever is appropriate. We can play computer games, binge-watch an entire TV series in a weekend, read hours of text on our smartphones, subscribe to newspapers and magazine online, and never go anywhere near a library. Even in academia, the actual visit to the library is no longer necessary for a great deal of the time, with online access to the scholarly journals, and increasing use of e-books and e-textbooks.

Libraries, as places to visit, therefore, are in competition with many more potential information and entertainment resources than ever before. Even in Sweden, where use of the public library is almost an integral part of the national ethos, library use is falling—not as rapidly as in the UK but falling, nevertheless (National Library of Sweden, 2017).

It is difficult to see how these social factors might be reversed: indeed, the likelihood is that the present trends will continue. With more and more sophisticated social media systems and new entertainment possibilities presented by virtual reality systems, the trend to digital entertainment and away from text is only likely to continue.

Discussion

As noted more than once above, the various STEP factors are inter-related with one another: politics affects economics and vice versa and both respond to the technological and all influence the social. In looking at the future of libraries, therefore, one cannot deduce a simple line of causality and say that, because of X, Y must happen. Rather, alternative scenarios are possible and, given the number of potential connections between the different sets of factors, those scenarios are almost unlimited.

However, we can attempt to simplify the complexity by associating the different factors: thus, the political and the economic are always and inextricably linked, and, today, the social and the technological are strongly associated. It would probably be difficult for a teenager in modern society to imagine carrying on his or her social life without the benefit of technology, for example.



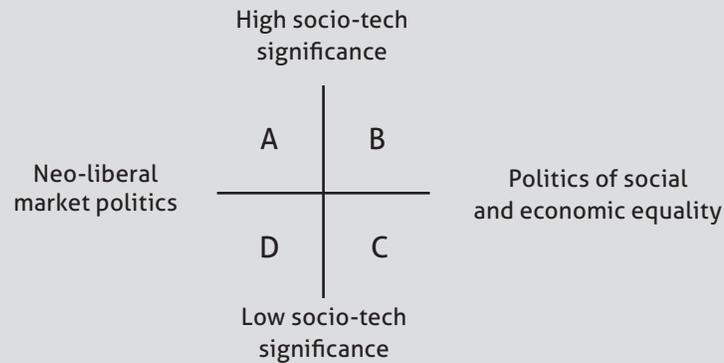


Fig. 6. The scenario framework.

Given these associations we can construct a matrix based on two dimensions: one consisting of the politico-economic factors and the other of the socio-technological factors, as in Fig. 6. The combination of these two dimensions gives us a matrix of four potential scenarios, labelled A, B, C and D in the diagram, and these enable us to speculate about the future of the library and information professions.

We have to remember, of course, that A, B, C and D do not represent a single idea of a possible future state of the professions. Rather, they represent what we might call an ‘idea cloud’, and they act as a stimulus to generating ideas about several possible futures in each cell. To deal with more than one set of ideas, however, would be beyond the scope of this paper and I shall try to evolve ‘ideal types’ for each cell.

Scenario A

The circumstances for Scenario A are such that the neoliberal economic policies that have been pursued by governments in many countries are continued into the future and, at the same time, our dependence on technology for conducting our social affairs increases. This leads to increased ‘marketisation’ of libraries and information services, with large (mainly American) technological corporations entering, or extending their grip, over the production and distribution of all forms of information, from text to film

and audio, to new forms such as virtual reality ‘productions’. We can label Scenario A, the Marketisation Scenario, and the implications for the library and information professions become rather obvious. Information provision to academic institutions is already dominated by a small number of electronic resource producers and aggregators and, under this scenario, these producers will merge into even bigger corporations, potentially being bought by corporations such as Sony or Bertelsmann or Google or Microsoft. In the public library sector, the same circumstances arise, with increasing use of e-book subscription services, possibly funded by local or central government, replacing the printed book services. The library becomes an office for the management of these services with, perhaps, a network connected ‘help desk’ providing online reference service—but even this could be outsourced to Google with its, by then, highly sophisticated, AI-supported search and response services—the librarian is replaced by Siri, or Google’s equivalent. The generic education of librarians and information workers is replaced by specialised, information-systems-based education and training in a wide variety of disciplines and the existing ‘information schools’ may either disappear, or survive by adapting to the new situation, producing new degree programmes for very specialised areas of information work. They would struggle to survive because of intense competition for students from information systems and computer science schools—indeed, depending upon local power structures in institutions, one or other of these disciplines will become dominant and absorb the others.

Scenario B

Scenario B might be labelled the Strong Public Sphere scenario. The socio-technological dimension is strong in this scenario but the politico-economic policies and strategies are directed towards social and economic equality, the inequality generated by neoliberal economics having been recognized as destructive of social cohesion and, ultimately, detrimental to economic production. While one has to be something of an optimist in the possibility of any such scenario being made real, there are signs in some Western societies that the dominance of ‘the market’ is fading and the various stresses in the European Union seem to be caused at least in part by the tensions of marketisation versus social democracy.



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Under this scenario, the major technological corporations would be, to some extent, tamed by regulatory measures and the social good of freely available information services. However, the trend in the development of services, because of the strength of technological developments, would inevitably be towards commercial, online provision. The position of Overdrive in the e-book market for public libraries in the USA is an indicator of things to come under this scenario. The public purse continues to support libraries and information services, with a high proportion of the reading public continuing to borrow books or e-books from public libraries.

In the academic libraries sector, the present trends continue: increasingly, all electronic resources become part of campus-wide virtual learning environments. Whether such services are managed and delivered by the university library is open to question. Even now, some universities have separate departments for online learning and the library, although the library may continue to manage subscriptions and negotiations with suppliers.

Even under this more optimistic scenario, therefore, there will be significant changes in the composition and size of the library and information professions. Greater diversity in skills will be required, ranging from business negotiation skills to pedagogic skills supporting the adoption of appropriate resources. As a result, staff will be drawn from a wide variety of disciplines, and not simply from a generic library education programme.

Scenario C

While it is hard to imagine the total collapse of the present direction in the socio-technical sphere, it is not impossible. Various kind of global crises, from disease epidemics to the exhaustion of oil supplies, or the loss of electricity supply due to natural disasters and/or the lack of raw materials for certain component products, could result in the rapid diminution of computer-based technologies in society.

In the case of Scenario C, which we might label the Technological Collapse Scenario, the strong public sphere and the adoption of economic policies to spread the load of coping with the collapse, would ensure that library and information services of some kind would survive. They would not be as richly endowed as previously and they would

be meagrely staffed, but they would survive because of their being recognised as a desirable public good.

As a consequence, the library and information professions would be severely reduced in numbers, recruitment would cease, educational programmes would disappear and on-the-job training for those who could be hired would be the norm.

Scenario D

This sector of the matrix can be labelled, the New Dark Age: the same decline in the socio-technological sphere would take place and the market for library and information services would simply collapse, there being no social imperative to keep it going. Money would move out of technological development into those sectors of more significance in maintaining social cohesion, simply because this is where profit could be found.

As library and information services would be largely under the control of the big information technology corporations, the skills required for the provision of services would disappear as the corporations moved into more profitable sectors. Such public libraries as did survive would do so largely on the basis of the voluntary work of enthusiasts and a reversion to the printed text. As a result, there would be a major revival in second-hand book selling, with prices rising as the new demands emerged.

In the academic libraries sector, the shift back to the printed book and journal would be problematical, since, by then, printed journals, in particular, would no longer exist. The scientific and scholarly societies might resume their publishing functions (long given

Fig. 7. The future of libraries? Street library, Druskininkai, Lithuania. Photo by T.D. Wilson

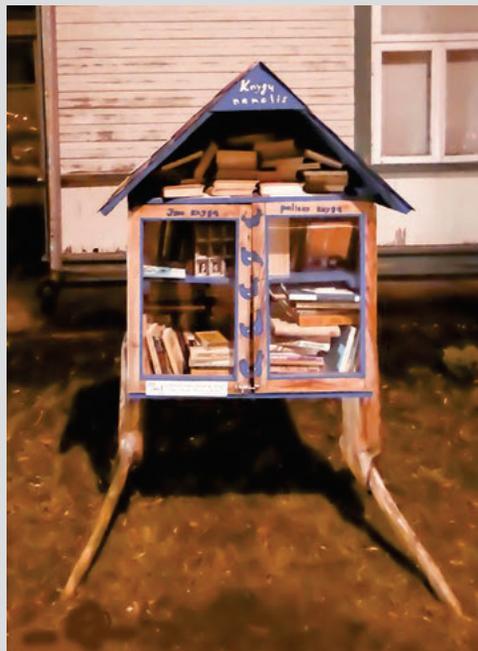




Fig. 8. The future of libraries as museum of books to visit? The John Rylands library in Manchester. Photo by Paul Hermans. Source: Wikimedia Commons

over to the commercial world) and the open access e-textbooks and e-monographs produced by university faculty would revert to printed form.

The market for trained academic library staff would also diminish and, as in public libraries, on-the-job training would replace the library and information science programmes.

Conclusion

One of the problems of thinking about the future is that we don't actually know what will happen, nor do we know which of the scenarios presented above is most likely. Whether or not these ideal types will emerge, or some other conglomeration of facts will produce different scenarios, is also unknown. Also, library and information systems are cultural

systems, which are influenced by different factors in different countries. For example, in some countries, political factors, such as the rise of extreme-right, nationalist parties, may result in cultural policies that limit the range of activities of public sector agencies, including libraries. Alternatively, in a developing country, placing priority on education may result in the diversion of resources to support both academic and public libraries and to develop education and training for their staff. In fact, we see such developments throughout the developing world.

To answer the question in the title of this paper, all we can say is that we don't know exactly why and how change will happen, and the direction it will take. All we know is that change will happen, that libraries and information services will be different in the future, and that library and information workers will need to be equipped with very different skills from those that they possessed in the past.

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