IFLA

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Aims and Scope

IFLA Journal is an international journal publishing peer reviewed articles on library and information services and the social, political and economic issues that impact access to information through libraries. The Journal publishes research, case studies and essays that reflect the broad spectrum of the profession internationally. To submit an article to IFLA Journal please visit: http://ifl.sagepub.com

National libraries as centers of innovation: An IFLA Journal 40th anniversary tribute

Jerry W. Mansfield

National libraries capture and preserve the memory of nations, all the while maintaining a position in the present and the future. Their missions include the preservation of the national memory and culture of a nation. They have an obligation to educate. They foster national development and publish the cultural heritage. National libraries serve as the recognized repository of a nation's publications. They strive to preserve knowledge and experiences in conventional and digital formats.

Many national libraries are museums. They provide a valuable public service function to their country and other researchers, tourists, and the curious of the world. While preserving the past, they must also be forward thinking and embrace innovation, for it is innovation that moves us forward.

In addition to this historical/cultural/educational mandate, national libraries must be at the leading edge of change. They need to be fortune tellers to see the future; to envision where they will be in 10, 20, even 30 years hence. They understand that nothing endures but change, even if it is change to preserve the past.

Their ideas and practices ultimately transcend borders. They serve as models for innovation and change. From the articles in this issue you will learn that innovation and flexibility are important survival criteria. Each library will define what innovation means in their environment. You will see first-hand that innovation is not the result of one person but, rather, a collaborative process where people from different parts of the organization participate in the creation and implementation of new ideas.

Innovation doesn't just happen. It comes from everyone and everywhere in the organization. There can be no constraints. Innovation cannot be forced, but it can be developed and nurtured (Stanleigh, 2011). The act of innovating is not just about designing a new product or procedure; it can and should also focus on existing business processes and practices to improve efficiency, cut down waste, to promote services in the digital age and much more.

In this issue the stage is set with a mentally stimulating piece that introduces readers to the processes of collaborative innovation in organizations that moves us from inertia to innovation (Shaffer/USA). As we see in papers from Singapore (Lek Choh) and The Netherlands (Balk et al.), many of the steps in the innovation process introduced by Shaffer are put into practice. Creative minds are joined to solve national library and library consumer needs.

We also feature two Middle Eastern libraries (Serageldin/Egypt) and Lux (Qatar) that highlight how the architecture of their buildings lends itself to innovation and discovery. Yet another innovative architectural concept is the creation of a Third Place in a national library (Berthiaume and Ryan/Québec).

Digitization is also a predominant theme in several papers. Digitizing and archiving voice as part of oral history preservation (Bradley/Australia), preserving and conserving digital media and at-risk objects (Altenhöner et al./Germany), and the creation of digital libraries of mass scale housing ancient books (Yongchin/China).

We close this 40th anniversary special issue with a look at a futuristic storage solution and facility for print newspapers that is tied to a modern digital/video room for news and media research (Stephens et al./UK).

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Guest Editor biography

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Forthcoming

Forthcoming issues of IFLA Journal will contain the following articles, among others: 'London pride in context: Treasures and the library treasures volume in Britain today', by Karen Attar of the University of London; 'How library and information science academic administrators perceive e-learning in LIS schools: A qualitative analysis', by Md. Shiful Islam, of the University of Dhaka, Susumu Kunifuji, of the Japan Advanced Institute of Science and Technology (JAIST), Motoki Miura, of the Kyushu Institute of Technology, and Tessai Hayama, of the Kanazawa Institute of Technology; 'The experience of Korean academic librarianship: A phenomenological study', by Kaetrena Davis Kendrick, of the University of South Carolina Lancaster; 'Information literacy in Zanzibar universities: Current situation and the way forward', by Abbas Mohamed Omar and Haji Ali Haji, of Zanzibar University and Khamis Hamad Mwitumbe of the University College of Education Zanzibar; 'Micronesian libraries and archives: A review of the literature' by Christopher R.R. Todd of Northern Marianas College; and 'The development of library and information science in China (1840–2009)' by Yao Zhang of the University of South Carolina.

From inertia to innovation: Information-based organizations in the Age of Intelligence

Roberta I. Shaffer
Library of Congress

Abstract
As the Information Age has given rise to the Intelligence Age, institutions of all kinds are challenged to adopt a culture of constant innovation. Innovation is the broad term and includes the concepts of invention, ingenuity, and improvisation. Organizations go through a process of inquiry, instigation, insight, initiation, imagination and inspiration, and inlightenment to ultimately achieve innovation. However, the road to full innovation offers many options like creating an incubator or being iterative, instantaneous, incomplete, or infectious in approach to innovating. To begin the innovative process, organizations must be willing to look at all aspects of their operations, make long-term commitments to funding, accept the possibility of some failure, and look seriously at their missions, value systems and value propositions. Organizations that are insular, inflexible, in-bred, insincere about innovating, insecure in their ability to deliver, and operate independently are more likely to disappear or diminish in their influence because their environment and culture will not sustain innovation.

Keywords
innovation, invention, ingenuity, improvisation, environmental scanning, horizoning, strategic planning

Introduction

The end of the 20th century was often called the 'information age' because of the wide-ranging influence of the Internet on almost all aspects of society and because of the nearly ubiquitous deployment of personal computers in the workplace and in the home.

Now, well-over a decade into the 21st century, it is evident that the 'Age of Information' has given rise to the 'Age of Intelligence,' when information comes from diverse sources and is mediated by both human and machine to create insights (intelligence) previously unforeseeable. The world is digital, exponential, combinatorial, and instantaneous. In this new age, innovation is more critical to the survival of many key institutions and large sectors of society. In this new age, nothing and no one is really 'too big to fail,' and traditional attributes like being the oldest or the largest, or even the current leader, in an industry may be a benefit *or* a burden.

Libraries of every type and size now find themselves faced with new challenges for survival and with many new opportunities to redefine their roles in society at-large or within a highly-defined community.

While innovation is the general and most commonly used bucket term, organizations may literally be inventing something that is entirely new. They may be in engaged in innovation which often connotes doing something traditional but in a new way or with new tools—a variation or vast improvement. Ingenuity entails using something in a way that is different from its original intention. Technology has opened up whole new ways of using 'apps' beyond their original application. Finally, there is the concept of improvisation, which means using the resources you have on or already in hand to solve a problem. Often, improvisation occurs in the front lines of an organization and may happen without a clear line of approval. It is usually spontaneous.

Any of these gradations of innovation can be entirely disruptive; leaving no aspect of the

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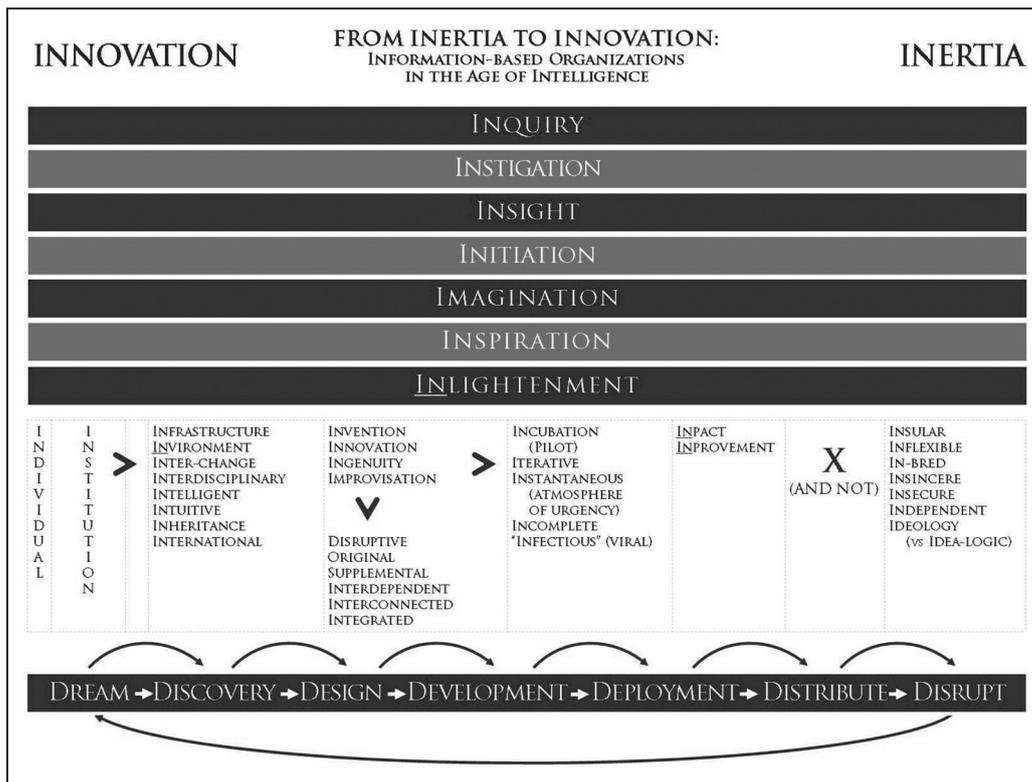
Figure 1. From Inertia to Innovation. (Source: Roberta I. Shaffer).

organization unaffected. They can also be original, providing an 'add-on' to what already exists. They may enhance what exists and thereby serve a supplemental role. Innovations may be interdependent with their success tied to two or more innovations occurring in tandem, in sync, or in a particular sequence.

Interconnected innovations may be addressing different things but share some common factors like the same staff responsible for different functions or one technology being used to address different business operations. Integrated innovation refers to innovation(s) that have a positive impact—directly or indirectly—on the entire organization and brings together previous disparate functions or people.

But regardless of whether libraries are inventing, innovating, being ingenuous, or improvising, it is clear that to be successful they, their parent organizations (which may be national governments) and those clientele(s) the libraries currently serve or may come to serve will have to support long-term investment, constant change and recalibration, high tolerance for transformation, and a willingness to take risk. This essay will look at some of the ways that organic organizations, which libraries certainly are, can move away from inertia and adopt a culture of innovation (used hereafter as the bucket term in the most generalized sense).

Stages and preconditions for innovation

The seven stages of innovation are –

Inquiry

An on-going process within an organization that remains alert to any changes on the horizon that could affect the internal and external environment, and attempts to determine when the change will begin to impact the organization. The process is often called 'environment scanning' and 'horizoning.' This is key to the intersection of strategic and innovation planning.

Instigation

An event or series of events that gives rise to questioning a traditional practice, service or even mission of an organization. It may be a new competitor, change in leadership, change in funding (more funding, but more often in today's climate, a reduction in funding), or a technology that enables a different workflow or means of production.

Insight

Recognition or realization that an institution has an opportunity or is challenged by an instigation.

Initiation

The decision point where an individual or a group of individuals within an institution decide or are convened to respond to an 'instigation.'

Imagination and Inspiration

These stages often occur in concert, with imagination as the process of looking without boundaries at all options and inspiration looking at exemplars of those that have faced a similar 'inquiry' and successfully innovated. One of the keys here is to not just look to peers for imagining options and best practices. So, libraries might look at what other libraries have done to innovate but they might also look at other industries where service is critical to success like the hospitality industry. The print media and libraries are excellent 'benchmarking industries' since they have experienced similar environmental impacts.

Inlightenment

Purposely spelled as 'in' rather than *en*lightenment, this refers to the stage where innovation is internalized or becomes part of the organization's culture or DNA. This stage may require internal changes in governance, budgeting, executive leadership, workforce skill sets, priority setting, and planning processes. Innovation may begin as a 'creative kernel' but all seeds of ideas need resources to develop into full blown innovation.

Even if an inquiry starts as the idea of an individual, there must be a core group within an institution who acknowledge the need for innovation and heed the call to action. This core group must be encouraged to dive deeply into the brain (cognitive) and the heart (emotion) of the organization, be given 'permission' to question traditions and turf at all levels, and be fully aware of both the promise and the peril of their task. They must be able to take risks and be rewarded for both successes and failures, if the latter should happen.

Many organizations attempt to secure full endorsement of all stakeholders as a pre-condition to move into the 'imagination' stage. In that case, very little innovation would ever occur. But, it is critical that the core group be given a recognized infrastructure in which they can operate. There must be an *in*vironment that encourages the core's imagination and inspiration. The core group should be empowered as a team; even if each member is bringing very different strengths, experiences and expectations to the table. As the team works, there should be transparency as to process and numerous opportunities for the interchange of ideas from and with all stakeholders.

As indicated earlier, innovation is most effective if the organization looks beyond its own industry or peer group and is interdisciplinary in identifying common and best practices. Innovation must be 'intelligent' – rooted in fact and verifiable research. This includes the need to thoroughly consider trends and social movements. This is the place to identify unique niches that no other player in the society does or can do as well as the innovating organization. That said, it is always a good idea to listen to intuition; often because it is based on what is acceptable within the value system of an organization or its social larger context. In addition, the organization's brand is frequently based on more visceral or intuitive factors. Therefore, innovating organizations should be very aware of their 'inheritance.' That is, where they have come from historically and their historical role within their society. Inheritance is related to the brand concept and helps to inform decisions about what can be divested from an existing portfolio and replaced with an innovation. Finally, in today's highly connected world, it is good to think of innovation with an 'international' mindset. In this sense, international means thinking beyond traditional or current borders of whom the customer is, where the staff works, how the service is provided, where and how assets are managed, and how value is measured.

Innovation options

Innovation may begin in an organizational incubator where it is viewed as a pilot or experiment within the larger organization. An incubator may be a permanent part of an organization where all innovation begins and where it can be tested and refined. An incubator may also be more like a 'pop-up shop' where it is fully recognized as a part of the organization, but it is not created to be permanent.

Governments often use the 'not to exceed (NTE)' approach with programs and even staff positions (not to exceed 'x' amount of spending or NTE months of employment) as a way to innovate within the confines of a bureaucratic system.

The iterative approach is used when an innovation can be scaled. It may start with one person or unit within an organization until it is ultimately enterprise-wide. This is particularly useful for strategic planning when units can be nested and queued up within the timeframes of plan. This approach also allows for an incremental allocation of resources.

Instantaneous innovation often happens under a crisis situation where fast action is required. It may

even be something that is entirely unanticipated and was not part of the environmental scan maintained by the organization.

Incomplete innovation is stopped in mid-course, but is not reversed or reversible. Because it is 'less than what was expected,' it will probably not yield the same return on the institutional investment, but may still provide value to the organization.

Infectious innovation occurs in a haphazard, informal and often viral manner. The ubiquity of social media in our professional and personal lives has made infectious innovation much more prevalent in today's society generally, and workplace, specifically.

Regardless of how innovation occurs, it should be measured for its impact internally and its influence externally. Before starting to innovate, it is good to have clear and desired outcomes. It is also interesting to note, that most innovations 'over deliver.' This means that they yield more impact than expected. Just as expected impact should be established, there should always be the built in flexibility and agility within an organization to improve and adjust as innovation is happening.

Conclusion

Innovation is stymied when an organization is insular, inflexible, in-bred, insincere, insecure, and operates independently without looking outside of itself. If it does not create and provide opportunities to staff for training, learning and growing, and if it does not regularly and frequently question its values, value proposition and mission, it is very difficult for any innovation or a culture of innovation to survive, let alone thrive.

The nature of the times in which we live makes us realize every day that there is lots of inertia around us. There is room in any marketplace for individuals and organizations that can deliver the ordinary and the traditional, but to paraphrase the greatfestivalofcreativity media campaign for GREAT Britain –

> . . . [w]hen the world is your competition, it's innovation that matters. Doing more for less, doing more with less, doing old things better and new things first. The best among us manage innovatively. Innovation is the critical advantage.
>
> (greatfestivalofcreativity.co.uk)

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Innovations in the National Library Board Singapore: A journey

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National Library Board Singapore

Abstract

The National Library of Singapore was set up in 1960, and has been working tirelessly to transform itself to meet the changing needs of its end users. From the early days when users had to travel to visit the National Library in Stamford Road to today's users who carry a variety of digital devices and mobile gadgets and prefer to access content online, the needs of its users have changed dramatically. This gives the National Library tremendous opportunities to prototype, innovate, and to come up with new ways of serving its users wherever they are, 24 by 7, using any device they hold in their hands.

Background

The National Library of Singapore started in 1960 as one of the Ministry of Culture's departments. It runs the national library, public libraries, and government department libraries. In 1995, a major review of publicly-funded libraries in Singapore resulted in the library being converted from a government department to a statutory board called the National Library Board (NLB). This gave the NLB greater flexibility in funding, hiring and firing, and managing operations. In November 2012, the government added the National Archives to the NLB family for better synergies and seamless access to content. Today, the NLB runs the National Library, the National Archives, 25 public libraries, and 15 special libraries, including one tertiary institution library.

When the library review was conducted in 1995, one of the activities undertaken by the Review Committee was to survey users to ask them for feedback on the libraries. Many responded that libraries were dated and not responsive to user needs. This gave the NLB much needed food for thought and the impetus to plan for a revamp of its services, collections, IT, and physical infrastructure. Funds were secured from the government to renovate existing libraries and to test new models for locating libraries, such as in shopping malls frequented by users. New services were prototyped and successful services were replicated in the other libraries bringing greater convenience and efficiencies to users all over the island. Collections were also updated and new collections were added to meet the needs of library customers.

The over-arching principle of customer-centredness

In 1995 when the NLB was formed, Dr. Christopher Chia was appointed as the NLB's first Chief Executive. With a strong IT background, Dr. Chia immediately saw the benefits of using IT to help NLB transform its services from a largely manual service to one that is enabled by IT and which is self-service.

The senior management team at the time was very clear from the start that to remain relevant to the end user, libraries must put the user at the centre of all considerations and user convenience must take centre stage. They were also clear that time must be saved for both the staff providing the services and for the end users. Users must spend their time in libraries not queuing up for services, but for being engaged in reading and learning.

Customer-centredness became the focus for the whole of the NLB. A review of the way NLB was

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serving its users at every touch point was conducted. NLB then launched an intensive campaign to bring all staff to the same level of understanding. All NLB staff were trained in customer service excellence. This effort was sustained and continues to this day. Project teams were set up to review both the front and back end processes. A major business reengineering exercise was conducted involving over 50 NLB staff. All NLB professional and executive staff were trained in project management methodology as a common language was deemed to be important in the transformation journey. Today, the NLB is still pursuing this journey of service excellence.

Service prototype and roll-out

From the word go, the NLB focused its energies in identifying the pain points for the library user. The aim was to reduce the hassle for the user and to make it easier to get the desired service. This could be from registering for a new library membership card to obtaining the book that he wishes to read to his child or to obtaining the statistics that he needs for his research or policy paper. Every service was reviewed to see how time spent by the staff and by the user could be reduced to a minimum.

In 1995, queues were a common sight with library users queuing for up to an hour to borrow or to return books. This was one of the reasons that resulted in customer dissatisfaction. A question that was asked at the beginning of the journey was: can we remove all the queues in the libraries at peak hours?

The result of the hours of discussions and solution seeking was to go for self-service. There was no way for the NLB to deploy so many staff to serve the thousands of customers who visited each library on weekends and during the school holidays.

Once the idea of self-service was accepted by staff, the NLB started looking into ways to replace the manual processes with self-service solutions. These included prototyping and designing self-service borrowing and returning stations and automating the library transactions such as borrowing and returning of books, registering new members, and the payment of overdue fines.

Every transaction was automated during the period 1995–2002 including prototyping the answering of reference enquiries via the Internet. Radio frequency tagging was used on all library materials to enable self-service borrowing and returning. The self-service borrowing and returning service turned out to be a huge success. Queuing time was reduced from one hour to zero seconds 99.9% of the time.

Bringing libraries to where the people are

To ensure library relevance, the placement of libraries was another principle that the NLB adopted. In the early days when the NLB was looking at ways to serve its customers better, one of the frequent questions asked by project teams was: how do we bring the library to the people, if the people are not prepared to make the effort to make a trip to the library?

The NLB started experimenting with the first library in shopping malls in 1995. As the concept was then new to the NLB, the first shopping mall library was not as well-located as it could be. The NLB was late in joining the shopping mall. By then, the mall manager had rented out all its spaces on the floors served by escalators leaving the library to take a floor in the mall that was served only by lifts. Despite the initial disadvantage of the location, the shopping mall library soon became a success as parents found that they could take their children to the library while shopping for groceries. The cost per loan in the shopping mall library was found to be much lower than the standalone libraries that were located in their own premises due to fewer overheads and a more convenient access.

With the success of the first shopping mall library, the NLB began to make earnest plans to locate more libraries in shopping malls or to co-locate them with other popular premises where people congregate. Today, more than half of the NLB's libraries are in shopping malls or co-located with other agencies.

The advent of the Internet

While all this work to bring the physical library to where the people are was going on a lot was happening in the Internet world. Internet use was becoming more popular and more library users had access to the Internet. NLB libraries started to provide Internet services in all its premises and this service was very well-used. Household Internet use was also increasing. NLB found that more customers were accessing its online catalogue remotely and using its digital resources outside libraries.

Improving digital service delivery through search engine optimization

From the early 2000s, the NLB had been creating digital content and parking this on its corporate website. Various marketing efforts were launched to promote and market its services. However, it was found that no matter how much effort was put into

Figure 1.

marketing and promotions, use would inadvertently drop after the period of aggressive promotions.

Somehow, users were not remembering the names of NLB websites to access the content. Also, Google and other search engines were becoming more popular in enabling users to find content on the web. Users felt that there was no need for them to visit the library website to obtain the information that they needed.

The NLB seriously reviewed its digital service strategy. It decided that it had to put its digital content out to the search engines so that users could find the library's rich resources when they searched their preferred search engines for information that they needed. The NLB engaged search engine optimization consultants and trained its staff in writing content so that search engines could identify library resources. This helped to increase the use of its digital services. An example was the Singapore Infopedia, where the use increased from 400 page views a month to 100,000, an increase of 250 times over a period of one year. It was a moment of enlightenment! Today, Singapore Infopedia (http://infopedia.nl.sg) enjoys a high usage of more than 200,000 page views a month (see Figure 1).

With this experience, the NLB decided that all its digital content services would be packaged in such a way that Internet search engines could crawl and index its content so that users could search and find its content from anywhere, anytime.

Mass digitization of the National Library's content

Around this time, the National Library started an intensive programme to digitize its heritage collections. In 2007, the NLB was fortunate that the publisher of Singapore's major newspapers agreed to give NLB rights to digitize all the archived newspapers that it owned and to provide remote access to its users. Rights were given for users to access the digitized newspapers from the early 1800s up to December 1989, full-text, from anywhere in the world. Downloading of the content was disabled and a watermark was used to protect the content from commercial use.

The NLB secured funds to digitize the major newspapers in the four official languages, i.e. English, Malay, Chinese and Tamil. More than 20 million newspaper articles have been digitized so far and are available for Internet search engines to crawl and index. Researchers of things Singapore are thrilled with the service as they no longer need to visit the NLB libraries to use the microfilms. They indicated that for them, the digitized newspaper service (http://newspapers.nl.sg) revolutionized research on Singapore (see Figure 2).

The NLB has also digitized its rare books, manuscripts and photographs, and has made them accessible to users. It has also started digitizing materials from the National Archives, including audio-visual

Figure 2.

content and oral history. These will be added to the digital collection of the NLB for remote public access. Please see: http://sgebooks.nl; http://pictures.nl.sg and http://archivesonline.nas.sg (see Figure 3).

The pervasiveness of the web and mobile devices

What else can the library do to make access even more convenient? In the transformation journey so far, the NLB had revamped its physical libraries to make them more inviting and user-friendly, it had updated and refreshed its collections, and it had also digitized its content and made them available to the Internet search engines for ease of access. New challenges appeared on the horizon. During this period, many new web technologies and mobile gadgets came into the market and users were adopting these technologies and devices very quickly. With the convenience that they enjoyed in their devices, users demanded the same level of convenience and user-friendliness in their library transactions.

The NLB was not ready. It was busy putting out digitized content on the web and did not realize that almost overnight everyone was turning to their mobile devices to access and seek content on the web. Users expected to find the information that they needed from NLB on their mobile phones.

The NLB team quickly turned its attention to this change in usage habits and worked with service providers to ensure that all its content could be accessible on mobile devices. Today, most of the NLB's content can be accessed through mobile devices and all new content and new services use the same platforms to create a common user experience (see Figure 4).

Opportunities that social media offer

A discussion on library innovation is not complete without the mention of how social media impacts services, service delivery, and user engagement. Since 2011, the NLB has been mindful that the use of social media was important in the services it offered to its users as many of the library's users were also users of social media. More important, social media offers NLB a chance to connect to its users in the places where they choose to interact with their network and content. Instead of viewing social media separately as a platform, the NLB embraces social media as part of its digital infrastructure. Social media are seen as an extension of the NLB's digital infrastructure, though the NLB has no control over how they work, or how they will evolve in the future. The NLB has chosen to ride on them for as many of its services as possible and views them as a friend, much like the way it regards Internet search engines. By riding on the social media platforms and networks to reach its audience, the NLB is able to draw from social media what it would not be able to do by itself.

As an illustration, the National Library runs a national project called the Singapore Memory Project (SMP). This is a national effort to collect personal memories from anyone who has an experience with Singapore and is willing to share their experience. The memories collected complement the documentary resources that the National Library has and helps users in their understanding of the social history of Singapore. One of the strategies adopted by the SMP team is to encourage contributions through social media since many people share their comments and experiences in these spaces. The team also works with bloggers to collect stories about experiences of people who live or work in Singapore. Individuals may self-submit their memories for the project via the web portal, www.singaporememory.sg. Submissions are not reviewed nor edited by NLB staff, however, there is a feature for the public to flag out undesirable content to staff. Staff also run software to check for inappropriate content on a regular basis. NLB commissions vendors to curate stories and videos based on the NLB collections and memories collected. These are parked on the website for public access. The NLB also has Singapore Memory Project funding that supports anyone who wishes to curate stories for SMP using NLB and SMP content. Metatagging is done by NLB staff and the organization of the content into clusters on the SMP portal is also managed by NLB (see Figure 5).

Figure 3.

Figure 4.
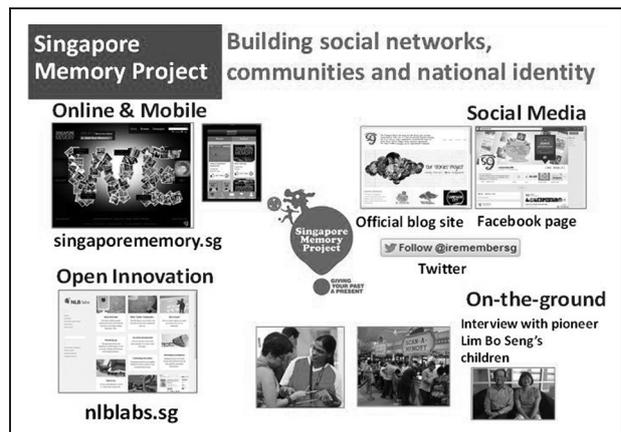
Figure 5.

Other efforts to enable search and find

In its work, the NLB realizes that there are some materials that are not easy for users to search and find as either the metadata is not rich enough or the nature of the content limits itself from search opportunities. These include materials such as audio-visual and oral history content. To enable searching of this unique content we are working on the following:

Voice-to-text conversion

The National Archives has a very large collection of oral histories and audio-video material that contain valuable content, which many Singaporeans would love to use. However, the work on the metadata that needs to be created for searching is labour intensive. To overcome this

challenge, the NLB has started working on other ways to enable searching. It has done a proof of concept to convert voice to text for the oral history content and the audio-visual content. This has achieved a level of accuracy that is closer to what the NLB would like to have. To improve search results, the team also included a time stamping feature on the oral history or audio-video recording so that users could quickly find the desired segment of the content once they identified the item containing the required information.

Image matching

The team also experimented with image matching to match images that look alike. This allowed for the
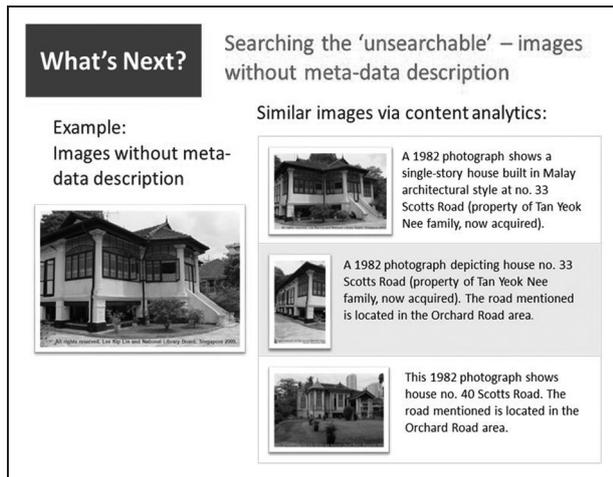
Figure 6.

description of one image to be used for another if the images belonged to the same person or item.

Optical Character Recognition (OCR) of text on video

For audio-visual recordings that have sub-titles, the team enabled keyword searching of the text by applying the OCR technology on the text. This made it easier for the user to find the item through a simple keyword search. See Figure 6.

What's next?

By way of all these efforts, NLB hopes that users will be able to easily find items that they require for their study, research or self-discovery, or to enrich their lives. The NLB is not stopping here as there are other search tools that are becoming more feasible to further improve search results. These include linked open data, text analytics, and auto-extraction of time-based or location-based information (see Figure 7).

By using these tools to review the search results from one library collection, the system can pull out from other NLB collections relevant content that will make the learning of a topic more meaningful and productive. This is achieved without the user having to do a separate search for the additional related content, such as newspaper articles, or time/location-based articles. Currently, the NLB is experimenting with these tools and is getting encouraging results.

Partnership for win-win-win outcomes

For many years, the NLB had recognized the importance of working with others for desired outcomes by collaborating with partners. This has been a strategy that worked well for many of the services and programmes that NLB initiated over the years. In the early days, a partnership with a local company resulted in NLB deploying radio frequency tags in all its materials and these supported the self-service borrowing and returning functions in its libraries. Some 30 million loans a year are transacted using this technology.

The Singapore Memory Project team works with over 150 partners. Partners help in getting personal memories and provide the much needed support to rally volunteers who help to collect memories face-to-face with their personal touch. The newspapers digitization project could not have taken off so successfully without the support of our partner in the publishing sector.

These and many other examples of successful partnerships encourage the NLB to continue to adopt this partnering strategy. One of the most recent partnership efforts that the NLB established enables partners to make use of the online content that NLB has through an open innovation platform that NLB created. This allows partners to freely use the NLB content for their services and programmes thereby helping NLB to reach its users through the diverse services provided by the partners.

Funding for success

One other strategy that the NLB actively pursues is to look for funding opportunities outside of the NLB. The staff regularly seek opportunities for joint development of ideas. An example of this is the funding of the digitization of content from the British Library on and about Singapore.

The effort is made possible through the generous sponsorship of a donor who was keen to see more use of content previously not accessible. The NLB has also been successful in securing funding from private donors in setting up a library to provide services and collections focusing on Chinese culture. It hopes to find other donors to do the same for the other ethnic cultures.

Conclusion

The NLB is very aware that the transformation journey to better serve its users is far from over. As a national library its role is to collect, organize, preserve valuable heritage materials, and make them accessible to its users. The old model of asking users to come to the library to enjoy these resources will not be the acceptable norm for most users today or for those of the future.

Today users want to access these materials online and the library has to continuously look at new ways
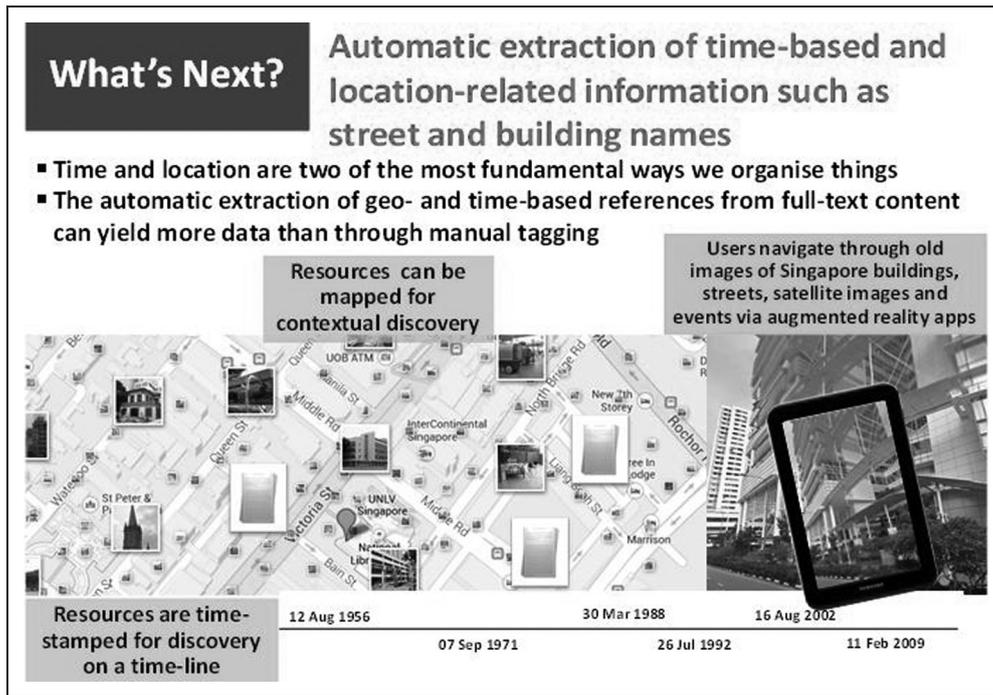
Figure 7.

to meet this need. Challenges facing the National Library include:

- securing more funds to digitize materials
- securing rights for the use of digitized content outside of libraries
- keeping up with the new social media platforms and mobile devices and delivering content through these channels
- using the new channels effectively to engage users to productively use the content to create new content
- keeping staff motivated and skilled to continue to innovate and develop new services
- ensuring that stakeholders support the library in the above.

Despite the challenges, based on the journey taken so far, the NLB is confident that it can and will find ways to use technologies and its expertise to continue to innovate and develop new services to meet the needs of users and to bring content into the hands of its users.

Author biography

Ngian Lek Choh is the Deputy Chief Executive of the National Library Board, Singapore. She oversees the development of the National Library, National Archives and Collections. Since her appointment as deputy CEO in charge of the National Library, National Archives and Collections for the NLB on 1 Nov 2012, she has been actively working with various library teams to identify synergies between the National Library and the National Archives. She played a key role in transforming the National Library from a traditional library to one that is much more accessible through the Internet and mobile devices, by curating stories and digitising content. Contact: National Library Board,100 Victoria St # 14-01, National Library Building, Singapore 188064. Email: Ngian_Lek_Choh@nlb.gov.sg

What makes innovation work? Innovation practice in the National Library of the Netherlands

Hildelies Balk, Elsbeth Kwant and Clemens Neudecker
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Abstract

The National Library of the Netherlands, (Koninklijke Bibliotheek, hereafter KB), has been innovating its services and organization for the past 20 years and expects to continue to do so in the future. The central question in this article is: what makes innovation work in the organization of the KB? We will focus on two use cases: the development of the recently opened Delpher portal, giving access to 30 million pages of digitized Dutch heritage, and the current development of the KB ResearchLab that gives internal and external researchers a platform for experiments. A review of innovation theory and practice (Balk 2013) provides us with a checklist of factors that determine the innovation capacity of a library, grouped in four themes: Leadership and culture, Knowledge and organizational learning, Collaboration capacity and Organizational design. By applying this innovation checklist to the use cases discussed, we hope to contribute to the body of best practice in innovation in national libraries. Finally, we will look ahead at the development of the National Digital Library of the Netherlands, integrating services for the public library community into the KB in the near future and share some potential scenarios for the future of the library landscape in the Netherlands with the audience.

Introduction, problem statement and approach

In 2012 the National Library of the Netherlands, the Koninklijke Bibliotheek (KB) sent five staff members with very different perspectives (Research / IT, Marketing, Database Management, Front-End Development and Collections) to a three-day crash course on effectively using mobile technology in a heritage context. In this powerhouse environment, they came up with a totally new idea: creating a mobile application that would deliver historical information from the digitized newspaper collection on the spot, for every location in the Netherlands. The KB team won the pitch and funding to develop this idea. Within a few months they produced the app 'Here was the news' that made national television and got 60,000 downloads on its first day: http://www.hierwashetnieuws.nl/; http://www.kb.nl/nieuws/nieuwsarchief-2012/kb-lanceert-app-hier-was-het-nieuws. It is now at the end of its product-lifecycle, but has given us

valuable experience on how to work with geographical linked data.

This is an example of an innovation in the KB that was successful in many ways: it was conceived and implemented in a very brief period of time; the public loved it; it added value to our collections; the process was easy and fun; and we learned from the experience.

Not all innovation is so easy in the KB. Sometimes it is a difficult and painful process. Often new ideas fail before they even come to fruition. This is something that colleagues in the library world will recognize. The reasons for failure often seem obvious: the product was not mature or the public had no use for it; the organization was not ready for a new way of

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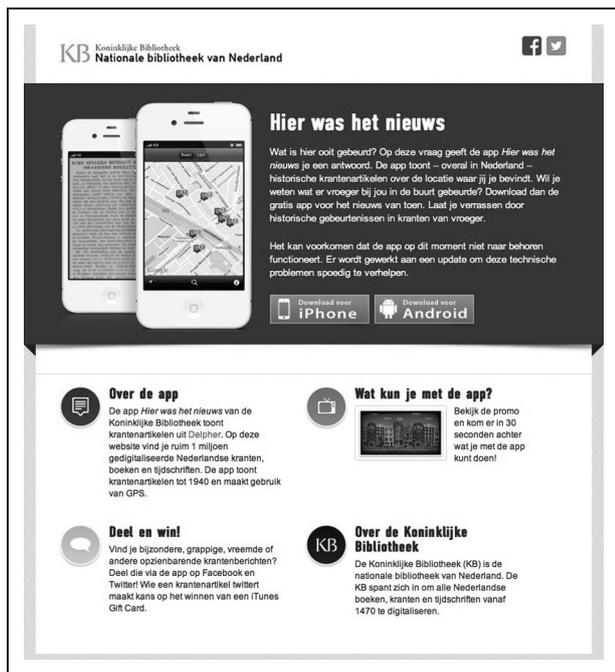
Figure 1. Screenshot of the app 'Here was the news.'

working; people did not want to change; or the library got stuck in its own bureaucracy. But there is a much more interesting question to be asked – what actually makes innovation successful? Rather than focusing on obstacles to innovation, we would benefit from knowing the factors that lead to successful innovation, so that we can foster those qualities in our libraries.

The quest for innovation enablers led to 'mining' the currently most widely accepted innovation theories that have a basis in empirical research.[1] This produced a long list of factors that determine capacity for innovation of an organization. The list was then explored in the community of national and research libraries for its relevance to our particular situation. The outcome was the 'innovation checklist' of 14 determinant factors that were considered as a 'must have' by the community, clustered in four themes: Leadership and Culture, Knowledge and Organizational Learning, Collaboration Capacity and Organizational Design.

In this article the theoretical framework that underlies the innovation checklist will be outlined. This will be followed by a description of two use cases of successful innovation in the National Library of the Netherlands–the development of the recently opened Delpher portal, giving access to 30 million pages of digitized Dutch heritage, and the current development of the KB ResearchLab, that gives internal and external researchers a platform for experiments. These use cases will be analysed with the checklist to learn how these factors have played a role.

With this, we hope to contribute to building a body of practice in innovation that may benefit all (national) libraries wrestling with the continuous process of adapting to a dynamic environment.

Key factors that determine the innovation capacity of a library[2]

Approach to innovation in the context of this article

We define innovation here as a more or less radical, possibly disruptive change in products and processes, staying close to the original definition of Joseph Schumpeter (Schumpeter, 1947). Innovation is only successful when it adds value to the delivery of an organization (e.g. better products, more profit, larger market share). In a public institution such as a national library, innovation can be considered successful if it adds public value. It should be valued by the public and benefit society as a whole. In the context of this article we are specifically interested in the organizational aspects of innovation. This leads to the following definition of innovation:

> *Successful innovation in a national library is the creation or adoption of an idea or behaviour radically new to the organization, with added public value as an outcome.*

Innovation concepts in the perspective of public value

The innovation checklist is based on a selection of the currently most widely accepted innovation theories. These theories were selected on the basis of two criteria – they have a firm basis in empirical research and they are relevant for innovation in a public value perspective.

Although the term 'public value' is widely used nowadays, it may be useful to elaborate briefly on the concepts associated with it, and the relation with the chosen innovation theories. In the public value perspective, public value outcomes are achieved in engagement with the users of the products and services, and in close alignment with the authorizing environment, that is, the complex field of influences around the institution, such as government, peer institutions, user organizations, public opinion (Moore 1995, Benington and Moore, 2011).

To stay aligned to user needs and changes in the environment, public institutions have no choice but to innovate (Hartley, 2011). But there is generally little patience in the environment with any disruption in service caused by the innovation process. A continued high quality, including improvement of running services, is expected at all times. In order to deliver public value, a public institution needs, therefore, to be

able to handle continuity as well as radical innovation in parts (Hartley, 2011).

Innovation concepts that deal with balancing two opposing approaches of evolution and disruptive transformation are particularly relevant in the public value perspective. The Ambidextrous Organization concept offers mechanisms for managing the opposing forces of continuity and change (Tushman and O'Reilly 1996, 1999).

A public institution can only successfully adapt to the environment if the conditions for learning and knowledge sharing are good. Nonaka and Takeuchi's classic study of the Knowledge Creating Company offers a number of enabling conditions that should be met (Nonaka and Takeuchi, 1995). The Dynamic Capabilities theory adds to this factors that create a culture to combine the fostering of core competencies and the implementation of radically new ideas (Teece 2007, 2012).

As the public is central in the achievement of public value outcomes, it is imperative to engage users in the innovation of the services offered to them (Benington and Moore, 2011). In the private sector Von Hippel was one of the first theorists to note that the sources of successful innovation often lie outside of the organization, and demonstrated that successful innovation is dependent on working with users and user communities (Von Hippel 1988, 2005).

More and more, public institutions are urged by the environment to develop new products and services in partnerships and networks with other public or private organizations (Benington and Moore, 2011). We know this to be particularly true for national libraries, which often play a central role in the scientific and cultural infrastructure of their country. The co-production of innovation in partnerships in the public sector aligns well with the Open Innovation paradigm that currently prevails in the private sector (Chesbrough, 2003). Over the past three decades, the belief has grown that successful innovation cannot be undertaken in isolation – 'not all the smart people work for us' – and that the process benefits greatly by using the external knowledge of partner organizations, suppliers and university research centers. The concepts of user innovation and open innovation have been widely researched for factors that determine success (Enkel, Bell and Hogenkamp, 2011; West and Bogers, 2013).

The checklist

From the concepts discussed above, a long list of 42 factors that play a role in determining innovation capacity in a public organization emerged. This list was explored in the library community in a meeting with a focus group of library professionals and structured interviews with managers from four different national libraries across Europe (Balk 2013). The outcome was a selection of 14 key factors that determine innovation capacity, dubbed the innovation checklist (Table 1). The factors are grouped in four themes: Leadership and Culture, Knowledge and Organizational Learning, Collaboration Capacity and Organizational Design.

Leadership and culture. All theories of innovation stress the significant influence of executives on the process and culture of innovation. This was confirmed in the library field where good leadership, both at CEO and other management levels was considered the first condition that should be met.

Singled out among the competencies for leadership were those that answered the demands of handling opposing forces: the ability to steer both stability and radical change (Tushman and O Reilly, 1996). They should be able to carry out their objectives in the face of the inevitable ambiguity and uncertainty that goes along with innovation and inspire confidence in their staff (Teece, 2007, 2012).

A premium was also placed on hiring executives with a non-library or even private sector background. As innovation benefits from the unexpected combination of ideas and knowledge, diversity in the top management team has been demonstrated to be more effective in innovation than uniform leadership (Tushman and O'Reilly, 1996).

Innovation needs a climate of inventiveness, openness and curiosity (Enkel, Bell and Hogenkamp, 2011). Ideally this climate is fostered by management throughout the entire organization, but it may even be effective if this climate is restricted to smaller innovative units within the organization (Tushman and O'Reilly, 1999). This can only work if the company strategy is communicated clearly and shared by all (Nonaka and Takeuchi 1995) and when innovation goals match strategic objectives (Enkel, Bell and Hogenkamp, 2011)

For innovation to be successful it is inevitable to deploy portfolio management – cut off some activities and support others (Tushman and O Reilly, 1996; Enkel, Bell and Hogenkamp, 2011). Those libraries that had deployed some form of 'making clear choices and not doing everything' had found this very effective.

Knowledge and organizational learning. Developing and sharing knowledge is already part of the 'DNA' of the library community. The means for exploiting knowledge effectively for innovation are often not so clear. Four factors from the vast innovation literature

Table 1. Innovation Checklist: 14 factors that determine innovation capacity in a national library, clustered in four groups (modified from Balk 2013).

Leadership and Culture
Management can steer both stability and radical change
Managers have a tolerance to ambiguity and uncertainty
Diversity of (top) management team
Culture of Inventiveness, openness, curiosity
Strategy communicated and embraced by all; innovation goals match strategic objectives
Portfolio management; making clear choices, 'not doing everything'
Knowledge and Organizational Learning
Requisite variety: diversity of teams
Innovation budget, transaction budget
Learning from failure (e.g. post-project reviews)
Absorptive capacity for external knowledge
Collaboration Capacity
Partnership capacity
Understanding user communities (e.g. open source, digital humanities)
Networking capacities
Organizational Design
Mix of adhocracy and bureaucracy, 'Hybrid' organization

Source: Balk, 2013.

dealing with knowledge and organizational learning were recognized as crucial to library innovation (Balk 2013).

Parallel to the diversity at the top, the best new ideas and means of exploiting them are born in teams of which the members have a variety in background and training (Nonaka and Takeuchi, 1995, Teece 2012; West and Bogers, 2013, Enkel, Bell and Hogenkamp, 2011). For effective implementation of innovation it is imperative that the team contains members from all parts of the organization(s) that will be deploying the new product or service. This ensures both acceptance and understanding.

It may seem obvious, but must be mentioned, that the presence of a budget earmarked for innovation and the acquisition of external knowledge is considered crucial by most managers involved in the development of new ideas (Enkel, Bell and Hogenkamp, 2011).

Innovation is by nature unpredictable and projects implementing new products or ways of working may fail in many ways. Innovative organizations tolerate failure as part of their business (Tushman and O'Reilly, 1996). Failure can be an effective learning instrument for the organization, for instance by conducting post-project reviews (Teece, 2007, Teece, 2012).

One of the very few really quantifiable factors that determine innovation capacity is the absorptive capacity for external knowledge. This consists of two elements: the total R&D expenditure and the proportion of employees with (scientific-technical) graduate education (Enkel, Bell and Hogenkamp, 2011; West and Bogers, 2013). In particular the education level

and the presence of skills in new technology were recognized as very relevant for library innovation.

Collaboration capacity. To effectively leverage outside knowledge, an organization must be able to open up its innovation process and innovate with users and suppliers in partnerships and networks (Von Hippel, 2005; Chesbrough, 2003). Research indicates that this requires a number of special competencies at the level of the organization as well as the individual (Enkel, Bell and Hogenkamp, 2011; West and Bogers, 2013). Based on the vast experience with different types of collaboration, library managers considered three areas of competence most important (Balk 2013).

Partnership capacity is a competence at the level of the organization and includes: commitment and trust between partners; having a reputation as a trustworthy partner, selecting the right partner(s); making clear agreements and defining clear targets; training employees to work with partners; and the ability to manage alliances (Enkel, Bell and Hogenkamp, 2011).

Both at the organizational and individual level an *understanding of user communities* is indispensable (Von Hippel, 2005). Von Hippel used the open source software community as an example of an innovative user community that disrupted the established market. For the library world, the digital scholarship communities (e-science, digital humanities) forces libraries to rethink the way they offer their resources and services. The recent special issue of the *Journal of Library Administration* excellently describes organizational implications of digital scholarship for

Figure 2. Gopher website, KB 1993.

libraries (Nowviskie, 2013; Posner, 2013; Rockenbach, 2013; Sula, 2013; Vandegrift and Varner, 2013; Vershbow, 2013; Vinopal and McCormick, 2013).

At the individual level the presence of *networking capacities* among the staff is a determinant factor. In order to collaborate successfully with people with diverse backgrounds and locations they need abilities such as social intelligence, cross-cultural competency and curiosity (Enkel, Bell and Hogenkamp, 2011).

Organizational design. In theories of organizational design, the hierarchically ordered bureaucracy is the best form for well established companies and public institutions in stable environments, but this form renders them unable to quickly adapt to new circumstances. In a fast changing environment, the best form is a loosely coupled organization of teams that assemble in an ad hoc way dependent on the (market) needs of the moment, the so called adhocracy (Mintzberg 1979). Pure adhocracies are mainly found in high tech environments with many start-up firms, where expertise is highly valued and where there is a premium on entrepreneurship, such as in Silicon Valley. A drawback in the pure adhocracy is the lack of continuity and cohesion. Research in innovation currently favors hybrid structural forms that combine both the fluid, flexible nature of the entrepreneurial start up with the more stable, cohesive aspects of the bureaucracy. In this form, adhocracy is the best form to either produce or to adapt to innovation, but it should be limited to sub-units engaged in creative work, that have the capacity and authority to engage with the organization at large (Tushman and O'Reilly, 1999). This type of adhocracy, often dubbed 'skunkworks' (Tushman and O'Reilly, 1999), has recently been advocated in the library community as one of the solutions to deal with the current wave of innovation (Nowviskie, 2013). The library managers that evaluated

the long list of factors also selected the hybrid organization form as crucial to innovation (Balk 2013).

Innovation in the National Library of the Netherlands

Background

The KB is a medium sized national library with a permanent staff of 250 FTE in 2013. Its holdings encompass 6 million items (books, newspapers, magazines) and store over 200 million pages born digital and 60 million pages of digitized material. Yearly the collection grows by some 100,000 books and issues of periodicals, in addition to almost 2 million digital items. From 2007 onwards it has also archived a selection of Dutch websites. In 2013 the KB had around 16,000 members and 5 million online visitors. Although relatively small, the KB has long played a leading role in cooperation in the national library field, for instance, co-founding The European Library (2005) and Europeana (2008) and hosting these organizations up to the present day.[3]

For the past 20 years, the KB has been continuously innovating its services and organization. In this period the focus has shifted completely from the traditional physical service of acquiring, storing, cataloguing and lending paper publications and offering reading rooms, to the perspective of a predominantly digital future.

The KB has always been at the forefront in the take-up and use of new developments. We were one of the first organizations in the Netherlands, and among the first national libraries, to offer online access to its catalogue. Our first website (see Figure 2) dates from 1993, only 2 years after the launch of the World Wide Web.

In 1997, the KB opened its e-depot for electronic publications and started research in the preservation

of digital content. In collaboration with a private partner (IBM), an innovative preservation system for the long term storage of digital content was developed that has been in use since 2003 and is currently being replaced by a new system developed within the KB.

In the 1990s, digitization of paper collections began – the first 100 highlights of our collection were available online in 1995. Around the turn of the century the first real digitization programmes were launched, always in cooperation with other collection holders in the Netherlands: The Memory of the Netherlands (1999); Dutch parliamentary papers (2003); and Dutch Newspapers online (2006). With the start of this latter project, that digitized 8 million Dutch newspaper pages, the KB made the step to large scale digitization.

In the course of the first decade of the 21st century, the expectations of the users of our services changed. As the Internet became the first resource for the public at large as well as for most researchers, our users came to expect that the KB digital services would be as complete as the traditional services and as ubiquitous as the web. The developments in technology and the web, in combination with the vast volumes of digital data now available, also led to new forms of research in the academic community and new demands on the services of the KB.

In 2010 the KB started the transition to becoming a true digital library, with the motto 'the future of the KB is digital.' A Digital Library programme was launched with ambitious goals for infrastructure, digital content and digital services. This is the background against which we set the two use cases.

Use case 1: The Delpher platform for digitized material

Delpher, (http://www.delpher.nl/) is a publication platform for digitized material and a full-text search engine for Dutch publications. First conceived in 2011, Delpher builds on the digitization efforts from the preceding decade. The ambition of the KB is to digitize and make available for use ' everywhere and by everyone,' not only the collections of the KB, but all books, newspapers and periodicals printed in the Netherlands since 1470. To achieve this goal we work with public and private partners, such as university libraries, Google and ProQuest. In this context, we thought out both aspects of the service: a publication platform with persistent identifiers and a focus on the possibility to re-use the data in other contexts; and the full-text search environment, that focuses on end-user satisfaction.

It was immediately obvious that the KB did not want to deliver this service in a vacuum. We needed

partnerships, not only because we did not own all of the content, but also to ensure that the end-result met the expectations of partners and users. In the period 2011–2013, building on existing networks between the university libraries of Leiden, Amsterdam, Utrecht, Groningen, the Royal Academy of Sciences and the KB, we built up a national infrastructure for full-text access to digitized material. The development process was sometimes very difficult. We had to balance the interests of the KB, the university libraries and the users. The digitized material was owned by some 50 different institutions in the Netherlands and abroad. Within the organization we drew on resources that also had to bear the burden of ongoing digitization and delivering services to the public as usual.

This was only possible by strong commitment at the leadership level, keeping up excellent communication with all stakeholders and a focus on the desired goal. It also helped that we managed to acquire some external funding for the building of the platform. In November 2013, we launched Delpher, which provides access to more than 1 million historical books, newspapers and journals – an amount we are looking to double by 2015. The service is now fully operational and attracts a large user base of academics and individual researchers.

Delpher is still in the beta stage. In the course of 2014 it will be developed into a fully stable service. In the next 4 years we will enrich the service in several ways. One of our aims is to offer all relevant named entities (names and places) in KB digital content as linked open data by 2018.

Use case 2: KB ResearchLab

The ResearchLab (http://lab.kbresearch.nl/), is a platform for engaging with the academic community in exploring new ways of interacting with KB content. Key elements of the lab are: a virtual environment for experimenting with new technologies and prototypes; access to KB data; a small staff within the research department to support development; and a programme of activities. Underlying principles of the lab are:

- reuse what you can of demos and prototypes
- work with the grain of the web: simple HTML +Flask (Python) + Web services
- document and enable others to reproduce
- let the users build their own interfaces and tools; and
- combine virtual and physical: have people meet to showcase new demos, discuss ideas, engage in hackathons.
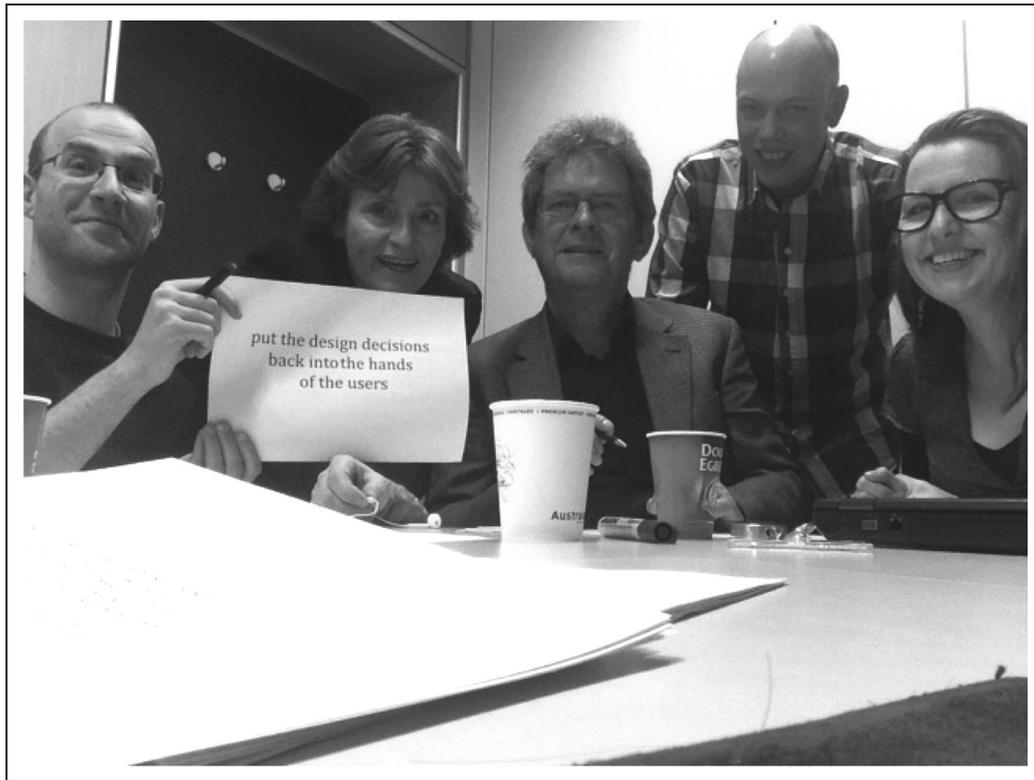
Figure 3. Lab design session. Clemens Neudecker, technical coordinator research and founder of the lab, Hildelies Balk, Head of Research, Theo van Veen, data infrastructure specialist and senior research advisor, Elco van Staveren, Head of Online Services, and Shan Swart, concept designer, Online Services.

The lab builds on existing infrastructure within the Department of Research. The KB has had facilities for research and development in place since the 1990s. In its current form, the Research Department consists of a group of eight FTE permanent staff and around four FTE funded by national and international research projects. Next to delivering expertise in relevant areas to the organization, the research group has always had the freedom and resources to explore new paths outside the production environment. It takes part in collaborative research projects in digital preservation, refinement and enrichment of digital content and semantic web technologies. To test, demo, and play around with innovative tools, the developers in the team created a sandbox environment several years ago. Although meant for internal use, this facility was often shared with visiting researchers.

From 2011 we explored the field of digital scholarship with a small group of researchers and staff from different parts of the KB. In 2013, inspired by what we had learned and by examples from other libraries, most notably the Harvard library lab (https://osc.hul.harvard.edu/liblab), New York Public Library Labs (http://www.nypl.org/collections/labs), and the British Library Labs (http://labs.bl.uk/), we decided to convert these sandbox activities into a proper lab environment.

The sandbox space was extended by a few terabytes, the technical coordinator of the group developed a nice structure and interface, and many weekends and evenings were spent on setting up the demos and services that were already available. We could also draw upon an already existing network within the Dutch academic community who were keen to showcase their tools. Support within the organization was sought and found in an informal manner and the lab team started working closely together with a few key people in IT, and KB Marketing & Services (Figure 3).

By September 2013, the lab had reached the 'pre-beta stage.' The environment was successfully used in a hackathon, working with an international group of developers on interoperability of tools and workflows for text digitization http://researchkb.word-press.com/2013/09/24/1st-succeed-hackathon-kb/. Its first really public activity was to support the KB Fellow (a three months fellowship offered yearly to a distinguished scholar) with a research question that needed a computational solution. This resulted in an application (http://lab.kbresearch.nl/analyze/Scansion) that generated much publicity in the Netherlands (Figure 4).

In the first half of 2014 the lab was developed further. In June 2014 the prototype version of the lab was

Figure 4. Animation of the Scansion machine in the KB ResearchLab, figuring KB Fellow Marc van Oostendorp (left) and KB data services coordinator Steven Claeyssens. https://www.youtube.com/watch?v=FcTufco9P3A.

launched at the DH Benelux conference in The Hague (http://dhbenelux.org/). To align our work even closer with digital scholars, we launched a programme for 'embedding' young researchers (PhDs or post-docs) to work on a research question in the lab. In this programme we work closely with universities, starting out with the University of Amsterdam who were keen to collaborate. Two post-docs were selected – a computer scientist who intends to develop a tool for topic mapping and a humanities scholar with a research question relating to our digitized newspaper collection for which he needs support from developers. The first embedded researcher started on 1 July 2014. Other universities are also eager to collaborate and we are already preparing the next pilots with the universities of Utrecht and Groningen.

Plans for the near future are: developing the virtual environment from prototype to a more stable 'permanent beta'; creating a physical lab space for events and training in the KB; setting up a digital scholarship training programme for KB employees; and improving the connection to the Delpher platform (Figure 5).

Analysis of the use cases

Both use cases can be considered to be successful innovations. They are new products, implying a new way of working, taken up by the organization and carried out within a relatively brief period of time. They add value for the academic community and, by enriching digital cultural heritage, to society at large.

So, what did we do right? Let's have a look at what factors in the checklist played a role in these innovations (summarized in Table 2).

Delpher

The main factors in Delpher were balanced leadership and partnership capacity. The KB executive team was involved and committed to this project and managed to navigate the KB through the difficult process of maintaining a stable organization in a period of change. The quality most strongly present in the KB is probably partnership capacity. The KB is a trusted and sought after partner by libraries and universities and has successfully established and managed many (inter)national alliances, of which Delpher is a good example. In the case of Delpher, the selection of partners also worked out very well. Within the project, clear agreements were made and the strategic targets were defined and subscribed by all. A factor that smoothed the process and lessened the burden on the organization was the presence of extra funding, acquired with direct involvement of the general director for building the platform.

The KB ResearchLab

In the creation of the KB ResearchLab, the hybrid design of the KB really paid off. The Research Department operates as a 'skunkworks' with informal trails all through the organization. Also, the fact that the research group has a budget dedicated to
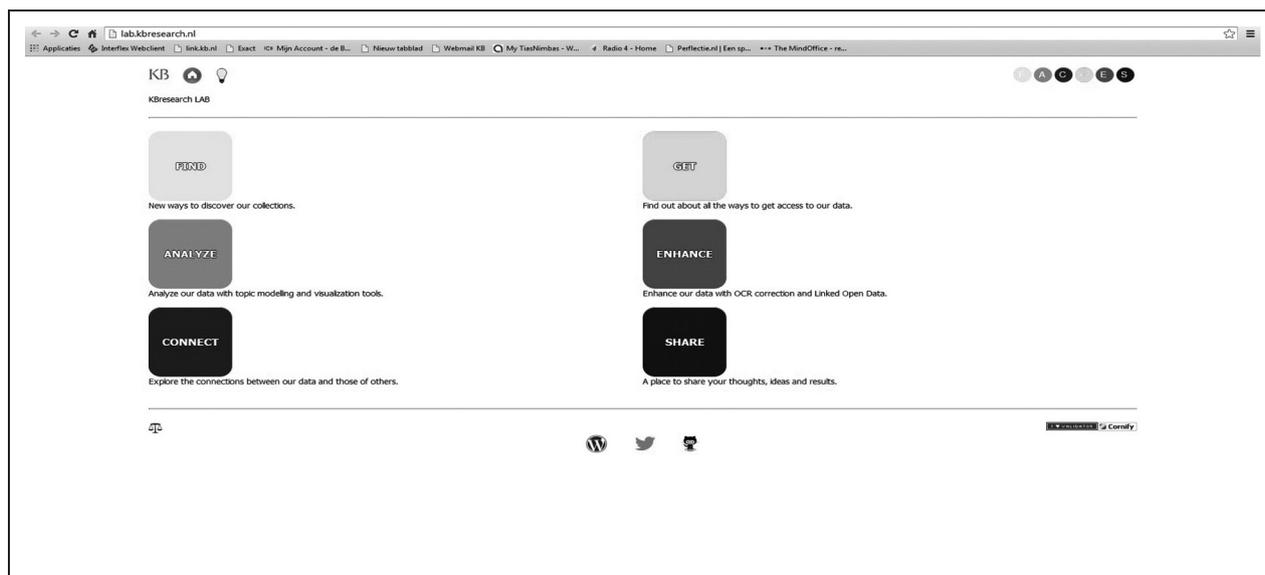
Figure 5. Screenshot of the KB ResearchLab prototype in July 2014.

Table 2. Innovation checklist: factors that played a role in the two use cases discussed.

Factors	Delpher	KB ResearchLab
Leadership and Culture		
Management can steer both stability and radical change	x	
Managers have a tolerance to ambiguity and uncertainty		x
Diversity of (top) management team		
Culture of Inventiveness, openness, curiosity		x
Strategy communicated and embraced by all; innovation goals match strategic objectives	x	
Portfolio management; making clear choices, 'not doing everything'	x	
Knowledge and Organizational Learning		
Requisite variety: diversity of teams		x
Innovation budget, transaction budget	x	x
Learning from failure (e.g. post-project reviews)		
Absorptive capacity for external knowledge		
Collaboration Capacity		
Partnership capacity	x	
Understanding user communities (e.g. open source, digital humanities)		x
Networking capacities		x
Organizational Design		
Mix of adhocracy and bureaucracy, 'Hybrid' organization		x

Source: Balk, 2013.

innovation that can be deployed without bureaucratic delays played a major role. This made it possible to extend the capacity quickly, both in hardware and staff, and to set up activities such as the embedded researcher within a few months. The principles of the lab, such as 'working with the grain of the web' were drawn from the user communities targeted (open source software, computer science, digital humanities). The collaboration with people from different departments and backgrounds was highly beneficial to the development and showed good networking capacities all through the KB, as was the culture of inventiveness and openness in the departments involved. Finally, by accepting and supporting this adhocracy within a bureaucratic organization the top management of the KB demonstrates a fair amount of tolerance to ambiguity and uncertainty.

Conclusions

By ticking 11 out of 14 boxes in the checklist, the two KB use cases demonstrate the relevance of the checklist. We may cautiously conclude that it can make sense for a national library to foster and develop the

qualities related to the factors in the checklist. As outlined above, the list was based on a review of innovation literature and an explorative survey of the national library community, with the aim of starting a discussion of good innovation practice among libraries. This may ultimately lead to the establishment of 'best practice innovation' in libraries.

Looking ahead

The KB will need all its innovation capacity to cope with the big changes that it faces in the near future. In 2015, its mandate will be expanded with the coordination of the public library sector. This will mean the integration of around 40 FTE staff with tasks formerly foreign to the KB, such as furthering literacy, providing special services for the reading disabled, and delivering the digital infrastructure for products and services of local public libraries. The most challenging innovation will be the development of the 'National Digital Library of the Netherlands,' integrating the collections and lending facilities of the public libraries with the collections and services of the KB. In addition to the technical complexities involved, this will be a tremendous effort of engaging and aligning all stakeholders in this field.

Looking further ahead to 2025, we see four potential scenarios for the Dutch library landscape (KB 2014). These have been conceived in a series of workshops, brainstorm sessions, and a conference in the KB in the period 2012–2013, with executives and professionals from the Dutch scientific and public library community and cultural heritage sector. The purpose of defining these scenarios was to reflect on the future in a systematic way and, if possible, to anticipate this future in the current strategy. In the conference that kicked off the discussion, 12 trends in technology, society and the library sector were identified, many in line with the IFLA trend report (IFLA 2013). On the basis of opposing the extremes of two major trends (role of government and public funding and competition of other market parties), four possible scenarios were defined:

1. Transformation: In this scenario, many competing alternatives for traditional library functions become available, making many current library services redundant. As the government will still support the library sector, libraries will transform in order to deliver completely new services.
2. Evolution: This happens when the number of competing alternatives is insignificant and government continues to invest in the library field. No radical changes will happen but the field will slowly evolve to adapt to new demands from the environment.
3. Integration: When public funding diminishes but competing alternatives form no threat, a scenario where different organizations (e.g. libraries and cultural institutions) join forces and integrate becomes probable. The result is fewer but stronger organizations and a continued monopoly on information for libraries.
4. Funeral: If competing alternatives become more attractive to users and public funding ceases entirely, very few libraries and services will remain relevant. In this scenario libraries will have to focus on strong value propositions, such as long term preservation of digital data, to survive.

Each scenario offers options for preparing for the future. The KB would be interested in continuing this discussion within the IFLA library community.

Notes

1. Library innovation is a subject much debated in the field of library and information science but there has been little research in how (national) libraries actually deal with innovation. The majority of the literature on library innovation reports on new services offered or new systems being used, without much attention for what this means for the organization. Recently there has been more attention to the practice of innovation in libraries, for example the recent special issue of *the Journal of Library Administration*, that describes organizational implications of digital scholarship for libraries (Nowviskie, 2013; Posner, 2013; Rockenbach, 2013; Sula, 2013; Vandegrift and Varner, 2013; Vershbow, 2013; Vinopal and McCormick, 2013). A few studies have looked at organizational aspects of library innovation from a predominantly theoretical perspective (cf Dalbello, 2008, 2009, Jantz, 2011, 2012) but these do not offer determinant factors with a basis in wide empirical research.
2. This chapter is largely based on Balk 2013. To fit this article, the 'model' in Balk 2013 has been slightly modified; it includes only the 14 'must have' factors and the factors have been rearranged in to four themes instead of five.
3. For all facts and figures please consult http://www.kb.nl/en/organization-and-policy/kb-in-a-nutshell

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Building tomorrow's library today: The New Library of Alexandria

Ismail Serageldin
New Library of Alexandria

Abstract

The New Library of Alexandria performs a unique 21st century role as a library, a museum, an art gallery, an archive, an academy, a conference center, a science center, a university, and a special school. By blending today's information and communications technology with yesterday's rich cultural heritage and national memory, the Library of Alexandria has shown that innovation from the top down preserves the past and guarantees a future.

Keywords

innovation, space planning, Library of Alexandria

Introduction

The New Library of Alexandria, sometimes called by its Latin name, the Bibliotheca Alexandrina, or as its staff and many friends like to call it, just the "BA", is not a national library, but it works closely with many national libraries and archives. Simply put, it is a *sui generis* creation: a unique institution that is part library, part museum, part art gallery, part archive, part academy, part conference center, part science center and part university and special school. It has been seen by many, including a previous President of the Egyptian Republic, as a national institution with an international dimension and a global humanist mission. That mission was to recapture the spirit of the ancient library of Alexandria with the tools of today and in the context of the 21st century. Built almost exactly on the same spot where the ancient library once stood, it aspires to be a worthy successor to its ancient namesake. So although it is not the national library of Egypt, it is a very prominent institution in Egypt and much of the world.

Like national libraries, the BA performs many services and has a diverse audience. Beyond the books, it promotes in novel ways the national memory and the culture of the nation. The BA has been Egypt's pioneer in conserving knowledge and experiences in conventional and digital formats.

Founded by a special law in 2001[1], and inaugurated in October 2002, it is an autonomous institution dedicated to the production and dissemination of

Figure 1. The New Library of Alexandria from the air.

knowledge and it is attached directly to the head of state as the highest symbol of national sovereignty. In January 2011 the youth of Egypt launched a revolution that toppled the president and yet supported the BA by protecting it with a human chain, and by wrapping it in a huge national flag.

It was an exalting moment, which gave ample proof that the unique multi-faceted institution had succeeded in the eyes of its primary users. This brief

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Figure 2. Citizens protecting the New Library of Alexandria with the Egyptian flag.

essay is to explain why we have been able, perhaps better than most, to meet the huge challenges that faced and still face us, and face all national libraries in the world, and to look forward to the future of this unique library and ask some questions about the future of all libraries, especially national libraries around the world.

Challenges met, challenges to come

From the beginning the BA built an environment that would be favorable to innovation. We adopted the view that the acquisition of knowledge was not only through reading. The Library layout was modified to interweave exhibitions and individual works of art along with the spaces for reading amidst the open stacks.

First: From the start the BA considered itself a multi-faceted institution with broad goals and a diversified set of services that reaches out to many constituencies. Our programs to maintain the heritage and enhance the national memory of Egypt were supported by many research institutes and museums and art galleries, and did not rely only on the presence of the documents in our stacks. A planetarium and science center complement our programs of art and science and academic research with exhibitions and meetings, from small seminars to huge conferences ... all were an integral part of our daily fare. The interaction between disciplines and across boundaries of such diverse departments and centers promotes a climate of openness, innovation, collaboration, and creativity.

Second: Information and Communications technology (ICT) was not seen as a service sector to serve the librarians, it was an independent and equal partner in running the institution. That meant that this dynamic sector, where innovation moves at a very rapid pace, had an equal place at the table in planning

Figure 3. Main reading room of the New Library of Alexandria.

the strategy and applications of the BA. We knew that this was a field where our comparative advantage would balance the meager collections we started with. Our IT innovations and achievements were considered some of the most important institutional achievements. We embraced the digital revolution fully, in all facets of our operations.

Third: Building on its Director's considerable international connections and a Board of Trustees composed of many eminent international figures; the institution participated in many international partnerships and agreements that ensured that our work would be measured from the start against international benchmarks, and kept the institution from getting mired in local matters.

Fourth: The library started with a small nucleus of staff composed of very young people and grew rapidly, adding fresh young university graduates so that its staff remained young, all of which makes for an open and easygoing system.

Fifth: It was based on a meritocratic system of promotions that did not take seniority into account. The result is a young and gender-balanced management and staff who are open to the best of new ideas and do not represent significant legacy problems. Many cross-disciplinary retreats were organized to weld the managers into a team.

So what sort of innovations did this young management come up with?

- From a nucleus of 1000 PowerPoint lectures in public health, these became the BA Science SuperCourse, the largest site of free lectures (170,000), used by over 60,000 teachers to reach over one million students in 170 countries per year – for free.

- Sending out electronic and print media in a "Bookmobile" to tour remote schools in poor neighborhoods.
- Formal science clubs were established in 300 middle schools with computers linked to the BA Planetarium/Exploratorium science center.
- Developed a sophisticated Digital Assets Repository (DAR) where hundreds of thousands of objects and books are available for on-line consultation and retrieval.
- From commissioning operas to creating the first classical music orchestra in Alexandria, to organizing special classes for talented youngsters, to assisting young artists sell their first work, the BA has aggressively advanced the cause of the arts.
- Art and science competitions were organized in Egypt and internationally for young students that helped the BA reach beyond Alexandria.
- Held annual book and science fairs where tens of thousands of visitors came to participate.

But then what?

Remaining innovative: The challenge of tomorrow

The culture of innovation requires nurturing. It is liable to be destroyed from both ends of the creativity and success spectrum. Those who live in a stultified bureaucracy and who do not even try to innovate, and those who live in a successful organization and are likely to be smug, fall into what Jack Welch, former CEO of General Electric, once called the "not-invented-here syndrome." Innovation requires constant nurturing.

Excessive precision and rigid administrative procedures are not conducive to innovation and creativity. Companies that have continuously innovated allowed significant margins for transgressing administrative boundaries and unconventional arrangements to promote internal "product champions" who even invest their own time working on the ideas they are championing without formal recognition and funding. The BA recognized and gave wide latitude for these product champions to develop their ideas to fruition.

In management terms, creating such an atmosphere where innovation is encouraged and creativity is rewarded also requires that we accept a certain measure of imprecision in our work. Where there are some blurry edges between departments and a degree of chaotic exchange of ideas there needs to be encouragement to constantly look outside the institution at the rapidly changing world. Management needs to keep in mind the goals of the institution, repeated and communicated to all the staff with clarity and precision, and look for new ways to achieve these goals in the light of rapidly changing circumstances nationally and internationally. The good ideas should be implemented and those who championed the ideas recognized.

Management is about dealing with people and getting them to do more than they thought they were capable of doing. This requires an inspiring vision and flexible administration with constant reinforcement to create self-confidence among staff.

The metaphor for management is not that of the engineer and efficiency, it is that of the gardener who nurtures the plants. The engineer has a well-oiled machine that he pushes to its maximum level of efficiency that is already predetermined in the design of the machine. As a gardener, you work with the plants. You make them grow by feeding their roots, not by pulling on their branches. You occasionally prune, turn them to face the best light, and fertilize the soil they inhabit, but in the end, it is the plants that bring forth the flowers and the fruits.

Whatever has been achieved in the last decade is only prologue. The world is on the cusp of a major transformation that will change all our modes of interaction with knowledge, and will challenge our societies with an enormous explosion of information – of varying quality – that will require all institutions of knowledge reinvent themselves to avoid being swept aside as irrelevant.

The libraries of tomorrow

Elsewhere, (see *BiblioAsia*, special issue for the IFLA meeting, Singapore, August 2013) I have written about the unique revolution in knowledge that we are going through right now[2]. I mentioned seven 'pillars' of that revolution:

1. the nature of our documentation and transmission of knowledge, where constantly updated websites are part of the living global tissue of the production and distribution of knowledge
2. that images will play an increasingly big role in addition to the traditional use of text
3. that humans will need machines to interact with any kind of knowledge
4. that complexity and chaos (in the formal scientific sense) are the prime characteristics of our world
5. that computation theory and applications will be an integral part of the broad research paradigm and not just a specialized discipline

6. that we will actively seek the convergence of fields of science and their transformations rather than plowing well established fields; and

7. that we will need pluri-disciplinarity in our approaches to be able to cope with this changing scene.

The revolution manifested through these seven pillars is changing the concept and practice of education and of the supporting institutions of culture, namely libraries, archives and museums. Libraries as institutions will continue to be strong supporters of the values we hold dear – free inquiry, free thought, free speech, and pluralism. But they will have to cope with ever accelerating change and an unprecedented deluge of information as we add more information every year than we have inherited from the beginning of recorded history. Some will be excited by the accelerating rhythm and vast content. Others will be asking the questions posed by T.S. Eliot a century ago:

Where is the Life we have lost in living?

Where is the wisdom we have lost in knowledge?

Where is the knowledge we have lost in information?[3]

If all materials become virtual and mobile, what will become of the physical space we now call a library?

First, they will continue to harbor the originals. Manuscripts and first editions will continue to work their fascination for us, as the objects – above and beyond the content – are seen to have intrinsic value and worth. Being able to consult them will confer on the visitor special joys and possible new insights.

Second, there will continue to be certain materials that for institutional and monetary reasons will be beyond the reach of most people to obtain for a nominal fee, and that libraries will be able to provide only *in situ*.

Third, libraries will be the bridge between the general population, especially researchers, and the national and international archiving system. The sheer scale of that enterprise will pose particular problems that are likely to be addressed only by libraries and archiving institutions.

Overarching all, is the fact that libraries will be transformed and will continue their essential societal role.

Where will we be 20–30 years from now?

Looking at the rapidly evolving realities of our world, we are definitely going to have to change the existing legal and organizational structure in which knowledge and art are produced and their distribution managed to an ever larger and more sophisticated public. The traditional system which we have inherited from the past two centuries is increasingly strained. The roles of publishers, the place of books and journals, of TV and media, of films and exhibits will be different, as will the role of distributors and retailers. Copyright will have to be rethought in the massively digital age of tomorrow. Rules governing inter-library loans of materials will have to be adapted to the new technologies.

Looking at existing technologies with limited extensions of their capabilities and applications, creates an exciting vision of the future where all knowledge will be available to all people at all times in all places.

Imagine that:

- Interaction will be through the mediation of machines that will read our thoughts by the electrical currents that pass through our neurons.
- Books, in terms of a collection of words and sentences of considerable length, will be callable in instant downloads to appear before our eyes on virtual screens that will read our minds and leaf through pages, or scroll down text as we seamlessly call in videos and images into what will be the multi-media virtual "reading" experience of the future, including those times when we are in bed or bath or at the beach.
- Manipulable, holographic 3-D representations will pop out of the material in the text of the new digital books and 3-D videos will replace much of the pictures we are used to seeing on the web today.
- Virtual visits will really be virtual visits not just various clicks on a website.
- Documents will be retrieved as we think of the subject at hand and wearable computerized sensors will read the actions of our neurons and send messages to search engines that will use the successor of the successor of the semantic web to help us retrieve the relevant information and help us structure it into meaningful arguments.
- Every language will be instantaneously translatable to any other language through successors to the primitive machine translation of today.
- Android librarians will interact with real and virtual visitors to create and maintain their profiles and to assist them to access, retrieve, manipulate and add to the stock of knowledge.

The libraries will be the command centers where the massive deluge of data will be organized by enormous networks of machines using quantum computers and

new algorithms adapted from those developed for handling big data in science.

The library physical spaces themselves will evolve very rapidly as stacks of printed material are moved off-site and the space is reconfigured for users. Instead of the traditional reading room, you will have a beautiful community room with major exhibitions of original art, manuscripts, and objects and yes, books, too! These great new spaces will have music, coffee bars and other amenities and inviting places in which to lounge and cubicles in some locations. The large community rooms will be connected with auditoriums and seminar rooms.

There will also be (at least) three kinds of spaces for students and researchers. There will be a space for creative interaction that involves music, food and an abundance of worktables and lots of smart boards or their future (probably digital) equivalents. We will replicate today's common rooms in dorms of colleges and universities supported with an expanded infrastructure of knowledge. There may be two types of quiet rooms; one where groups of students and/or researchers can work collaboratively around a table, and the individual quiet space or cubicles where single researchers or writers will be able to work alone.

In this vision, the librarians will be working on tasks vastly different from the traditional cataloguing and user support. They will be planning their exhibits, their educational programs for use in the auditoriums and the seminar rooms. They will be fine-tuning their organizational skills to deal with the massive flood of material that the world will be producing. They will focus on preparing some interesting new ways of presenting that organized knowledge which will be done at the global scale by a network of libraries.

This international network of libraries that will span the globe will be based on national networks, where the national libraries, the university and special libraries, and the general public libraries will be interlinked at the national scale and with their peers on the international scale.

It will be a totally different world. Libraries will continue to pursue their mission but in totally different ways. Standing at the edge of this new world and thinking about how we are going to cleave a path into that exciting transformation is the challenge; for every decision we take today is a step to either marginalization and irrelevancy or renewed vigor and meaningful roles for the libraries of the future.

> There is a tide in the affairs of men
>
> Which taken at the flood leads on to fortune
>
> Omitted, all the voyage of their lives
>
> Is bound in shallows and in Miseries.
>
> On such a full sea are we now afloat,
>
> And we must take the current when it serves
>
> Or lose our ventures.
>
> William Shakespeare

It is really an exciting time to be a librarian!

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Author biography

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Qatar National Library – Architecture as innovation in the Arab world

Claudia Lux
Qatar National Library

Abstract

The new National Library of Qatar is introduced, beginning with the announcement of the planned library, its core mission, the staffing, the services, and the collections as it readies itself for opening day. A unique open concept architecture was selected that invites exploration and creativity by library users. The National Library will also serve as a central university library in Education City as well as a metropolitan library for all the citizens of Qatar. This article also demonstrates an innovative method of merging all collections regardless of the intended audience.

Keywords

Qatar National Library, Qatar Foundation, library architecture, integrated library, innovation

Background: Qatar and Qatar Foundation

The State of Qatar covers an area of 11,571 square km on a small peninsula in the Arabian Gulf, with Doha as its capital. Qatar declared independence from the United Kingdom on 3 September 1971. The country is governed by the Amir, His Highness Sheikh Tamim Bin Hamad Al-Thani, who assumed leadership following his father's resignation in the summer of 2013. Since 1995, due to its rich gas resources and a fully modernized gas and oil industry, Qatar's economic progress has been rapid. The population grew from 1.7 million in 2010 to 2.15 million in June 2014 and the capital city of Doha has become a metropolitan city with breathtaking architecture.

Qatari nationals currently make up only about 13 percent of the population; the rest comprises foreign workers, mainly from Asian or Arab countries, with quite different cultural and educational backgrounds. The official language is Arabic, but English is widely spoken. Asian languages like Hindi, Tamil, Tagalog, Urdu, Nepali, Thai and many European languages are widely spoken by different communities. During the last 15 years the country has developed its infrastructure, education and culture, and Qatar's Al Jazeera Television and Radio Station is known all over the world. Qatar will host the 2022 FIFA World Cup and this has given an additional impetus to develop public transport by metro and train and other infrastructure projects such as new highways, drainage completion, a new harbor and new tourist sites with added emphasis on the hospitality industry; all part of the current national strategy.

Qatar has developed a National Vision that was first published in July 2008, to build a country, "in which there is economic and social justice for all and in which nature and man are in harmony" (Qatar National Vision 2030, 2013). The Qatar National Vision 2030 is based on four pillars: human development, social development, economic development, and environmental development. To support Qatar in its development from a carbon-based economy to a knowledge-based economy by 'Unlocking Human Potential' (Qatar Foundation, 2014) is the mandate of Qatar Foundation, one of the most advanced organizations in the region and the parent of Qatar National Library. Qatar Foundation was founded in 1995 by His Highness Sheikh Hamad Bin Khalifa Al-Thani, the Father Amir, who shared his vision with Her Highness Sheikha Moza bint Nasser, Chairperson of Qatar Foundation. Qatar Foundation is a non-profit organization with three core missions: 1: Education; 2: science and research; and 3: community

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Figure 1. Skyline Doha, Qatar.

development. The first core mission of the Qatar Foundation was to install world-class education, including higher education and research, to develop the knowledge-based economy of the country. In Education City in Doha, Qatar Foundation has established schools with International Baccalaureate (IB) and other bachelor and master programs of American, French and British universities to provide world-class educational opportunities to Qataris and other Arabs from the region. As one example, Weill Cornell Medical College in Qatar provides a full medical doctor's degree for modern specialized hospitals in the country. Similarly, Texas A&M University graduates engineers for the gas and oil industry in its in-country campus. The goal of these programs is to build a workforce with high qualifications at a comparable international level inside of Qatar. These international higher education possibilities are especially important for young women in Qatar, as some of them might not be able to study abroad. They may now study in Qatar Foundation's Education City to get an international degree in engineering, international politics, design, computer science, Islamic studies, medicine, business, or library and information science. Consequently, the majority of students in Education City are female.

For the second core mission, science and research, Qatar Foundation runs a large research department and a science park, and plans to employ up to 2000 researchers during the next 5 years. Qatar's government decided to invest 2.8 percent of its Gross

Figure 2. QNL building, Doha, Qatar (architectural rendering).

Domestic Product (GDP) in research and development and the GDP was estimated at USD192 billion in 2013 (Qatar Economic Outlook 2013–2014: 22). In this context, serving research and development will become an important part of the new Qatar National Library. Higher education and research, as much as a knowledge-based economy in general, need access to international information and knowledge and the development of a national knowledge base. To provide access to knowledge is one of Qatar National Library's designated roles in the Qatar Foundation and the building design of Qatar National Library will help to fulfill this mission.

Architecture as Innovation: Qatar National Library, a new model of an integrated library for research, education and community

Qatar National Library is a new project of Qatar Foundation that developed out of a central university library project to serve students and faculty of the many different international universities in Education City. In April 2012 the project was renamed 'Qatar National Library,' and Claudia Lux, former President of IFLA 2007–2009, was assigned by Her Highness Sheikha Moza bint Nasser, Chairperson of Qatar Foundation, to become project director. Subsequently, a new strategy and a 5-year business plan was developed by the library team and approved by Qatar Foundation Board in January 2013. The official Qatar National Library announcement ceremony took place on 19 November 2012, led by Her Highness Sheikha Moza bint Nasser in the presence of the Minister of Culture, Arts and Heritage. On this occasion Qatar celebrated passing the baton from the 50-year-old Dar Al Kutub Library, the former National Library, to the new Qatar National Library under Qatar Foundation (Lux 2012a: 57ff). More than 600 librarians from the region, participants of the Arab Federation of Library and Information (AFLI) Conference in Doha, took part in this event and enjoyed a visionary discussion with Her Highness Sheikha Moza bint Nasser about the future of Qatar National Library and librarianship in Qatar. Two short films about the history of libraries in Qatar and the vision for the future of Qatar National Library were shown to the participants. They are still accessible over YouTube (Qatar National Library Announcement, 2012).

Qatar National Library (QNL) combines three library functions in one: the national library function, the university and research library function, and the central public library function. QNL will have all the national library functions defined by UNESCO, as there will be legal deposit, national bibliography, ISBN center, special collections of heritage material, and an international research collection. In addition, it will have the function of a central university library, focusing on the needs of the faculty and students of Education City universities, but will also serve higher education in the country. Library services for all levels of education are an essential task for Qatar National Library, which has already started to work closely with school librarians at all levels. QNL will support research, not only inside of Qatar Foundation but in all research entities in the country by providing access to international databases for scientific journals and books as well as the

Figure 3. Collection display in the QNL (architectural rendering).

establishment of a national reference center. Last but not least, due to the small size of Qatar and the urgent need of a modern library for the general public, the third function of Qatar National Library will be that of the metropolitan library – a central public library with children's and teen libraries and many programs and activities for the diverse population in Qatar. At a later date the integration, renovation and modernizing of the old public library branches is planned in order to develop a modern public library network in Qatar.

Why is the full integration of different library functions the preferred option for Qatar? In a time when the smallest digital library in a remote area can provide access to information and the collections of the biggest libraries of the world at a fingertip, it is time to overcome the separation between academic, research and public libraries, and concentrate on a unified service with diverse content for the user. Qatar National Library has an historic chance to start the first fully integrated library from scratch. Benchmarks for this kind of integration with convincing examples are found in Singapore and Montréal for combining the national library with that of the public library, and in Iceland and Denmark for combining a national and university library. Other examples exist where academic and public library functions are combined in a single facility. But compared to most of the examples, Qatar National Library will have an even more integrated concept. The decision of Qatar National Library management is not to separate the material for the different library types inside the library, but to provide a fully integrated collection of research and popular non-fiction. Instead of separating the scientific, research, educational, and general collections, the plan is to offer an integrated solution on the

Figure 4. Views on to the bridge inside of the QNL building (architectural renderings).

shelves, where the library user is flexible to use what he/she desires. The innovative architecture allows for presenting an integrated collection for research, education, and the public by paving the way for people who are drawn into the library for one thing then led to more advanced knowledge on the same or a related subject by virtue of the architecture. People using the public library in a traditional manner would no longer need to go to a university library to find more advanced information on their topics. Similarly, academics may miss a good crime story or other fiction and might not have access to their beloved music CDs if they only used their university library. Additionally, more and more people will just want to use the electronic services of a modern library on their mobile devices and will be happy to find all sorts of material offered with one access code. Free access to all levels of library material combined together in just one classification on one shelf or on one app gives a greater choice for everybody and will enhance the library experience and usage. The integrated collection will educate people about the possibilities they have and bring to them opportunities they may have missed in a distinct separated system of collection arrangement. Besides the many technical questions that will need to be solved under these conditions, the training of the staff will be more important than ever. They have to be able to serve multiple groups of clients with distinct library and information needs. The

professional relationship with diverse user groups of such an integrated library should be approached with tolerance, respect, and understanding by all partners in the library. The library will also need to dedicate specific space to different activities and research levels to allow for a quiet atmosphere or teamwork discussions for the young and adults. In the new QNL building we will need a period of experimentation before all settles into place. Still, I believe it is worth trying this new concept of an integrated library for all and I also believe it will attract more users of different backgrounds and will allow them to be comfortable using a mixed education level library. This integrated concept, facilitated by the architecture, will also help to develop a higher use of the new Qatar National Library.

Library visits are not yet a part of the culture in Qatar – the old Dar Al Kutub and its branches are not used very much and are still in the dawn of the digital age. The digital library is very important in a country like Qatar where the percentage of individuals using the Internet is 88.1 percent, which places Qatar in 10th place in the world in 2012 (The state of broadband (2013) p. 98); "... emailing, downloading music and movies, watching videos, and researching goods and services representing the most popular usages," (ictQatar, 2011). With this as background, Qatar National Library has to develop a sound digital library and needs to make available as much material

as possible in digital format. It is in this area that the team of QNL has started to provide a digital collection to serve the countries' needs before the building is open.

Qatar National Library collections and services

The Qatar National Library's vision is "bridging with knowledge Qatar's heritage and future," a reference to the 120m long bridge inside the new library, from which people will be able to not only see from the old heritage collection in the basement up to the vast collection on the terraces, but also to understand how the architecture provides a clear vision of the types of collections held in the QNL.

Since the building looks nearly finished on the outside, one of the most asked questions in 2014 is: "When will the library be open?" Qatar National Library is already open – digitally! The library has opened its digital collection to users and has put in place regulations for users to join the library, download scientific e-books, standards and e-journals, or use the library website to access children's books and other popular material. Qatar National Library has already realized access to numerous online databases with one access code. Users may go directly to a specific database or use the OPAC of the Millennium library system to search for their topic or title before downloading or reading online whatever they require. More than 7,000 users, from students to researchers, from young mothers to academics, have already registered to use Qatar National Library's 109 resource databases representing more than 450,000 e-books and 34,000 electronic journals and abstracts with the added possibility to stream music and videos of many genres. Most of the material is in English, but there are four important Arabic databases already accessible at QNL. The library actively seeks to find more Arabic e-books as well as other digital material in Arabic. The library will also provide online material in other languages to meet the needs of the diverse population in Qatar. Even though the library doors are not open, the library team attempts to serve their users with digital material as much as possible. To facilitate this, QNL tries to obtain national licenses for the material offered so that people are able to use digital materials with their different devices: computers at home or handheld devices in one of the seven iParks in Qatar, (http://www.ictqatar.qa/en/department/ national-programs/ict-infrastructure/iparks) where wireless Internet access is free of charge. In addition, for some scientific databases, QNL is able to provide Internet Protocol (IP) access, so users in institutions

Figure 5. View of the heritage collection in the QNL building (architectural rendering).

like Qatar University or Hamad Medical Cooperation, the main medical clinic in Qatar, are able to use it inside their own system. This year, due to the ongoing intense construction in Qatar, the IP access of online American standards by 206 institutions in Qatar pushed QNL into the top 10 heaviest users worldwide.

The digital collection of QNL's manuscripts and maps from the heritage collection are digitized and can easily be accessed through the OPAC. A selected part of internationally relevant heritage material from the library is accessible through the World Digital Library (www.wdl.org), a project QNL is financially supporting. By the end of 2014, a project to digitize British Foreign Office material about the Arabian Gulf from the 18th–20th centuries will be accessible. One-half million pages from the Indian Office Archive and from the Islamic manuscript collection in the British Library will be digitized and placed in an open access portal at Qatar National Library website (www.qnl.qa). This portal will be called Qatar Digital Library and will contain all digitized material made available through QNL digitization programs and may be used by researchers and the general public inside and outside of Qatar. The main focus will be on the history and heritage of Qatar and the region and on Arabic and Islamic science and how it influenced the European Renaissance. The Ministry of Information and Communications Technology, ictQatar, has developed a Media, Culture and Heritage National Digitization Plan (Media, Culture and Heritage National Digitization Plan 2014) and QNL is the main partner for digitizing Qatar's heritage.

The Qatar National Library's mission is to spread knowledge, nurture imagination, cultivate creativity, and preserve the nation's heritage for the future. In this context and with the integrated library concept,

the development of the print collection will be governed by the different users the library team plans to serve after the doors of the new building open. These Qatar National Library stakeholders can be identified along Qatar Foundation's strategic goals: research, education, community. The first core mission of Qatar National Library is education. Qatar Foundation and QNL will support education at all levels – from the newborns to school-aged youth to higher education with all its different facets, to adult professional development and life-long learning in the knowledge society. Qatar National Library will invite schools to learn how to retrieve the latest information from databases like Encyclopedia Britannica and by using educational games from local providers. School librarians may be supported by special training and material to develop their school library activities. Qatar National library will focus on experimental learning opportunities as well as creative activities. For higher education, Qatar National Library will partner with higher education institutions to develop information literacy courses, matching the needs of the students to make them information literate and better positioned to pursue further studies for master's and PhD degrees. Special training in database use has already started and a writing center in the new library will be an additional feature to support this development.

"Research support is the second core mission and the most challenging to achieve for QNL. Researchers are highly specialized and need the latest information from highly-respected peer-reviewed e-journals and e-books, from digitized material, or historically important original manuscripts" (Lux, 2012b). In order to reach Qatar's full research potential, Qatar National Library, in addition to providing access to international databases in current research fields, will build a collection of print research content and will collect all scientific publications of the country or supported by the country plus the research output of Qatari researchers from all over the world. QNL will also take part in interlibrary loan activities to support researchers in Qatar. Finally, Qatar National Library will facilitate research stakeholder meetings to identify specific information needs.

The former Arab and Islamic Heritage Library comprises 2,800 manuscripts, over 600 original historical maps and more than 30,000 books of the 15th to the 20th century before the State of Qatar became independent in 1971. It contains travel reports about the region from the last three centuries, Arabic manuscripts on Islamic sciences, and books in Latin about the same and the Holy Qur'an in different editions. The Heritage Collection also features the first books printed in Arabic letters, and special collections from Arabian Nights to Andalusian Islamic Heritage. This collection was built over the last 30 years by a private collector, His Excellency Sheikh Hassan Bin Mohammed Bin Ali Al-Thani, Vice chairperson of Qatar Museum and the founder of MAthaf: Arab Museum of Modern Art, and has now become the Heritage Collection of the new Qatar National Library. This collection will be placed in the heart of the new library building. Every year the library will add more historical material to this collection to provide more heritage material for historical research. Based on this collection, historians and other researchers are now able to create new knowledge about the history of the region.

The third core mission is service to the community and it is very important to place Qatar National Library into the hearts of Qatari families and the expatriates. The collection will mirror their needs. QNL will provide children's library services and young adult library services including outreach programs. Special family activities will also be a part of these multilingual and multicultural programs. Reading activities from age 0 to 99 will include baby reading, children read-and-craft activities, summer reading clubs, and reading championships for students. Book club activities in English and Arabic have already started and are enjoyed by readers here in Qatar. 'The Corsair,' a historical fiction of the Qatari author Abdulaziz Al-Mahmoud and 'The Book Thief' by Markus Zuzak were among those discussed at last year's monthly book club meetings. Special services and reading material will be provided for dyslexic users as well as for the visually impaired and blind people who will be able to enjoy talking books. Fiction and non-fiction easy- to- read material in English and Arabic will also be a part of the Qatar National Library collection.

The library technical service department has started a registration roadshow, visiting institutions and schools to register users and showcase the new services. Additionally, librarians from the public service department are providing active programs like the monthly book discussions, database training, reading events for children and other activities. All these activities take place in different places like malls, clubs, student centers, universities, different institutions and companies. "Go where the people are" is the most important aspect of Qatar National Library's work to spread the knowledge about the new library before it is open. Some of these outreach activities will continue after the building opens in order to engage the community all over Qatar. The public relations and marketing work of Qatar National Library is quite successful in placing articles nearly every week

Figure 6. A view of the terraces of the QNL building (architectural rendering).

about QNL events and activities in Qatar's Arabic and English newspapers and sometimes on the local television. Nevertheless, to reach Qatar's diverse society and the Qatari families there needs to be more effort expended and new methods of outreach will need to be developed to address all informational, recreational, and life-long learning needs.

To develop and encourage close ties with the public, branch libraries play a vital role. Currently, there are only branch libraries of the old public library system. All branches and the main branch itself need to be upgraded with state-of-the-art technology in order to maintain the highest service levels. Only then will Qatari and expatriates, working and living in Qatar, understand how libraries in the digital age can meet their informational and cultural needs.

Qatar National Library's building

For the central library project of Qatar Foundation, Her Highness Sheikha Moza bint Nasser, Chairperson of Qatar Foundation, chose a very modern design of the renowned architect Rem Koolhaas who also designed the Seattle Public Library (USA) in 2004 with his Office of Metropolitan Architecture (OMA) in Amsterdam. When she announced the plans for the Qatar National Library, it made was clear that the building was to be far more than just a central library of Education City. Since the public announcement,

discussions were held with the architect to discuss changes for the function of the building. Though the construction of the building had already started, it was possible to incorporate changes in the planning to allow a bigger children's library, a restaurant, new exhibition space, and a nice chill-out area. QNL is lucky to have a world class architect as a partner, who is able to adjust to its client's needs. The shape and the construction of the building of the new Qatar National Library moved on quickly. By the end of June 2014, the outside shape of QNL was nearly finished and the fit-out of the building is in progress. At the end of 2014 or in early 2015, the building is scheduled to be delivered into the hands of the librarians and 12 months later will be ready to open to the public after the ordered collection of more than 300,000 books are placed inside.

The new Qatar National Library building will have an area of 45,000 square meters and is constructed as one big room with three main terraces on which the bays will be placed along with the general collection for academics and students of Education City and the materials for the general public. The architect imagines that the moment a person enters the building, the whole room will be seen and the impression of unlimited knowledge and information will be present. (Qatar National Library Announcement, 2012, part 2). The 120 meter long by 20 meter wide bridge will lead users to the

conference hall, the multimedia room, and study carrels for groups and individuals. After climbing up to the bridge, the visitors will be able to look down to an architectural feature in the shape of an archeological site where three to four meter high shelves will be filled with the Heritage Collection of Qatar National Library. In the northern part of the building offices will have windows facing the street and the metro station. A large children's library will sit next to the restaurant in the northern part while in the open hall on the entrance floor young adults will find space for gaming and listening to music next to the coffee shop. Behind the coffee shop an open theatre with a beautiful curtain, a piece of art in itself, will invite participants to enjoy all kinds of activities. A book transport system will help to take the books up into the height of the terraces and additional space for the collection will be offered by compact shelves in the basement. This book transport system is connected to the overall radio-frequency identification (RFID) system that allows complete self-service for check-in and check-out of library materials. A people mover along three sides of the open hall will take people up to the top to their subject areas and makes the terraces more accessible for handicapped people. Once again the concept of architecture as innovation is exemplified. The shape of the building looks like a long-sided silver rhombus-shaped structure with oval glass windows made of special glass that will let the light in and keep the sun out. The library is placed in Education City between four of the American universities providing bachelor degrees in engineering, computer science, business, international politics and a masters course for medical doctors. At its south is the student center and next to that the future faculty club and future oxygen park that will be constructed soon. On the northern side, the building opens to the main street where a metro station will be constructed with direct underground passage to the Qatar National Library's entrance.

It will still take about two more years before the new Qatar National Library's building in Education City in Doha, Qatar, will open its doors. But the most important part of the story behind Qatar National Library is a dedicated staff that despite the building not being open yet have started to serve the researchers, students and the community in Qatar with a vast digital collection and many outreach services and activities, to motivate people in Qatar to use a really modern, fully integrated National Library in the Arab world.

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Author biography

Claudia Lux has been project director of Qatar National Library since 2012. Prior to this, she was Director General of the Central and Regional Library in Berlin, Germany, for more than 15 years, and successfully unified the libraries from the East and West. She was IFLA President from 2007–2009, president and chair of different library associations in Germany and served on several library- related boards in Germany and the USA. She has an honorary professorship of library and information science at Humboldt University Berlin. Contact: Qatar National Library, Qatar Foundation, PO Box 5825, Doha, Qatar. Email: clux@qf.org.qa

Bibliothèque et Archives nationales du Québec: Convergence and the path of innovation

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Abstract

Bibliothèque et Archives nationales du Québec (known by its acronym, BAnQ) is a relative newcomer to the city and is in many respects unique, at least among the library and information community. Born from the successive merging of three institutions, it inherited their respective mandates that would form the heart of its mission: the mandates of a national library, national archives and public library. There can be no doubt that this merger was central to the institution's originality and forms the basis of its innovative initiatives. A Québec government corporation under Québec's Ministry of Culture and Communications (ministère de la Culture et des Communications du Québec), BAnQ's three-fold mission is to acquire, permanently preserve and promote Québec's heritage materials. Among other similar Canadian provincial institutions, it is the only one that has the mandate of a national library, while Library and Archives Canada fulfills that role for the country as a whole.

Keywords

national libraries, national archives, public libraries, Bibliothèque et Archives nationales du Québec, National Library of Québec, Third Place, innovation, Québec, Canada

Background

Starting in 2006, BAnQ rapidly emerged as a major player in the knowledge society through an approach that focused on integrating its resources and services: by pooling its collections and archival holdings; conducting research in and harmonizing best professional practices; making services available to all regardless of age, social status or origin; and continuing to offer new resources, particularly in the digital field. In addition, it serves all of Québec society, through 12 facilities located in every one of the province's major cities.

BAnQ annually welcomes nearly 3 million visitors, while its Web portal receives more than 5 million hits. Located in the heart of the city of Montréal, the Grande Bibliothèque–BAnQ's major attraction–has received over 25 million visitors since it opened in 2005, or nearly 8,000 people per day. This patronage makes it the busiest library in North America, the most popular in the Francophonie, and the most visited cultural destination in Montréal (according to comparative data from 2013, the most recent available). (May 16, 2014 press release)

BAnQ owes its success to the wide range of services it offers, which arise from the mergers that brought it into being. The 2001 merger of the Bibliothèque nationale du Québec with the Grande Bibliothèque du Québec (which formed the new Bibliothèque nationale), and the 2006 merger with the Archives nationales du Québec –all these unions played a key role in extending the institution's mandates and allowed it, over time, to become a leading institution providing library and information services and a major cultural centre.

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Figure 1. The Grande Bibliothèque.

Figure 2. Reading room at BAnQ Vieux-Montréal, one of BAnQ's archives facilities.

Convergence

Since 2006, BAnQ teams have worked to achieve convergence of collection content, best practices and user services. By integrating the various resources, Québec's heritage materials were brought together in a single institution with expanded patron access, a shift that was emphasized by the institution's lending mission, embodied in the Grande Bibliothèque.

BAnQ's 12 facilities provide Québec citizens with access to the entire heritage collection. In addition, materials are freely accessible for on-site reference, which is not the case in most national libraries.

BAnQ was able to standardize the range of user services it offers, both on-site and remotely, thanks to the institution's 12 centres located throughout the province.

The scope of this well-structured network was recently expanded, as regional centres were transformed into full-fledged BAnQ centres, offering a complete range of services, including those of a national library. For example, patrons at these centres can now access the published heritage material that is relevant to their region, either by topic or by publisher location. Publishers can also submit a legal deposit there.

The regional centres are also central to BAnQ's cultural policy, in that they provide citizens of those regions with access to a variety of cultural activities, including travelling exhibitions that showcase BAnQ collections. In addition, workshops and conferences are organized by head of collections, and seminars and study days are held outside the city, leveraging BAnQ partnerships with regional universities.

New Technology

In addition to the aforementioned convergence initiatives, new technology has also influenced our ability to provide access to and promote our collections and services. The Web portal, for example, has grown to become a comprehensive and valuable tool, providing access anywhere, any time to catalogues, digital collections and BAnQ services. The multisource research feature enables patrons to search five main data sources. Constantly expanding, as printed material and archival materials are digitized and uploaded, in 2013 there were close to 11 million files.

The growing demand of patrons for remote and on-demand services leads us to constantly expand their scope and make them more accessible. The explosion in mobile devices, for example, was the impetus for developing a version of the catalogue for smartphones and tablets.

New technology has also made it easier to promote our services: activities pertaining to Québec's heritage materials are now publicized on new platforms, such as our two blogs, *Annotations* and *Instantanés*. Social media have also become the preferred method for promoting our services and connecting with potential new members. For example, workshops for educators are now publicized via mailings, Twitter feed and Facebook.

The 'Third Place'

Other new initiatives have gradually been adopted, based on best practices observed in the library community. Since it opened, the Grande Bibliothèque has become a way of life for its patrons. In an age where information is widely accessed online and where patrons download e-books to their tablets without

Figure 3. Klibansky exhibition in the exhibition room at the Grande Bibliothèque.

leaving home, people are passionate about the library's physical environment. This led us to rethink that environment based on a new paradigm, what Americans call the 'Third Place.' Urban sociologist Ray Oldenburg coined the term 'Third Place' more than 20 years ago. (Oldenburg, n.d.)

The Third Place was inspired by the sections now found in innumerable bookstores, where customers can sit in an armchair and drink coffee in a friendly atmosphere while browsing through books and magazines. Architects are currently at work redesigning the ground floor of the Grande Bibliothèque in accordance with this concept so that patrons will feel as comfortable there as they would in their living room or in a café, in a space that lies somewhere between home and work.

Challenges

Despite its many successes, BAnQ also has to face a number of challenges. Digital advances bring a new set of problems. For example, only about 5 percent of our collections have been digitized since the conversion program was set up, indicating we have to look for ways to speed up this process.

Another problem created by the advent of digital technology: the current regulations governing legal deposit in Québec do not cover digital publications. For now, legal deposit of these materials remains a voluntary process for publishers.

Storing our digital data also presents a major challenge for our technical teams. Given the speed of technological change, how can we ensure that the data we amass is stored securely?

BAnQ is currently working on several other challenging projects, such as redesigning the catalogues and website. The archives catalogue is a case in point. Set up well before the Archives nationales merged with the Bibliothèque nationale–and certainly before today's digital advances–the catalogue no longer meets the needs of today's archivists and researchers. Much thought has gone into planning an overhaul that would make it Web 2.0 compliant and responsive to patron needs on the one hand, and able to categorize and provide access to digital archives on the other.

Indexing archives in an online world is yet another hurdle the institution must overcome. The archives team is working to streamline its indexing methods and bring directory terms in line with those used by the Heritage Collection's Document Processing Branch in order to generate more relevant search results.

Conclusion

Bibliothèque et Archives nationales du Québec is unique among the library and information community in that it has three mandates which, while complementary, are not always easy to reconcile. As it turns out, the move towards institutional convergence was a wise decision. Since 2006, in fact, BAnQ has shown

that bringing library and archival functions and their related professions under the same roof is not only possible but advantageous, and even profitable.

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Author biographies

Dr. Guy Berthiaume is Librarian and Archivist of Canada. He was Chair and CEO of Bibliothèque et Archives nationales du Québec (BAnQ) from June 2009 to June 2014. Before joining BAnQ, Dr. Berthiaume pursued a career in academia. In addition to being a professor of Classical Antiquity at Université du Québec à Montréal, he also worked in the fields of research administration and university development as the Vice-Rector of Development and Public Affairs at Université de Montréal and Vice-Rector of Research and Creation at UQAM. Dr. Berthiaume holds a PhD in history and is a Knight in the Ordre des Palmes académiques (Order of Academic Palms). He received the Dan Chase Award from the Canadian Association of University Research in 2000 and the medal of the Centre Jacques Cartier in 2007. In 2010 and 2011, he served as a mentor for the Pierre Elliott Trudeau Foundation and, in May 2012, he received the Prix de reconnaissance from Université du Québec à Montréal. In November 2012, Université Jean-Monnet (Saint-Étienne, France) awarded him an honorary doctorate; the same year he received the Queen Elizabeth II Diamond Jubilee Medal. Contact: 395 Wellington St, Ottawa, ON K1A 0N4, Canada. Email : Guy.Berthiaume@bac-lac.gc.ca

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Built on sound principles: Audio management and delivery at the National Library of Australia

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Abstract

The Oral History and Folklore Collection at the National Library of Australia is a research archive; a substantial collection of unpublished audio recordings of varying length and levels of documentation created by and for researchers. These recordings are often extensive and difficult to navigate; even so they are a much appreciated resource for a wide variety of users, from family historians to professional writers. Following a long running preservation program, the majority of the collection has been digitized to archival standards and user copies made which preserve access to the primary document itself, that is, the voice. To allow users to discover and have access to the primary source sound recording, and to be able to locate specific content within those recordings, the National Library of Australia has developed a time-linked search and delivery system and a schema to enable it to be searched by its innovative aggregation platform, Trove (http://trove.nla.gov.au). The Library's Audio Management and Delivery System currently makes nearly 7,000 hours or 13 percent of the Oral History and Folklore collection publicly available, and content continues to be added. This paper describes the development of that system and considers the nature of innovation within a library environment.

Keywords

oral history, audio management and delivery system, innovation, National Library of Australia

Introduction

Innovation, far from a sudden burst of inspiration and implementation, is most often realized in a continuous process, building on capabilities and drawing together existing technologies in novel ways. For all its radical change to work practices, innovation in libraries is rarely disruptive in the way Clayton Christensen described it (Christensen 1997). Innovative approaches in libraries are more commonly evolutionary, the resultant change most often characterized by being the latest step in a line of sustained innovative work. The innovative online delivery of the NLA's Oral History and Folklore Collection is possible only because it is on the long tail of sustained innovation within our organization. That innovation has produced the acclaimed Trove service, a platform of discovery technology which interrogates much more than just bibliographic records and makes large swathes of other materials for which content is the principle discovery avenue, such as newspapers, widely available. This platform is itself built on a wide range of innovative digitization programs,

digital library technologies and digital management systems. In the project planning and thinking to develop an audio delivery system for oral history, it was clear that to make an impact on users, it must take advantage of the granular discovery capabilities of Trove, and deliver the primary source material online. The resulting Audio Management and Delivery system (AMAD) enables discovery within the content of the oral history recording from a global search, allows for searching within a single, often extensive, interview and returns and plays the identified piece of audio to provide users with the full experience of the primary source. It also provides innovative tools to support research and publication.

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The National Library of Australia collection

The National Library of Australia (NLA) holds the world's largest collection of material relating to Australia and the Australian peoples, ranging from the earliest European speculation about the Great Southern Land to the most recent publications. The NLA's collection comprises more than 10 million items, ranging from books and journals to paintings, photographs, personal and organizational archival records, maps, music, ephemera, electronic resources and oral history and folklore recordings.

The International Association of Sound and Audiovisual Archives (IASA) describes research archives as those "whose holdings include collections of unique and usually non-commercial recordings, such as field recordings, curated primarily for research purposes." (International Association of Sound and Audiovisual Archives 2014). The NLA's Oral History and Folklore collection comprises some 50,000 hours of unique, non-commercial and almost entirely field-created recordings, the largest such collection in Australia. The collection comprises three strands: extended biographical interviews with Australians who have achieved a national reputation in some field of endeavour; social history projects which document particular experiences or aspects of Australian life; and folklore recordings of the vernacular creative outputs of communities, be they Indigenous, recent or earlier migrant groups. Typical of such 'research archives', it comes with many constraints and encumbrances, including unpublished unstructured works, raising rights and ethical issues, having potentially libellous content, limited documentation and other concerns that accompany managing and preserving heritage sound and audiovisual collections.

The Library's early enthusiasm for including oral history recordings in its collection, when the discipline was still in its infancy, was largely due to the then National Librarian, Sir Harold White. He conceived of libraries as democratic institutions, documenting a more socially inclusive history, and this philosophy dovetailed with the burgeoning ideals of oral history. While in the United States in 1950, he met Columbia University's Allan Nevin, who had established one of the first oral history programs in the previous year (York 2001:186). Back in Australia, White's interest led to the acquisition of the earliest oral history and folklore recordings from pioneer practitioners. Later the NLA began to commission interviewers and recording projects, establishing more formal relations with interviewers and supplying them with recording technology that met standards for quality and preservation. The NLA departed from the practice at Columbia, in deciding that the audio recording was the primary document, not the transcript. Although some 30 percent of the oral history collection has an accompanying transcript, the audio was to be retained and time was invested in its preservation and management. The voices captured in the NLA's collection include those of people born more than 150 years ago, whose personal reminiscences are of times and events now beyond living memory. For example, W.M. "Billy" Hughes (1862-1952), the seventh Prime Minister of Australia, and to this day the longest-serving member of the Australian Parliament, airs his views at http://nla.gov.au/nla.oh-vn918290, or Australian poet Dame Mary Gilmore (1865-1962), can be heard to discuss her memories of 19th century Australia at http://nla.gov.au/nla.oh-vn222644. Those voices are preserved as sound recordings, captured digitally at the standards accepted in international sound archiving community guidelines (Bradley 2009).

The creation of an oral history discipline

Libraries are the primary holders of oral history recordings, and have been since the discipline began to take shape around 1950. The development of the discipline within the higher education and research sector, coupled with a community and outreach focus, made libraries natural partners. Many national libraries hold oral history collections and maintain relationships in the oral history community. A significant feature of library outreach of the past two decades has been the focus on the digital environment, making collections available online in keeping with user needs, community expectations, and opportunities of the current information infrastructure. There have been many notable and now familiar enterprises to develop a set of linked up services that enable users to find the content they need, with the most significant successes in image- and text-based materials. Libraries and the oral history practice community have been grappling with the issues raised by placing audio content online, and considering processes that will support online access to both recently created digital recordings and legacy collections created under the old delivery paradigms. There are fewer library-based examples of successful online audio collections compared with those for print and static images. It is salutary to note the formation of *Europeana Sounds,* a European Community-funded project to improve the discovery of and access to Europe's rich digital sound and music collections, which it recognizes as the "missing fifth domain" (Europeana Sounds 2014).

This concern to make audio research collections visible and accessible is not limited to libraries. There is regularly a similar lament amongst the oral history community that collections of oral history recordings are underutilized. Most digital access projects are motivated by a desire for increasing access and deeper engagement (Kaufman 2013:3), while researchers defensively respond that the lack of transcripts makes working with such recordings all but impossible (Bradley 2013). A fundamental constraint that is the common ground between these issues could well be the distinguishing properties of the audio items themselves.

The nature of audio documents

Sound recordings are time-based media; time is an integral part of their creation and consumption and this is one of the fundamental distinctions between audio recordings and text and static image documents. These time-based media provide significant benefits to users; however, they also bring challenges in delivering useful and relevant content and complexity in integrating it with other materials in our information abundant environment. To effectively use oral history recordings requires commitment to that time constraint. This constraint has real implications for how researchers have worked with such materials, and time dependency consequently influences system design to enable efficient use and in measuring the performance of the system.

Oral History and Folklore recordings are sound documents by their nature, rich in information and containing far more valuable insights than a transcript can ever portray. The sound recording is the primary document. The written transcript fails to convey the complete meaning inherent in a recording and may sometimes be misleading. Sarcasm and irony, laughter, silences and vocal explosions all provide meaning. The voice conveys history in its delivery and accent, background noises convey place, and the associated audio quality conveys space.

Author David Foster was commissioned to prepare a book based on interviews with writers in the NLA's Oral History collection, recorded by Hazel de Berg. Counter to his preferred approach, he was obliged to read the transcripts before being in a position to listen to the recordings, as at that time he had to wait while copies were made. He came to appreciate what seemed to be a contradictory sequence, writing that it made him "more fully appreciate the value of an oral history collection."

He went on to passionately describe the distinction:

"In reading the transcripts I was doing what most of us do when we research anything; in listening to the tapes, I had the illusion I was in the presence of living beings...The fifteen transcripts, though accurate as transcripts go, were much of a muchness physically ... On the other hand, when I actually heard the tapes for the first time, I met fifteen human beings. And now I can't read the transcripts as I read them initially, for I see people now. Somehow listening to a voice facilitates the process of visualization. The words, to be sure, are the same, but my interpretation of those words has changed."

And elsewhere he restates his Damascene moment and writes powerfully;

"I don't want to labour the point, but a living voice is a landscape of which the transcript, in print, is the merest map" (Foster 1991:2-4).

Foster's passion for the nuance and detail embedded in the voice in an oral history recording reflects the view of the NLA's curators. We have always provided access to audio recordings to reading room users; we reasoned that not to do the same online would be a diminution of service, and so resolved to implement a system which would deliver audio online. But while the NLA developed a system that would deliver the primary source audio, it was recognized that to address usability concerns, it would need to be usable and discoverable in the existing and expanding discovery infrastructure, which is at the core of library innovation. In effect, the delivery system would need to put these unstructured sound recordings on an even footing with more traditional sources of information which can be interrogated by available discovery systems. It would need to build something new on the existing innovative discovery systems.

Access and rights management

Before oral history can be published online, consideration must be given to rights and permissions issues. The manner in which oral history recordings have been accessed in libraries and used for research is grounded in the development of the discipline, whose formative years predated the massive availability of digital content. Early oral history projects assumed naively, or perhaps paternalistically, that the interviewers' aims were the principal ones, and the interviewees were subservient to those intentions. However, as the discipline began to mature, and interviewers considered the rights of those they interviewed, rights agreements which allowed interviewees to control access to their recorded reminiscences became standard practice. These rights agreements and the constraints they imposed on users caused little or no

difficulty in the pre-online world of libraries. The audio recording could only be used in the reading room, or perhaps via inter-library loan. Low demands from collection users meant they could be supervised and the access conditions honoured. Listeners huddled over tape players with headphones making notes, or read those transcripts that existed, seeking to imagine the voice in the typed display, link it to the tape counter or estimate the time passed, all the while watched over by reference librarians.

Rights agreements were built on the assumption that collection material would only be made available in a reading room, that the practicality of copying tapes would limit the circulation of content, that only 'researchers' would use the collection, and that all shared a common understanding of the difference between the published and unpublished. In the online environment this model has almost no currency: 'reading rooms' – neither rooms nor for reading in this case – are now virtual entities sharing attributes of the physical and online; replication and distribution are incorporated into the act of providing access; and the distinction between published and unpublished is blurred by the act of delivering library materials to users. Bona fide researchers may have once been vetted as a requirement of access; now anyone who wants to use the collection may do so online.

Not all of the National Library's oral history recordings had rights agreements in place. Where rights agreements existed, they did not foresee the development of online access. There is nothing especially innovative about how the NLA developed a solution to the problem of providing access to collections with uncertain or inappropriate rights conditions; just careful assessment, the need to embrace low and sometimes medium level risk, and the ability to retreat from any decision if necessary. Collections were assessed, opinions sought, and discussions held to establish an understanding of the intention of those who contributed to, or had an interest in, the content of recordings.

In some circumstances the Library might manage risk and place an item online even where the rights were not clear, if it was decided this was the best course to take. It is a fine balance; though there is a desire to make material available, there is an equal aspiration to ensure curators keep faith with those who were interviewed, and with any agreements that were established.

For several years the Library's rights form has included a question asking the interviewee: "Do you permit the Library to provide access to the material on its website so that people can listen to it, make notes about it or download a copy for personal use only?"

For material placed online which predates this agreement, our policy is that if the Library were to be challenged regarding online access we would implement 'takedown' action, to immediately restrict access while the claim is investigated. After investigation, a decision would be taken whether to reinstate online access, or leave it closed. Only a handful of objections have been raised in the 6 years since we have made audio available online. Interpretation and management of rights has not been the complex or contentious problem we expected, perhaps because people being interviewed for the National Library's collection are very often motivated to participate, with a desire to tell their story and make it public. The increased audience which online access brings is often welcomed by those interviewed, and the families of those interviewed many years ago are overwhelmingly pleased that their forebears' recollections are publicly available.

Providing access to the voice in oral history recordings

The increased accessibility of oral history and the wealth of discoverable detail not infrequently results in novel and unexpected subjects for research. It lends weight to the adage that no single mind can imagine all the questions that will be asked of the collection. Oral history recordings are discursive, covering a range of topics beyond the particular subject being investigated, with much other social, cultural and historical information embedded in their conversational form. Interviewees from unrelated projects, recorded at different times, will express different views of the same event or social understanding. Indeed, one of the strengths of oral history is its multi-vocality.

The first step in developing a discovery and delivery mechanism for the granular content within the oral history collection was to find a language that would allow identification of content within a time-based sound recording. This was achieved by developing an XML (eXtensible Markup Language) schema, using Text Encoding Initiative (TEI) Lite, which allows the identification of keywords and topic summaries linked to time code information within the sound recording. The schema itself is agnostic of the type of text included, and so the addition of full transcripts was easily achieved in 2012. Though the Library's delivery system does not yet support video, the schema should present no impediment to achieving the same capability with different time-based media.

Only one third of the National Library's oral history interviews are transcribed, as transcription is an expensive process. However, we require documentation in

the form of interview summaries to accompany all new recordings and are undertaking work to summarize selected older collection material. The creation of the summary information was incorporated into the normal workflow of interviewer creation and submission of recorded interviews. To populate our time-coded summaries we asked interviewers to summarize interviews as part of the documentation process.

Initially interviewers were required to create summaries as tables in Word documents, which were then transcoded into TEI XML. This proved to be very time consuming and subject to structural errors as our ever creative interviewers found new and previously unimaginable ways to place data within a table. Library staff subsequently developed a password-protected online summary tool which interviewers can use remotely to populate the summary fields with relevant topic and keyword information, while listening to the audio. The online tool specifies what form that data must take and includes guidance and instruction on how to enter information. Once the content is completed and submitted, it is checked and accepted, based on compliance with our style guide, after which the TEI encoded XML output is created and exported for ingest into the Library's Collection Management System.

The collection management system (CMS), which was developed by NLA staff, manages, among other things, the sound and audiovisual collection preservation processes, and currently 80 percent[1] of the Library's 50,000 hours of Oral History and Folklore materials has been preserved to IASA TC04 standards (Bradley 2009), having both preservation master copies and low and medium bandwidth access copies. The CMS produces a package of data in METS (Metadata Encoding and Transmission Standard) which contains the audio and any textual information, including both transcript and summary where they exist, and presents it to the Audio Management and Delivery System (AMAD).

The delivery system is a server side solution, meaning that the functionality of the system is delivered by the Library and streamed to the user's browser. The first iteration of AMAD used Adobe Flash exclusively to link audio and text content, as at the time, standard HTML4 did not include appropriate features for replay of audio within browsers. In the ensuing clash of software developers, it became difficult to use Flash on the iOS[2] platform. In 2012, when AMAD was redeveloped to incorporate transcripts, we took advantage of the capabilities promised in HTML5 to make the process less dependent on proprietary software and hopefully usable on popular portable devices. During testing it became apparent that not

only did users have old versions of browsers, but, with some few exceptions, the latest browsers did not fully support HTML5, though this was necessary for iOS devices. To synchronize the summary, transcript and audio on all devices, our solution was for AMAD to interrogate the browser and make decisions about how to deliver the content.

Leveraging investment in transcription

Transcription of NLA interviews is provided by a commercial contractor. Voice recognition software did not deliver the required quality, especially with the variety of accents and speaking styles represented in the collection. However, the contractor had developed the capability of precisely linking an existing transcript and the audio using voice-recognition-like software which automatically created time points for the beginning of the start and finish of each word. These were very large documents, but being automated, were cost-effective to create.

User preference is that if a topic or word is searched for, AMAD should deliver the audio in context, with the replay of any searched word commencing slightly before the identified word to give it meaning in relation to the recording. Though it would be relatively simple to identify the time point in a recording a certain number of words before the selected one, using something like the schema above, the bandwidth required to present the extensive time-related metadata meant that the system was significantly slowed down. Instead, in an approach which had a number of innovative outcomes, the Library's developers reduced the timing information in the transcription to only that which would identify the paragraph's beginning and end. AMAD measures the time between the words, the number of words and calculates the specified place before the selected word to commence playing at that point. This reduced the requirement for detailed metadata, increased delivery speed and also reduced the cost of creating transcripts. With a granularity of coding at the level of paragraph but with the delivery system enabling delivery at what appears to be the word level, a much simpler level of coding is possible. One of the transcription contractors developed a simple transcribing program which allows a transcriber to manually insert time points at the beginning and end of paragraphs. Though the software is not publicly available, the consequence of this innovation enables small scale, more cost effective transcription services to undertake the XML encoding work.

As Christensen (1997) points out, to ask a stakeholder what innovation they want usually invites a

Figure 1. NLA online Summary Tool (password protected).

```
<sp TEIform="sp">
<speaker TEIform="speaker">M. A Green</speaker>
<p TEIform="p">
<seg TEIform="seg" id="TP0-0001354" part="N">
<timeRange TEIform="timeRange" from="00:02:01.10" to="00:02:01.17"/>
<seg TEIform="seg" part="N">Yes,</seg>
</seg>
<seg TEIform="seg" id="TP0-0001355" part="N">
<timeRange TEIform="timeRange" from="00:02:01.17" to="00:02:01.24"/>
<seg TEIform="seg" part="N">I've</seg>
</seg>
<seg TEIform="seg" id="TP0-0001356" part="N">
<timeRange TEIform="timeRange" from="00:02:01.24" to="00:02:02.07"/>
<seg TEIform="seg" part="N">got</seg>
</seg>
<seg TEIform="seg" id="TP0-0001357" part="N">
<timeRange TEIform="timeRange" from="00:02:02.07" to="00:02:02.10"/>
<seg TEIform="seg" part="N">two</seg>
</seg>
<seg TEIform="seg" id="TP0-0001358" part="N">
<timeRange TEIform="timeRange" from="00:02:02.10" to="00:02:02.22"/>
<seg TEIform="seg" part="N">sisters,</seg>
</seg>
```

Figure 2. TEI text from TRC 6449 Martin Green interviewed by Peter Pockley.
M.A Green: Yes, I've got two sisters . . . (so there is the three of us, you know, within a couple of years of each other, so . . .) http://www.nla.gov.au/amad/nla.oh-vn6069192/0-121 ~ 0-127.

description of a better version of what they already have. True innovation is to supply what they didn't know they needed, but which, once received, appears to be precisely what the user wanted all along. Researchers always indicate that they want more transcripts. Putting aside the expense, this was not a

preferred outcome because of our unwavering belief that the transcript is merely a guide to the richer information held in the audio recording. At the heart of AMAD's innovation is to have combined the audio with the interview summary, or a transcript when it exists, and to deliver this linked content to the user. Additional benefits include making more untranscribed audio material searchable through available summaries, using the same schema and delivery mechanism and so opening up a research collection to users, wherever they may be located.

The use of timed TEI summaries to provide wide access to content which would otherwise be undiscoverable, has a concrete benefit in times of constrained funding. Oral history interviews are made discoverable even if there is only a minimal catalogue record without crafted MARC summaries. This outcome has the effect of changing the traditional relationship between the catalogue and the item; it is the item that is itself discoverable rather than the catalogue record. The summary has no prescribed terminology and no agreed thesaurus, and instead relies on the capability of a Google-like search infrastructure. This is the most 'disruptive' aspect, in Christensen's terms, of the work done to achieve AMAD's functionality, albeit disruption which is internal to the Library and invisible to the user. In all other respects our innovative work is an evolutionary development on existing systems.

Rights, Trove and Google

The decision to have a take-down policy as one of the pillars of our risk-managed access approach has had an impact on how material might be made available. The Library's aggregation service, Trove, indexes the collections it aggregates, and through an API (application programming interface), allows third-party search engines to likewise index the data. If unconstrained, this data would include the transcripts and detailed summaries which link to the audio materials. Since a requirement of our risk-managed approach was that we could take down content, it is not desirable to share indexed content beyond Trove. A search within Trove will discover content in the uncatalogued information in the summary and transcript, carry the search term through to the audio delivery system and list the results in the item-specific AMAD search tool. A search in Google will only show the information exposed in the Library's catalogue. However, we can be sure that any material that we are required to 'take down' will not remain indexed in search engines which are beyond our control.

Successes

Citing the sound

The ability that our delivery system brings to identifying segments of the audio also allows the user to identify that point in the audio using an HTML address, to paste it into their electronic publication and allow the reader to connect to that audio segment in the Library's delivery system. For example, http://www.nla.gov.au/amad/nla.oh-vn457054/0-849 ∼ 0-1062 provides a connection to the interview with the Chief Librarian of the Commonwealth National Library from 1928 to 1947, Kenneth Binns. By clicking on that link or entering it into a browser, the audio delivery system plays the segment in which Binns describes, in his 1967 interview with oral history pioneer Hazel de Berg, how he organized, transferred and re-accommodated 60-70,000 books from Melbourne to Canberra at the time of the creation of the first Parliament in the nation's new capital (Binns and De Berg 1967).

Use and reception of the audio delivery system

Such user feedback as we have received indicates that the system has been well accepted and statistical reports show that use is growing. Use of the not yet online part of the collection on-site in NLA's reading rooms also remains constant. Visits to the AMAD site and page views remain in the several thousand per month, and statistical reports of time spent on the page indicate good engagement. Time-based media can only be engaged with by taking time to listen, and so a combination of unique page visits and average time on each page tells us about the core user group. This group appears to be significant in number, exceeding on-site collection users, though the statistics gathered are still in their infancy, requiring further interpretation and better understanding. What is clear is that the vast majority of users come to the collection via Google – hundreds more than do through the catalogue and Trove combined. This statistic puts pressure on us to think about the decision regarding the manner in which the summarized and transcribed information is made available to Google, and the impact that this has on our risk-management and take-down policy.

Third party innovation on the platform

Innovation doesn't stop with the Library's development of the delivery system, but continues with other users who can leverage their own innovations. A collaborative oral history project, Australian Generations, funded by the Australian Research Council
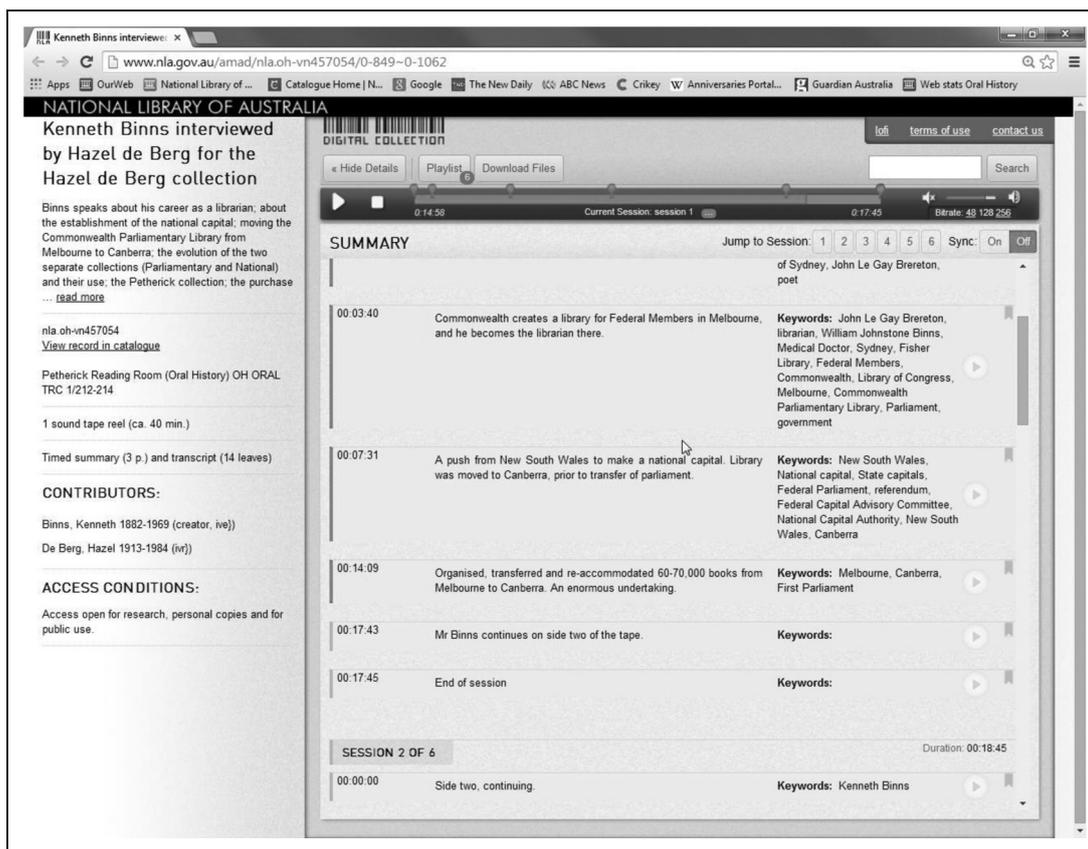
Figure 3. AMAD (Audio Management and Delivery System), delivering Interview with Kenneth Binns.

with partners from the National Library of Australia, the Australian Broadcasting Corporation, Monash and La Trobe Universities, has built on the innovative AMAD platform. While the NLA's Audio Management and Delivery system enables interrogation of the audio interviews and related data, this is only possible with publicly available content. The Australian Generations project is recording 1,500 hours of audio and is creating timed summaries in an instance of the Library's summary service. Under the research agreement, as with all oral history recordings, interviewees can set the conditions under which their interviews may be used. For many of the interviews in the Generations project, permission has been given for use in research but not to make them publicly available for some years. Project researchers, however, need to work with them now.

To enable the project researchers to work collaboratively and to interrogate the audio content using the timed summary, the NLA developed an export tool which created extracted data from the digital collection management system, the timed summary service, and the audio delivery system, and presented a METS wrapper containing the audio and summary. This package can be recognized and acted on by an HTML5-compliant Chrome browser on a local computer. The university-based project team members ingest the METS packages into Zotero[3], an open source research tool, which enables searching, tagging, citing and sharing of the audio content and the adding of rich and detailed commentary and information. When the research project is completed, the enriched metadata will be deposited with the rest of the interviews and related content at the National Library to provide even more detailed information to future collection users.

Conclusion

The Audio Management and Delivery System could only be developed and implemented on the back of a sequence of innovations and developments. The capability it provides to locate topics and content and replay the resulting audio is built on a foundation of innovative audio and digital collection management systems, content discovery systems (Trove) and a structured catalogue. AMAD, for all its inventive approach, does not bring a new and advanced technology to bear on the problem, but rather evolves from the (r)evolutionary work already being undertaken within the NLA and the library community generally, and recombines its components in novel and

interesting ways. The innovation stems from a combination of imagining the service and the manner in which the development team implemented AMAD.

The creative destruction that accompanies a disruptive type of innovation is by and large anathema to the library community. The deep investment over many, many decades, if not centuries, in information organization provides a legacy of content whose value continues to grow in the modern information age. That is not to say that such innovations are not disruptive to the working environment of libraries: the distinction between record and content is destabilized by the new systems, and disrupts the traditional hierarchy of the library world. Rather, our innovative work allows us to compete with other sources of content by making the unique unpublished oral history and folklore collection available, searchable and the usable in the same way as traditional text-based documents.

Notes

1. 80 percent of the duration in hours, 87 percent of the individual items.
2. iOS is the operating system for iPhone, iPad and iPod
3. https://www.zotero.org

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Innovation as a strategic choice at the Deutsche Nationalbibliothek

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Abstract

Like libraries and librarianship in general, the Deutsche Nationalbibliothek (DNB) has in recent years been confronted with technology-driven changes in the information environment. These changes mean a considerable challenge in terms of the mandate of the DNB and the way to fulfill it. To cite one important example: how will DNB deal with a collection mandate extended to digital publications of all kinds, including the obligation to record these publications and make them available for current and future generations? How does it manage to remain a highly visible lighthouse in the seas of data and information? This will not happen accidentically, but will be the result of careful planning, determined actions, and continuous monitoring, based on a clear strategy and a systematic approach, and it means that processes and functions will have to be revised, terminated or newly established. The DNB has always considered itself as an innovative institution – the necessity to be open for recurring innovations and to initiate such developments has become more and more urgent. The DNB has, therefore, started a strategic process in 2013 to respond to this requirement. This process is new to the institution and its members and demands a lot of learning and preparation. A major first step was the definition of strategic goals for the years 2013 to 2016, complemented by a project for organizational development. These goals help the DNB to focus itself and they serve as a guideline for prioritizing projects and tasks. Examples for strategic priorities are a substantial increase in the collection of digital and web resources, development and implementation of automated cataloguing processes, stepping up digitization efforts, and building up an infrastructure for long-term preservation of digital content. However, there are other areas to be attended to and other challenges to be met – the strategic process and the organizational development are, for DNB, tools to continuously follow-up on innovation. This article intends to address the topic coming from two directions: On the one hand we describe the process development in DNB, and on the other hand we name examples and working areas, which might be relevant factors to successfully master the future.

Keywords

innovation, digitization, preservation, Petrus, automation, project management, strategy development, cataloguing, subject indexing, German National Library, Deutsche Nationalbibliothek

Introduction

The information environment, how researchers work and exchange information, how people get the information they need, how information is created, distributed and shared in platforms for working collaborations, the characteristics of information objects – all this has been dramatically changing in recent years and the pace of change will continue to be fast. Traditional publication workflows are supplemented or replaced by enhanced formats, objects, and manifestations. In terms of collecting and preserving web resources (which in itself is a huge challenge for cultural heritage institutions like national libraries), dynamic publications like news websites, online magazines, etc., pose additional problems. Another dynamic means an even greater challenge: the content of a book, a journal article, of a sound recording, etc., becomes dynamic in the sense that they are not finished and static, but subject to continuous change by various contributors.

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All this highlights some fundamental changes and requirements (national) libraries have to consider. A closer look at the developments the German National Library (DNB) is confronted with makes it more concrete. An amendment of the legal deposit law in 2006[1] extended the mandate to collect all German publications published in Germany in digital form, text and music. As a result of this amendment, the number of items acquired daily increased step-by-step from approximately 2,500 items to 3,850 items (both physical and digital), whereas the number of staff members did not increase. As a result, the DNB has had to look for alternative ways of processing the objects depending on their format. New technical workflows and equipments have to be developed or implemented. Ways and methods have to be found and used to motivate the staff to become a part of the development.

The new challenges include the obligation to record digital publications and to make them available for current and future generations on the one hand, and the requirement to continue traditional workflows for traditional material like printed books and the demand for rule-based, intellectually improved metadata on the other. The transformation associated with these changes has implications for library users, too. They do not expect the national library to collect everything that appears on the net, but at least a significant amount that reflects the national culture. In essence national libraries like the DNB have to reformat their strategy, their workflows, and their perspective on users.

This is to be contrasted with the fact that libraries are confronted generally with frozen or even reduced budgets, so that they are forced to do more with less. Additional pressure is given by the rapid pace of technological change, forcing investments especially in the field of information technology. But that is not all – the processes cultural heritage institutions are working with, the standards they are based on are a matter of change, too. To be visible to the public and to provide their services, libraries must deliver their products (data and related services) in a more modern and future oriented way—therefore investment in new services is needed. An example of this is that libraries have to make their data web-compatible by transforming the data into the language of the Semantic Web RDF (Resource Description Format, see http://semanticweb.org/wiki/RDF). The enormous effort to adapt and automate formerly manual and intellectual data processing into automated workflows becomes an important driver for change.

All these elements require innovation in libraries. They need to renew their approach and they need to act quickly. Very often, the need for new methods and processes is accompanied by the re-organization of existing workflows; a much more complex process. With this in mind, the German National Library decided to start a systematic approach to reorientation, comprising a more focused strategy, clearly defined goals, and a climate of change and innovation.

From plan to actions at DNB

Starting points for changes are not gathered accidentally, but as a result of careful planning, determined actions, and continuous monitoring, based on a clear strategy. Processes and functions have to be revised, terminated or newly established to become faster or more efficient – both in terms of technical workflows and procedures for decision-making. A general goal of the DNB is to develop and implement methods and structures for future developments and to gain the ability for changes and creation of further continuous innovation. In 2012, the DNB started a strategic process to respond to this requirement. This process was new for the organization.

The initial major step in this process was the definition of strategic goals for the years 2013 to 2016. To support the actions and processes to reach these strategic goals, the DNB established a complementary project in 2014 for organizational development with the assistance of an external consulting company. The strategic goals help to clarify ambitions and objectives of the institution. They serve as guidelines for prioritizing projects and tasks. The process to devise the goals was such an important experience that they were defined by groups of experts in the library, then presented and discussed with staff members. An important step was an Open Space event held in 2012 in Leipzig, with the full staff of the DNB, where everybody could bring in his or her personal knowledge, opinions or fears.

The strategic goals were published online[2] and in print format, and are intended to provide an orientation to the library's priorities. Thus, the strategic goals help in decision-making and to weigh projects against each other.

The main priorities until 2016 are:

1. The German National Library should intensify its collection activities and adapt its acquisition processes and instruments to handle new types of publications.
2. The German National Library should increase the use of automated data acquisition for cataloguing and indexing its holdings.

3. The German National Library should improve the retrieval and usability of its holdings and the data describing them.
4. The German National Library should extend the scope of measures aimed at preserving the long-term accessibility of its holdings and continuously optimize the relevant processes.
5. The German National Library staff should identify themselves with the library's objectives.

What specific activities or objectives arise from these priorities?

In the field of collection building and handling new types of publications, we are focusing on clearly defined web harvesting activities, increasing the collection of digital monographs to 80 percent of the national output and doubling the number of e-journals collected compared to 2013. In addition to enlarging the digital collection and the collection of so-called 'grey literature,' sound recordings and retrospective acquisitions are being stepped up as well.

In terms of cataloguing and record creation, the DNB aims to complement and/or substitute its traditional ways of generating metadata for its collections. The process of manual descriptive and subject cataloguing of each individual item is to be supported, accelerated, and enhanced by increased use of third party data and especially by expanding the use of automated procedures for metadata creation. The DNB started with the automation of certain cataloguing steps for digital monographs in German language several years ago. The goal is to continue to develop, supplement, and improve these machine routines and to apply them to other types of publications. But, in order to have exchangeable and widely usable records and metadata, standards and rules should be followed – at best agreed upon globally. The DNB will, therefore, keep up its involvement in the development and deployment of RDA, it will cooperate with the BIBFRAME (Bibliographic Framework Initiative, see http://www.loc.gov/bibframe/) initiative and work on a modern concept and rule-set for subject indexing. Keeping partners and customers informed through adequate measures of communication is also an activity derived from this strategic area.

It is a natural necessity that all media deposited with the DNB are easily found in the online catalogue and accessible either digitally or locally within the premises of the library. This means that the online catalogue should be as easy to use as search engines on the Internet – very intuitive, and successful in retrieving the information that is requested by the reader. Text and music objects should be digitized as much as possible. For copyright reasons, most of the objects stored at the DNB can only be used in the reading rooms. Copyright free materials should not only be offered via library catalogues and search engines, but also via virtual shop-windows on the website of DNB so that library users will know of their existence. All of DNB's bibliographic metadata should be offered at no cost and under a CC0 (Creative Commons Zero) license to other interested parties.[3]

With regard to preservation and conservation of library materials, the German National Library has broad-based experience regarding physical media and in ensuring the long-term accessibility of digital resources. It has earned national and international recognition through its innovative contributions to the mass deacidification of printed works, to the preservation of digital media, and as the driving force behind "nestor," the German network of competence for digital preservation. In nestor, libraries, archives, museums and leading experts work together to ensure the long-term preservation and accessibility of digital sources. Led by the German National Library, nestor is a cooperation association including partners from different fields, but all connected in some way with the subject of "digital preservation".[4] Particularly in the area of physical preservation, the German National Library should extend its national and international profile and reinforce its existing network structures. Another central goal is the integration of processes, which in many cases have hitherto been conducted separately, to create a uniform work structure. Thus, a preservation-oriented curation of physical materials should be comprehensively established. To address the long-term accessibility of digital resources, long-term preservation should become an integral part of the automatic processing workflow for all digital publications included in the collection mandate by 2016. In order to facilitate the cooperative approach, the DNB is pushing forward the cooperative long-term preservation service AREDO, the long-term digital preservation cooperation service of the German National Library, directed to partners from the cultural domain[5], which is intended to be marketed externally and which is going into operation by 2014. Another area of interest is the digitization or recopying of at-risk objects whereby the informational content is transferred to an alternate medium. The goal is to convert a large part of the non-paper materials held on physical data carriers into digital form by 2016.

Lastly, a range of activities is planned to support and strengthen the identification of the staff members with the goals of the institution. This will require a personnel development plan, communication plans and platforms, various measures to strengthen the

library's management staff, implementation of target agreement processes, formulation of basic management principles, and clear assignment of responsibilities: one task → one person.

Most of the actions mentioned here are or will be realized as projects. Therefore, an important component of the process is project management, providing the frame in which the work takes place. Since such a structure was implemented in 2008, the DNB now has a lot of experience in managing the projects in a professional manner. Starting with the initial planning phase, the 'project organization' unit is involved in all the stages of project work thus ensuring, for example, that all necessary information technology (IT) resources are provided, all stakeholders are informed, and reports and documentation are written. An essential part of the project workflow is a tiered decision-making process based on clear judgments as to the feasibility and importance of a specific project. Project management is continuously adapted and developed to the requirements of the projects.

All these activities have to be reflected and adapted continuously. It often takes time to see the results of progress and change. Over time the organization becomes more experienced in terms of change management, and new topics are reflected and prepared to be a part of the library's service portfolio. What follows is a detailed look at two areas as examples of what the DNB is facing.

Core areas of innovation at the DNB – Automated processes for cataloguing and indexing

As previously mentioned, part of the legal mandate of the German National Library is the creation of records for its collections and the production of the German National Bibliography. Expanding collection activities implies at the same time the necessity to expand cataloguing activities. Although the DNB was granted a number of additional staff positions as a consequence of the expansion of the legal mandate, it very soon became clear that asking for more resources in order to deal with the increasing number of publications would not be an option for the future. Therefore, the library had to look into the processes and methods of metadata generation and try to find alternative ways. In 2009, a decision was made to stop manually cataloguing online resources starting with the year 2010 and, instead, rely on metadata supplied by authors and publishers. It was also decided to set up a large project to develop methods for automated processing of monographic online publications.[6] This

project, called *Petrus*[7], was conducted from 2009 to 2011, with follow-up projects in 2012-2013.[8]

In various scenarios, especially the creation of subject metadata, creating links to authority data was taken into consideration. In terms of subject cataloguing, the automated assignment of Dewey Decimal Classification (DDC) subject groups[9] and of subject headings taken from the same controlled vocabulary as used in intellectual indexing, were two of the scenarios addressed. One of the conditions of the project was that a system or software available on the market should be used to provide solutions and that homegrown software should be avoided. Therefore, the first two years of Petrus were dedicated to a market scan and thorough testing of several systems. After an invitation for public bid, the DNB decided to acquire and license the Averbis Extraction Platform, a system developed by the Averbis company located in Freiburg, Germany. The software consists of a classifying and an indexing component. Whereas the classifier (used for the assignment of DDC subject groups) has to be trained in using intellectually classified material, assistance is available in the form of an indexing component that comprises a range of software tools for linguistic analysis of texts and a dictionary providing the vocabulary to be assigned to documents.

The other scenarios in the Petrus project were the automatic creation of authority records for authors of online monographs and the identification and linking of parallel print and online manifestations of a work in order to re-use subject information and links to authority records for persons and corporate authors. This usually meaning that information from the intellectually catalogued print version was transferred to the online version. For this, the software tools were developed by the DNB's IT department.

What has been achieved so far? All of the mentioned scenarios are in a productive stage now. Automated assignment of subject groups started in 2013, and by the end of the year, over 95,000 publications were enriched with a DDC subject group, over 40,000 online publications were amended with links to authority data, and subject information was transferred from a parallel print edition. The automated assignment of subject headings is, after several iterations of testing and improving the indexing software, about to start for German university publications. The automated creation of authority records is already in a stage of an overhaul; too many duplicate authority records for names of persons were produced, hampering manual cataloguing and user searching. This shows that there is no obstacle-free highway to automated cataloguing. But, obstacles can be overcome and problems solved with determination and patience.

All these measures already have improved the data quality and the accessibility of online monographs in the DNB's collection. The advantage of automated cataloguing lies in the fact that it can be repeated on the same publication again if improved methods results in better data.

The Petrus project was conducted by a group of staff members belonging to various departments in the DNB, namely the IT and the cataloguing departments. Their participation in the project was on a voluntary basis and meant that they had to give up or reduce their regular tasks. Supervisors and colleagues were often dissatisfied with this fact, the whole enterprise was regarded with mistrust, and it caused a lot of anxiety among staff. Communicating reasons and objectives over and over again, therefore, was most essential. Also, the course of the project showed that it was indispensable to have a fixed group of people who were able to focus on such an ambitious project and who were determined to bring about success. It also became clear that the occupation with the whole area of automation of cataloguing and metadata creation eventually required the implementation of a new organizational unit. Novel and permanent duties like the continuous monitoring and further development of software routines, quality checking and error analysis, maintenance of the dictionary used for automated indexing, improvement of training data, construction of new workflows, etc., arose and had to be handled. Therefore, in 2013 such a unit was established, comprising some of the members of the former Petrus project group, but also with newly hired staff with specific knowledge and experience. Vacant posts were rededicated meaning that intellectual subject cataloguing had to be reduced. Innovation certainly is not available without cost. The decision to establish a new unit and to reduce intellectual subject cataloguing signaled that there would be no turning back. Thus, automated cataloguing became a strategic goal.

Core areas of innovation at the DNB – Information infrastructure

To fulfill all its tasks and to support all activities the library is focusing on, DNB has to extend its infrastructure systematically. This is not only a question of money, but also of organizational development.

The IT department at DNB serves both the internal needs of the library and, from an outside point of view, the needs and digital development activities of other libraries on a national and international level. Close cooperation with other departments of the DNB is essential. The public perception of the library depends largely on the quality of its digital services, and the IT department plays, not an exclusive, but an essential, role in ensuring quality.

The individual tasks are focused on the provision of an adequate and modern IT infrastructure for the DNB staff and users at all locations of the library, including help desk facilities for staff and external partners or users, and in the ongoing operation and expansion of library IT-based applications and work processes to support the core workflows of the library. Data services are provided to the German National Bibliography for the development, operation and expansion of the object and metadata transfer processes, the acquisition of third party data, data matching, and processes for matching data from various sources with the objective of data merging. IT staff participate in the development and maintenance of metadata standards, exchange formats and interface technology, in the operation and extension of a persistent identifier system for national and international users in the cultural heritage domain, and in the performance and extension of a variety of Linked Open Data services. To comply with the new legal mandate, the library needs the construction, operation and development of an infrastructure to ensure the preservation of digital resources, and research and development activities in the field of digital preservation followed by conceptual and operational implementation of mass methods for transferring at-risk data of digital and analog objects to a secure and long-term storage and preservation environment. The development of methods for automatic processing of objects requires the development and adaptation of automatic information extraction and indexing tools in cooperation with the cataloguing departments. In addition, methods for named entity recognition are evaluated to automate the analysis and evaluation of full text material.

Additional resources will be required to make the necessary changes in order to comply with the legal mandate. A continuous look forward to reduce the cost of routine activities in all functional areas is important. Simultaneously, rising expectations in terms of quality and stability of the services of the DNB to address rising expectations in terms of appropriate workflows and technical tools have to be implemented. In addition, other measures to be considered include the technical consolidation of unified platforms for projects and equipment development, definition and provision of development, testing, approval and operating environments (staging) in a process-based framework, the extensive use of virtualization technologies, increased use of external service providers and outsourcing, new forms of

organization, flexibility and adaptation of existing structures in the area of software development and quality assessment, and the introduction of process management (based on Information Technology Infrastructure Library (ITIL)[10] for the core functions of IT.

A very important area of innovation is the process of transferring digital objects and related metadata from the publisher's or producer's side to the DNB. This process, which includes the validation, indexing and post-processing of these objects, has been automated as far as possible. Today, the DNB provides three interfaces for submission of digital publications to institutions, publishers, aggregators or service-providers – a web form for single objects and two automated methods, one to push and one to pull objects. Regardless of how data are ingested, the subsequent processing takes place in an integrated fully automated environment.[11]

Finally, some steps towards a more systematic approach regarding the collection of online publications were taken – a dedicated, inter-departmental task force was set up for the job. The work was focused on collaborating with institutions, not on collecting individual objects. Aggregators and service-providers became involved and this group has been extended to software vendors who provide publishers with management systems.

Outlook

This article aims to provide an idea as to what extent new digital challenges and tasks can cause changes in all parts of a library, especially in national libraries that cannot abandon their traditional tasks completely – but only have the alternative to rethink their methods to fulfill the tasks. Changes in task fulfillment of national libraries have to be based on clear strategic priorities and looked at from three points of view – technical aspects, organizational consequences, and staff development. None of these views should be neglected. Technical aspects are the basis for developing new methods and tools and organizational consequences have to be set up to gain the necessary resources and implement new tasks within the institution. Nothing can be done without the library staff, who need to acquire necessary new skills and knowledge sets. They should also have a clear picture of the new processes and how and where their own position fits into the new scheme.

The German National Library carried out a lot of helpful single activities in order to meet the challenges resulting from the adoption of the legal mandate. What is required now is to bring together all

these activities and put them into an overall view of the future. The experiences gained from this process can be used again if new challenges come up – and they will, for when have libraries ever had periods without change and new challenges within the last century?

Notes

1 See http://www.dnb.de/EN/Wir/Recht/recht_node.htm
2 See http://www.dnb.de/EN/Aktuell/Neues/neues_node.html.
3 Creative Commons version 0, which means public domain, see http://creativecommons.org/publicdomain/zero/1.0/
4 See http://www.langzeitarchivierung.de/Subsites/nestor/EN/Home/
5 See http://www.dnb.de/EN/aredo.
6 Serials and other types of online documents were excluded because of specific difficulties associated with cataloguing and indexing these materials.
7 Petrus is an acronym for "Prozessunterstützende Software für die digitale Deutsche Nationalbibliothek," i.e., Software supporting processes for the digital German National Library.
8 See http://www.dnb.de/EN/Wir/Projekte/Abgeschlossen/petrus.html.
9 DDC subject groups are a classification system based on the top 100 classes of the Dewey Decimal Classification used to structure the German National Bibliography according to subjects. All publications housed in the DNB are classified this way.
10 Information Technology Infrastructure Library (ITIL) is a set of practices for IT service management (ITSM) that focuses on aligning IT services with the needs of business.
11 Cornelia Diebel: How to handle the masses – automated workflows as a solution for the collection and preservation of e-books in the German National Library. In IFLA WLIC Lyon 1014, Session 87, http://library.ifla.org/843.

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Innovative services in the National Library of China

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Abstract

In recent years, librarianship in China has encountered new opportunities and challenges due to unprecedented changes in the political, economic, social and technical environment in China. In order to keep up with these changes, the National Library of China is devoted to the transformation of libraries in innovative ways. It has undertaken much exploration in the development of digital libraries, social education, preservation and conservation of cultural heritages and integration and display of library resources. It has also launched major projects including the Digital Library Promotion Project and 'Chinese Memory' and built the National Museum of Classic Collections to promote extensive reading activities. All these efforts have achieved positive results.

Keywords

digital libraries, cultural heritage, preservation and conservation, social education, innovation, National Library of China

Introduction

Established in 1909, the National Library of China (NLC) is the repository for the nation's publications, the national bibliographic centre, the national preservation and conservation centre for ancient books, as well as the national library information, and research and development center. The major mission of the NLC includes collecting and preserving domestic and foreign publications, compiling national bibliographies, providing information and reference services to academia, key research institutes and industries, coordinating national document preservation, conducting research in library science and librarianship development, providing guidance to libraries nationwide, and implementing cultural agreements with other countries. Covering an area of 280,000 square meters, it has a collection of over 32.4 million volumes/items as of 2013 with 4.18 million visitors each year.

As an important public cultural institution, the national library has always been an emphasis of the Chinese government especially since the 2011 proposition, Building a Culturally Strong Country (see http://www.idcpc.org.cn/english/special%20reports/111024.htm), which further advanced the building of the cultural services system. Meanwhile, the rapid social and economic development, as well as the popularity of information technology, sees a growing demand for libraries in public places. Faced with opportunities and challenges, the NLC is dedicated to achieving breakthroughs in many ways by expanding functions and exploring innovative services. In this essay, some of the main innovative projects have been chosen to share new thoughts and experiences with international counterparts.

The Digital Library Promotion Project

The idea of a digital library in China dates back to the 1990s. With nearly 20 years' efforts, it has now equipped most provincial and prefectural-level libraries with advanced digital library infrastructure and numerous databases, and prepared county-level libraries with the necessary adaptability to provide digital services.

On this basis, the NLC launched the Digital Library Promotion Project in 2011 with the backing of

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relevant ministries under the State Council. It is aimed at connecting libraries at all levels and making resources and services accessible to more than 3,000 libraries across the country. The NLC has made integrated plans and organized the deployment of the project and set a standard specification system to maintain the digital resources. Furthermore, it has set the hardware configuration standard for provincial and prefectural-level libraries, completed an Identifier System for Digital Resources, a User Management System, a Copyright Management System, a Resources and Service Distribution System, and other core service systems. It also registered and integrated the resources in libraries according to the principle of 'centralized management of metadata, decentralized storage of object data,' thus allowing a total sharing of digital resources across the country.

The Digital Library Promotion Project has yielded concrete results with the support of central and local government. By 2013, the accumulative public spending on hardware platforms in 30 provincial libraries and 139 prefectural-level libraries was RMB 790 million (Chinese Yuan Renminbi). It helped to register over 1.5 million metadata in 123 databases, making over 120 terabytes of digital resources available to share. The year 2013 saw 3.97 million users on the User Management System with 221,000 visits, a 67 percent increase over 2012. In 2013, the Mobile Reading Platform of Digital Library Promotion Project was put into use and more than 10 provinces began to provide new media services based on mobiles and digital TVs.

Public learning service

The library is an important public learning institution which provides patrons with diverse information that meets their learning and recreational needs. For China, a developing country, libraries play a very important role in public learning. In recent years, the NLC has provided diverse public learning programs to advocate traditional culture, and popularize scientific knowledge as well as advancing reading and learning skills. It has developed a number of lectures, exhibitions and reading promotion programs with satisfactory results.

Wenjin Forum is one of the brand-name lectures of the NLC established in 2001. It inherits the century-old NLC cultural tradition and humanistic spirit of "protecting the essence of Chinese culture and benefiting the intellectual communities" with stress on the character of the lecturers and the content of the lectures. It invites respectable celebrities to lecture to the public on cultural topics, like history, politics, economy, opera, poetry, painting, archaeology, etc. By the year 2013, it had held 700 lectures with a cumulative attendance of more than 100,000 people.

The NLC Forum, established in 2006, is targeted at different audience groups, and includes Artists Forum, Educationists Forum, Scientists Forum, Entrepreneurs Forum and Lectures on Local History and Culture. It invites more than 900 celebrities in different fields to hold more than 822 seminars with 300,000 accumulative attendances. In addition, the NLC established a series of lectures for ministerial level government officials in order to broaden their horizons and improve their administrative ability. Since 2002, it has held a total of more than 100 lectures with a collective attendance of 20,000 officials.

Relying on its abundant collection resources, the NLC holds exhibitions for the public to combine the in-depth essence of the collection with historical events to evoke new ideas. As early as 1987, the NLC set up a special hall to hold exhibitions related to books and precious collections. Over the past decade, the NLC has held more than 100 exhibitions of rare collections, some of which have become roving exhibitions that have elicited strong pride in the community. In 2012, the NLC allocated 11,549 square meters to construct the National Museum of Classic Books. It is expected to open in 2014 to preserve and showcase treasury collections to the public. The first exhibition, the 'National Library Treasures Exhibition' will showcase all the collections of ancient treasures in the NLC ranging from 3,000-year old oracle bones to contemporary manuscripts, covering stone and bronze rubbings, Dunhuang manuscripts, rare books, maps, Yangshilei architecture drawings, ethnic ancient books, and western rare books. In addition, during the first show, an exhibition, 'The History of Chinese Ancient Books,' will be held to reveal the status of classics in literature and Chinese history. This exhibition zone will serve as a permanent museum open all year round to connect the public and the literary treasures.

The NLC also attaches great importance to reading promotion and to providing reading guidance to readers. The Wenjin Book Awards are a set of annual literary awards recognizing Chinese-language books in social science and natural science. Since its establishment in 2004, there have been 89 award-winning books and 369 recommended books. The Wenjin Book Awards is greeted with great anticipation each year and is known as the weathervane in China's public reading. The prize is of great significance for the book publishing sector and public reading. The NLC also issued two sets of a National Children's Basic Collection Catalog for libraries in China that

identified more than 5,000 basic titles for children's libraries at all levels.

The NLC makes learning resources more accessible to the public through online and mobile services. By May 2014, photographs and videos of 879 seminars and 108 exhibitions were available on the Internet. Meanwhile, in order to promote the sharing of resources among libraries, the NLC initiated the National Public Library Lecture Alliance in 2010 with 76 member libraries participating as of May 2014.

In order to meet the public's learning and recreational needs, the NLC began to construct the NLC Art Center in 2011. The NLC Art Center was officially opened in early 2014 and it is now a multi-purpose space with performing arts, arts exchange, movies, conference training and other activities to facilitate the exchange of arts and development of public artistic accomplishment.

To inherit, preserve and utilize traditional culture

A 5,000 year history leaves China with vast volumes of literature. Over 2.6 million volumes and items of rare books in the NLC are pre-1911, and some of the earliest collections can be traced back to the ancient Shang period, which was 3,000 years ago. These collections are important carriers of Chinese tradition and culture, and they shoulder the responsibility of preserving the national memory and heritage of the Chinese civilization. Apart from the collections of rare books in the libraries, other rare works are held in museums and archives and owned by individuals. However, the centuries old materials create difficulties in preserving the books. The current preservation situation is unsatisfactory, rendering some books unusable by researchers. Thus, the NLC implemented the Chinese Ancient Books Reproduction Project, the Chinese Ancient Books Protection Plan, the Minguo Materials (1911-1949) Protection Plan, and other key cultural projects. On the one hand, the NLC has preserved the original status of the ancient works by conducting a census, standardizing the collection preservation stacks, and establishing a union catalog. On the other hand, it made various copies available for research use through microphotography, photocopy, and digitization.

The Chinese Ancient Books Reproduction Project, implemented in 2002, aimed to photocopy and republish selected rare books. The first phase of the project printed 758 titles of rare works from the Song and Yuan Dynasty and distributed the copies to more than 100 libraries nationwide. It promoted the utilization of these rare works and was highly acclaimed in the community. The second phase of the project was launched in 2008. The Chinese Ancient Books Protection Plan in 2007 and Minguo Materials (1911-1949) Protection Plan in 2012 are focused on establishing an integrated preservation mechanism at the national level.

Since the establishment of the Chinese Ancient Books Protection Plan, it has registered and accessed more than 50 million items of ancient books in 2,800 institutions. A standard census and registration system was established to compile the union catalogue of ancient books. The past 6 years saw four groups, out of a total of 166 institutions listed as National Key Protection Institutions, where the preservation programs of those institutions were improved. In addition, the State List of Precious Ancient Books was released, with a collection of four groups totaling 11,375 titles that implemented a systematic organization of these rare books.

The Minguo Materials (1911-1949) Protection Plan focuses on deacidification technology and the utilization of documents from 1911-1949. It publishes the documents and constructs the database centered on economy, judicial, culture, military and other key issues during that period. In 2012, the 80 volumes of Far East International Military Tribunal Trial Record were published, with experts from China, the USA and Canada providing valuable historical data to study World War II in the international community.

In the process of preserving and protecting history, the NLC realized that the history of human civilization has no boundaries, and that to record history faithfully is an important part of national civilization. In 2011, the NLC launched the Chinese Memory project, recording the important events in contemporary China with documents and oral records. It collects oral records, videos, letters and photographs and other physical materials to preserve the national memory. Presently, the NLC has completed the creation of a number of specialized databases involving Chinese folk culture, the Anti-Japanese War, and intangible cultural heritage. Service to the public is about to begin through a pilot website.

Conclusion

As a library with a more than 100-year history, the NLC has always strived to develop through innovation. It is willing to share its experiences with international counterparts, enhance exchanges, and cooperation and jointly promote the development of librarianship.

Author biography

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A case study in national library innovation: Newspapers in the British Library

Andy Stephens, Caroline Brazier and Phil Spence
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Abstract

The British Library's GBP 33m Newspaper Programme, which is now nearing completion, was established to address a range of legacy issues associated with ensuring the long term storage, preservation and access to the UK's national newspaper collection, one of the largest and most comprehensive newspaper collections anywhere in the world with more than 750 million pages of newspapers spanning more than three centuries. The programme has delivered a purpose-built state-of-the-art storage facility, with a fully automated retrieval system and full temperature and humidity control, that will enable the British Library's print newspaper collections to be kept in archival standard conditions for the first time ever. A new service proposition – the Newsroom – has been created at St Pancras which will, through a combination of collecting and connecting and by combining traditional print and microfilm newspaper content with television and radio broadcast news recordings and with web news into an integrated offering, transform the traditional newspaper reading room concept into a hub for news and media. Increased digitization will both enable online access and protect the original newsprint from further wear and tear. The paper reports on a number of innovative solutions which have been adopted in taking the Newspaper Programme forward – in particular in relation to digitization funding models, storage solutions, onsite service provision, and accessibility – and as such it provides a case study in national library innovation.

Keywords

newspapers, national libraries, collections management, digitization, storage solutions, innovation, British Library

Introduction

The British Library has one of the largest and most comprehensive newspaper collections anywhere in the world. The Newspaper Programme is a GBP 33m capital programme that was developed in response to specific and generic strategic challenges to guarantee long term storage, preservation and access to the British Library newspaper collection. When completed the programme will deliver key benefits in terms of preservation, access and research, audience development, and efficiency. A number of innovative solutions have been adopted in taking the Newspaper Programme forward – in particular in relation to digitization funding models, storage solutions, onsite service provision, and accessibility. And, as such, this provides a case study in national library innovation.

The British Library's newspaper collection

The British Library has one of the largest and most comprehensive newspaper collections anywhere in the world, with more than 750 million pages of newspapers spanning more than three centuries. The British Library newspaper collections comprise over 52,000 separate newspaper, journal, and periodical titles and consist of over 664,000 bound volumes and parcels (occupying some 32 km of shelving) and over 370,000 reels of microfilm (on 13 km of shelf space). Titles held are primarily British and Irish, but with a significant number of overseas newspapers.

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Figure 1. British Library Newspaper Reading Room, Colindale.

Currently, the Newspaper Library receives around 1,934 newspaper and weekly/fortnightly periodical titles per year, of which 1,475 are British and Irish newspapers received under legal deposit.

The newspaper collections are used by 30,000 researchers a year[1]. The audiences researching the newspaper collections comprise the following:

- 43 percent Personal Interest: family history, local history, sport, leisure hobbyists
- 30 percent Academic: Undergraduate, post-graduate, experts undertaking research across the humanities, social sciences and sciences
- 13 percent Creative industries: TV research, the press, picture research, authors, theatre, museum and exhibition staff, fashion research
- 10 percent Business: legal case research; police following up criminal investigations; advertising and market research; property sales research; freelance researchers carrying out paid research on behalf of clients
- 4 percent Miscellaneous – variety of one-off uses.

Prior to 1905, all of the newspapers acquired by the British Museum Library (one of the British Library's predecessor institutions) were housed at its site in Bloomsbury, Central London and were read there. In 1905, work was completed on a Newspaper Repository to house post-1800 UK provincial newspapers, situated in Colindale (or Hendon as it was then called), a suburb in the north west of London, and the papers were transported the 9 miles to and from central London to be read at the Museum via a weekly collection service (initially consisting of a horse-drawn cart). Some 25 years later, continuing pressure on collection storage and reading room space at Bloomsbury led the British Museum Trustees to construct a new building at Colindale to include a reading room and bindery. This opened in August 1932, and all other newspapers of the 19th and 20th centuries were moved from central London to the new store at this time. Service to readers continued uninterrupted for over 70 years at the Colindale site.

Newspaper Strategy

In 2007, the British Library developed a Newspaper Strategy for the long-term storage, preservation and access to the newspaper collection. This was developed in response to, and addresses, the following challenges:

- newspapers deteriorate quickly because of the poor quality of the paper on which they are printed
- the 70-year old newspaper store and reading room in Colindale was completely full, and too expensive to modify
- the storage conditions at Colindale were poor with very little temperature and humidity control
- use of the original newspapers by readers was causing further deterioration
- 15 percent of the newspaper collection could not be used because it was too fragile
- a further 19 percent of the collection was in poor condition and would soon have to be withdrawn from use to prevent further deterioration
- the services that the Library could offer in Colindale were costly and inefficient, did not meet researcher needs and, being separated from the other services and collections (books, manuscripts, journals, e-resources, etc) housed at the BL's headquarters building at St Pancras, offered a fragmented reader experience.

The underlying vision for the Newspaper Strategy was:

The Library will offer an integrated newspaper service based on digital surrogates at St Pancras with hard copy newspapers stored to help preserve them for future generations.

And the key components of the strategy were as follows:

- Build a dedicated new Newspaper Storage building at the Library's northern campus site at Boston Spa, West Yorkshire conforming to the archival environmental standard BS5454:2000 to include storage capacity for the historic and contemporary newspaper collections plus collection growth space and space provision for all

Table 1. Key benefits to be delivered by the Newspaper Programme.

Benefits: Preservation	Benefits: Access and research
Increased growth space for the Nation's newspaper collection	Improved resource discovery making it easier for readers/users to find newspapers/newspaper content
Increased digital surrogates of original newspapers (both through digitization and connecting to external resources)	Improved resource delivery through digital access
Enhanced collection security	Provision of a more broad-based news-focused resource with modern search and discovery tools
Integrated long-term storage	
Extended usable life of the newspaper collection	
Benefits: Audience development	**Benefits: Efficiency**
Increased readership for the newspaper collection	Improved collection management and management information
Perpetual access to digital newspaper content	Reduced operational cost in service delivery
	Reduced running costs of the newspaper storage building

hardcopy newspaper legal deposit ingest activities and a digital production facility for content ingest.

- Microfilm, rare newspapers, and periodicals to be stored at St Pancras. Master negative microfilm to be stored offsite in a third party heritage conservation storage facility.
- Create a newspaper reading room at St Pancras to provide future access to the newspaper collection through microfilm and digital surrogates (the aim being to achieve a position where 80 percent of reader requests for access can be met through surrogates) and integrated with access to other collections enabling cross-media research.

The capital programme to deliver the Newspaper Strategy received HM Government funding support of GBP 33m from the Department for Culture Media and Sport in 2009. Table 1 sets out the key benefits to be delivered by the Newspaper Programme.

A number of innovative solutions have been adopted in taking the Newspaper Programme forward – in particular in relation to digitization funding models, storage solutions, onsite service provision, and accessibility – and these are addressed in more detail below.

Innovation in digitization funding models

Unlike some other national libraries, the British Library has not been allocated additional funding to enable it to undertake large-scale mass digitization. Therefore, while this has remained the case and in order to maintain the Library's core functions, the Library's Board as a matter of policy has not allocated core Grant-in-aid funding towards digitization; instead, it has actively sought alternative forms of funding – for example by charitable donation, sponsorship, or commercial partnership – to take this work forward on a project-by-project basis.

The business case underlying the Newspaper Strategy underlined the urgent need for digitization of the Newspaper Archive to enable the long-term preservation of the collection with future access to the historic collection via surrogates. In September 2008 the Library embarked on a Competitive Dialogue process to seek a private sector partner who would at its own cost invest in the creation of a digital infrastructure to digitize news content and to exploit these assets commercially to the benefit of the partner and the Library. (In a European Union Competitive Dialogue procurement process, shortlisted candidates are invited to take part in a dialogue process during which the nature of the project may be discussed and possible solutions may be developed. When the dialogue process is complete, final tenders are invited).

In 2010, the Library announced a Public Private Partnership initiative to digitize up to 40 million pages from the BL's national newspaper collection in partnership with Brightsolid Newspaper Archive Limited, a DC Thomson Family History company, the owner of online brands including findmypast.co.uk and Friends Reunited. This 10-year agreement is set to deliver the most significant mass digitization of newspapers the UK has ever seen, making large parts of this unparalleled resource available online for the first time. There are no direct digitization costs to the British Library as Brightsolid has created a commercial offering – British Newspaper Archive (http://www.britishnewspaperarchive.co.uk/) – and has

assumed the associated financial risks. The resource is available for free to users on-site at the British Library (and in the reading rooms of the National Library of Scotland and the National Library of Wales) and copies of all scanned materials are deposited with the Library to be held in the national collection in perpetuity. At the time of writing, the British Newspaper Archive website contains over 8.3 million pages and by the end of 2014 some 11 million pages will be available online there. Optical Character Recognition (OCR) technology is used to 'read' the pages and to create as accurate an index of what text is within the pages as is possible. And this has opened up the collection for discovery and access to a degree that had never been available in the past. Prior to this initiative and under a more traditional public funding project model, the Library had previously created over 3 million digitized pages of pre-20th century newspapers – the output of a JISC-funded[2] digitization programme – available to UK Higher and Further Education Institutions. This content is now also available as part of the British Newspaper Archive.

Innovation in storage solutions

The Newspaper Storage Building (NSB) at the Library's Boston Spa site in West Yorkshire is a purpose-built state-of-the-art storage facility, which was brought into operation in February 2014. The store has a fully automated retrieval system and full temperature and humidity control, and it will enable the British Library's print newspaper collections to be kept in archival standard conditions for the first time ever. Like the Additional Storage Building which opened at Boston Spa in 2009, it deploys an automated high-bay, high-density solution used frequently in warehouse management but rarely in archives and libraries and its size and characteristics make it one of the most remarkable library buildings in the world. The store is dark and levels of oxygen in the airtight storage void are reduced to eliminate fire risk. No staff enter the void, instead relying on an automated storage system to deliver items through airlocks to an adjacent retrieval area. Within the void, the newspapers are stored in stacks no more than 400mm high on metal trays and secured between steel cover plates using straps and buckles. The stacks are stored on 20-metre high racking and are retrieved and replaced automatically by a computerized picking system.

The building's main storage void measures 24 metres high by 24 metres wide by 64 metres high. It has a footprint of 2,200m^2 and volume of 45,000m^3. Temperature in the storage void is held at a constant 14° C (+/- 1°C) and relative humidity at 52 percent.

Figure 2. Newspaper storage building, Boston Spa (exterior).

Figure 3. Newspaper storage building, Boston Spa (storage void).

Oxygen levels in the void are reduced to 14.9vol percent by continuously introducing nitrogen.

At the time of writing (July 2014), the move of collection material from Colindale, which entails shipping 290,000 bound volumes of newspapers from London to Boston Spa over 7 months at a rate of three articulated lorries per day, was continuing. When the final bulk moves are completed in January 2015, the new facility will store the equivalent of 33 linear shelf kilometres of newspaper content.

Innovation in onsite service provision (development of News and Media service at St Pancras)

The migration of newspaper reader services from Colindale to St Pancras has provided an opportunity for readers to integrate their research based on newspaper content with research involving the

Figure 4. Video wall. The networking area of the Newsroom at the British Library, St Pancras.

Figure 5. The issue desk in the Newsroomat the British Library, St Pancras.

Library's other collections under one roof for the first time. It is also a great opportunity for the Library to turn itself, through a combination of collecting and connecting, into a hub for news and media as it is produced in, or has impacted upon, the UK, by showing the same degree of innovation and enterprise that the news industry itself is having to demonstrate as it faces up to the great challenges of the digital era. Thus, the Library is providing an integrated news and media offering (as opposed to simply a newspaper reading room) for the first time and is combining the existing print and microfilm content from Colindale with our newly-created Television News Recordings from our video server, with radio news, and importantly with web news collected under the Non-Print Legal Deposit regulations introduced in 2013. The new British Library Newsroom, which opened in

April 2014 (the first Reading Room to open at the BL in nearly a decade), offers researchers free access to microfilm and digital newspaper collections together with hard copy material transported from Boston Spa (but on a surrogate-first policy to maximize conservation benefits), and includes:

- More than 100 desks in a spacious and newly refurbished Reading Room at the heart of the British Library at St Pancras.
- Forty digital microfilm viewers, offering excellent image quality and magnification, and swift, intuitive navigation – opening up microfilm to a new generation of researchers.
- Microfilm of the 15 most highly-used newspaper titles available instantly on open-access shelves in the Newsroom, the rest of the microfilmed archive – some 630,000 reels – available to order within 70 minutes.
- Free access to digitized resources such as the British Newspaper Archive, which has 7.8 million scanned pages of historic newspapers, fully searchable by date, title and keyword.
- A public networking area for meeting, discussion and collaborative research, including a large video wall displaying live news feeds and news-related Library content.
- Access to the UK Web Archive, including 4.8 million archived UK domain websites, totalling more than a billion individual URLs.
- The British Library's extensive collection of TV and radio broadcast news – including over 40,000 programmes, and growing at a rate of 60 hours every day across 22 news channels.

In the meantime, the Library's reading room at Boston Spa has also been refurbished with facilities for news research broadly to match those at St Pancras.

Innovation in accessibility

The British Library has been looking at the potential of speech-to-text for opening up speech archives. Such technologies take a digital audio speech file and convert it into word-searchable text, with varying degrees of accuracy, comparable to uncorrected OCR (optical character recognition) for text. Speech recognition services are becoming increasingly familiar to the general public as smartphone applications, but the technological challenge is far greater when it comes to tackling large-scale speech archives.

The British Library has around one million speech recordings in its Sound Archive. These have catalogue records, so one can find out basic information about their contents, but providing more detailed descriptions, or even transcriptions, is time-consuming, labour intensive and slow. The Library also has a rapidly growing collection of television news, amounting to over 25,000 hours. Around half of this comes with subtitles captured when it is recorded from the broadcast signal, so we can offer a reasonably accurate, word-for-word (and word-searchable) transcript for those programmes. But for the other half – such as most 24-hour news channels – there are no subtitles. The digitization and digital production of text means that full-text searching across a vast corpus of news content such as the British Newspaper Archive is a reality. But if video and sound content are to be equally accessible they need to be discoverable to an equivalent level of depth, and for researchers to be able to pursue subjects through books, manuscripts, newspapers, web pages, video and sound recordings on an equal footing.

The British Library's project 'Opening up Speech Archives' did not focus on building a technical solution for the British Library, but rather on surveying the field and engaging with researchers across a range of subject disciplines, to learn how speech-to-text technologies might best serve scholarly needs. The outputs of the project included a conference, workshops, and interviews with researchers and the development of an in-house demonstration service. The Searching Speech demonstrator is available for testing at the British Library. It presents 8,000 hours of audio and video from the British Library collection, indexed using the MAVIS system developed by Microsoft Research, and developed for the Library by Greenbutton. It features television and radio news from 2011 (Al-Jazeera English, CNN, NHK World and BBC Radio 4), historic radio programmes and oral history interviews. The Library welcomes feedback from researchers using this service and is continuing to explore possibilities in this area through pilot projects.

Conclusions

The British Library's GBP 33m Newspaper Programme, which is now nearing completion, was established to address a range of legacy issues associated with ensuring the long term storage, preservation and access to the UK's national newspaper collection, one of the largest and most comprehensive newspaper collections anywhere in the world. The programme has delivered a purpose-built state-of-the-art storage facility, with a fully automated retrieval system and full temperature and humidity control, which will enable the British Library's print newspaper collections to be kept in archival standard conditions for the first time ever. A new service proposition – the

Newsroom – has been created at St Pancras which will, through a combination of collecting and connecting and by combining traditional print and microfilm newspaper content with television and radio broadcast news recordings and with web news into an integrated offering, transform the traditional newspaper reading room concept into a hub for news and media. Increased digitization will both enable online access and protect the original newsprint from further wear and tear. The paper reports on a number of innovative solutions which have been adopted in taking the Newspaper Programme forward – in particular in relation to digitization funding models, storage solutions, onsite service provision, and accessibility. And as such this has provided a case study in national library innovation.

Notes

1. These figures are based on research undertaken at Colindale. Further research is to be undertaken of the audiences for St Pancras news services.
2. Formerly the Joint Information Systems Committee.

Author biographies

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Phil Spence is Chief Operating Officer at the British Library and he acts as the managerial deputy to the Chief Executive. He is responsible for ensuring that readers and users are delighted with the services that the Library provides, whether in its reading rooms or through its remote services. His previous career was in the area of management services and operations in the Police, Local Government and the National Health Service, where he was Director of Operations for the Scottish Ambulance Service. Contact: The British Library, 96 Euston Rd., London NW1 2DB, United Kingdom. Email: phil.spence@bl.uk

Abstracts

قتطفات

From inertia to innovation: Information-based organizations in the Age of Intelligence

من الصفر حتى الابتكار: المُنظمات القائمة على المعلومات في عصر الاستعلامات:

Roberta I. Shaffer

العدد رقم 40-3، من مجلة الإفلا المتخصصة: 145-149

لقد دفع عصر المعلومات عصر الاستخبارات إلى الأمام، مما وضع المؤسسات بجميع أنواعها أمام تحدٍ؛ لتبني ثقافة الابتكار المُستمر، والابتكار هو المُصطلح الواسع الذي يضم مبادئ من الاختراع والبراعة والارتجال. تدخل المؤسسات في عملية من الاستقصاء والمُبادرة والفراسة والخيال والإلهام والتنوير؛ للوصول إلى الابتكار، ولكن الطريق إلى الابتكار الكامل يُقدم العديد من الاختبارات في المحاولة عدة مرات واللحظية وعدم الاكتمال في محاولة الوصول إلى الابتكار، وكي تبدأ المؤسسات في عملية الابتكار، يجب أن تكون مُستعدة للنظر إلى جميع جوانب ما تقوم به من عمليات، وتعقد التزامات طويلة المدى بالتمويل، وتقبّل بعض الإخفاقات والنظر بجدية في مهامها والقيم التي تُقدمها. يميل أثر المؤسسات المُنفصلة غير المرنة وغير الصادقة في رغبتها في الابتكار وتقديم الخدمات إلى الاختفاء لأن بيئتها ومُجتمعها لن يواصلا الابتكار.

Innovations in the National Library Board Singapore: A journey

مُبتكرات في مجلس إدارة مكتبة سنغافورة الوطنية: رحلة

Ngian Lek Choh

العدد رقم 40-3، من مجلة الإفلا المتخصصة: 150-156

تأسست مكتبة سنغافورة الوطنية عام 1960، وقد عملت المكتبة بلا ملل ولا انقطاع؛ لتحويل نفسها؛ لتلبية احتياجات مُستخدميها، بدايةً من الأيام الأولى التي كان المُستخدمون يسافرون فيها لزيارة المكتبة إلى يومنا هذا حيث يحمل المُستخدمون مُختلف الأجهزة الرقمية والمحمول ويُفضلون الحصول على المحتوى من الإنترنت، لقد تغيرات احتياجات مُستخدمي المكتبة كثيرًا، وهو ما يُتيح للمكتبة الوطنية فرصًا هائلة للإبداع وابتكار طرق جديدة؛ لخدمة المُستخدمين أينما كانوا على مدار الـ24 ساعة، باستخدام أي جهاز في يديهم.

What makes innovation work? Innovation practice in the National Library of the Netherlands

ما الذي يُنجح الابتكار؟ الابتكار في مكتبة هولندا الوطنية

Hildelies Balk
Elsbeth Kwant
Clemens Neudecker

العدد رقم 40-3، من مجلة الإفلا المتخصصة: 157-168

لقد عملت مكتبة هولندا الوطنية (Koninklijke Bibliotheek) على ابتكار الخدمات وتشكيل المؤسسة على مدار العشرين عام الماضية ومن المُنتظر أن تستمر في ذلك في المُستقبل. إن السؤال المحوري الذي يطرحه المقال: ما الذي يجعل هناك ابتكارًا في مؤسسة هولندا الوطنية؟ سنُركز على حالتين: تطوير بوابة Delpher التي تُتيح الوصول إلى 30 مليون صفحة للتراث الهولندي، والتطوير الجاري لمعمل بحث المكتبة الوطنية الذي يُتيح للباحثين من الداخل والخارج مكانًا للتجارب. تمنحنا مُراجعة لنظرية الابتكار (Balk 2013) قائمة بالعوامل التي تُحدد قدرة أي مكتبة على الابتكار: القيادة، المعرفة والتعلّم في المنظمة، القدرة على التعاون والتصميم المؤسسي. نأمل بتطبيق هذه القائمة على الحالات التي تمت مُناقشتها في الإسهام إلى أفضل مُمارسات المكتبات الوطنية. وأخيرًا، نتطلع إلى تنمية مكتبة هولندا الرقمية الوطنية، وتضمن خدمات لعموم مُجتمع المكتبات في المكتبة الوطنية في المُستقبل القريب ومُشاركة بعض السيناريوهات المُحتملة لمُستقبل المكتبات في هولندا مع الجمهور.

Building tomorrow's library today: The New Library of Alexandria

بناء مكتبة الغد، اليوم: مكتبة الأسكندرية الجديدة:

إسماعيل سراج الدين

العدد رقم 40-3، من مجلة الإفلا المتخصصة: 169-173

تلعب مكتبة الإسكندرية الجديدة دورًا مُميزًا في القرن الحادي والعشرين، كونها متحفًا ومعرضًا ودارًا للوثائق وأكاديمية ومركزًا للمؤتمرات ومركزًا علميًا وجامعة ومدرسة خاصة. لقد أظهرت مكتبة الإسكندرية بمزجها تكنولوجيا اتصالات ومعلومات اليوم بتراث الأمس الثقافي الغني وذاكرة الوطن، أن الابتكار يحفظ الأمس ويضمن المُستقبل.

Qatar National Library – Architecture as innovation in the Arab world

مكتبة قطر الوطنية: المعمار كونه ابتكارًا في الوطن العربي:

Claudia Lux

العدد رقم 40-3، من مجلة الإفلا المتخصصة: 174-181

تُعرف مكتبة قطر الوطنية بدايةً بإعلان خُطة المكتبة ومهمتها الأساسية والعاملين بها وخدماتها ومُقتنياتها، استعدادًا ليوم الافتتاح، وتم اختيار مبدأ معماري مفتوح ومميز يدعو مُستخدمي المكتبة للاستكشاف والابتكار، كما ستعمل مكتبة قطر كمكتبة جامعية مركزية لكل مواطني قطر، يوضح هذا المقال أيضًا طريقة مُبتكرة لخلط جميع المُقتنيات دون النظر لنوعية الجمهور الذي تُخاطبه.

Bibliothèque et Archives nationales du Québec: Convergence and the path of innovation

مكتبات ودور وثائق الكبيك: مُلتقى ومسار الابتكار:

Guy Berthiaume
Pascale Ryan

العدد رقم 40-3، من مجلة الإفلا المتخصصة: 182-185

تُعد جمعية المكتبات ودور الوثائق الوطنية في الكبيك (المعروفة بـBAnQ)، جديدة نسبيًا على المدينة ولكنها مُميزة في نواحٍ عِدة على الأقل في مُجتمع المكتبات والمعلومات، وُلدت هذه الجمعية نتاج انصهار ثلاث مؤسسات، ورثت منها التزامات بجوهر مهامها: التزامات المكتبة الوطنية ودور الوثائق الوطنية والمكتبة العامة. لا شك في محورية دور هذا الانصهار في أصالة المؤسسة وشكل مُبادراتها في الابتكار. إن مُهمة إحدى شركات حكومة كبيك التابعة لوزارة الثقافة والاتصالات (ministère de la Culture et des Communications du Québec) الثلاثية هي جمع مواد كبيك التراثية وحفظها والترويج لها، وتُعد المؤسسة الوحيدة بين مثيلاتها من المؤسسات الكندية، التي لها سلطة المكتبة الوطنية بينما تقوم مكتبات ودور وثائق كندا بهذا الدور في جميع أنحاء البلاد.

Built on sound principles: Audio management and delivery at the National Library of Australia

بُناءً على مبادئ سليمة: إدارة وتقديم المواد السمعية في مكتبة أستراليا:

Kevin Bradley

العدد رقم 40-3، من مجلة الإفلا المتخصصة: 186-194

تُعد مُقتنيات التاريخ الشفاهي والفلكلور في مكتبة أستراليا الوطنية دار وثائق بحثية، وهي مجموعة أساسية من التسجيلات الصوتية غير المنشورة تتراوح في طولها ومستواها، بواسطة الباحثين وعنهم، والتي

عادةً ما تكون مطولة وصعبة في بحثها، ولكنها تحظى بتقدير واسع النطاق من المُستخدمين ومؤرخي العائلات والكتاب المهنيين. وباتباع برنامج حفظ طويل المدى، تمت رقمنة مُعظم هذه المجموعة وفقًا للمعايير الأرشيفية ويتم عمل نسخ للمُستخدمين تُتيح لهم الوصول إلى التسجيل الصوتي الأولي. وقامت مكتبة أستراليا الوطنية بعمل نظام بحث مُبتكر؛ للسماح للمُستخدمين بالوصول إلى المصدر والبحث على محتويات مُحددة فيه: (http://trove.nla.gov.au)، يُقدم نظام المكتبة لإدارة وتقديم المواد السمعية ما يُقارب السبعة آلاف ساعة أو 13% من مُقتنيات التاريخ الشفاهي والفلكلور المُتاحة للجمهور بل وتستمر إضافة المزيد. يشرح هذا البحث كيفية عمل وتطوير هذا النظام ويتناول طبيعة الابتكار داخل البيئة المكتبية.

Innovation as a strategic choice at the Deutsche Nationalbibliothek

الابتكار خيار مكتبة ألمانيا الوطنية الإستراتيجي:

Reinhard Altenhöner
Ulrike Junger
Ute Schwens

العدد رقم 40-3، من مجلة الإفلا المتخصصة: 195-201

لقد واجهت مكتبة ألمانيا الوطنية في السنوات الأخيرة مثلها مثل عموم المكتبات، التغيرات التي أحدثتها التكنولوجيا في عالم المعلومات، والتي تعني تحديًا لا يُستهان به فيما يتعلق بالتزامات المكتبة الوطنية وكيفية تحقيقها، ومن الأمثلة الهامة على ذلك: كيف ستتعامل المكتبة مع التزاماتها التي زادت بوجود المُصدرات الرقمية بجميع أنواعها، بما في ذلك الالتزام بتسجيلها وإتاحتها للأجيال الحالية والقادمة؟ كيف تستطيع الحفاظ على مكانتها كمنارة في وسط بحار البيانات والمعلومات؟، وهو ما لن يتم مُصادفةً، بل يتطلب تخطيطًا وأفعال مُحددة ومُتابعة مُستمرة بُناءٍ على إستراتيجية واضحة ومنهج مُتسق، مما يستدعي مُراجعة العمليات والوظائف الموجودة، والتخلص من بعضها والقيام ببعض آخر جديد. لطالما اعتبرت مكتبة ألمانيا الوطنية نفسها مؤسسة مُبتكرة، وأصبح استمرار هذا الابتكار وتكراره ضرورة تزداد إلحاحًا، لذلك بدأت المكتبة عملية إستراتيجية في عام 2013؛ للتجاوب مع هذه الضرورة، وهي عملية جديدة على المؤسسة وأعضائها وتتطلب الكثير من التعلّم والإعداد. وكانت أولى الخطوات الرئيسية هي تحديد الأهداف من 2013 إلى 2016، مُستكملةً بمشروع؛ للتنمية المؤسسية، وتُساعد هذه الأهداف مكتبة ألمانيا الوطنية على التركيز والعمل كمثال لوضع أولويات من المشروعات والمهام، ومن أمثلة الأولويات الإستراتيجية: الزيادة الكبيرة في حجم مجموعة المُقتنيات الرقمية والمصادر الإلكترونية وتنمية وتطبيق نظم الفهرسة الآلية، ودفع جهود الرقمنة إلى الأمام، وتأسيس بنية تحتية لحفظ المحتوى الرقمي على المدى الطويل. ومع ذلك، مازالت هناك مجالات يجب تناولها وتحديات يجب التعامل معها كي تستمر المكتبة الوطنية في الابتكار. يهدف هذا المقال إلى تناول موضوع ذي شقين: الأول، وصف عملية التنمية داخل مكتبة ألمانيا الوطنية، والثاني، طرح أمثلة ومجالات عمل قد تُشكل عوامل النجاح في التعامل مع المُستقبل.

Innovative services in the National Library of China

Andy Stephens
Caroline Brazier
Phil Spence

الخدمات المُبتكرة في مكتبة الصين الوطنية:

Han Yongjin

لقد واجه العمل المكتبي بالصين في السنوات الأخيرة، تحديات جديدة كما أتيحت له فرصًا أيضًا لم تكن موجودة من قبل؛ نتيجة التغيرات السياسية والاقتصادية والاجتماعية وبيئة الصين التقنية؛ ولمواكبة هذه التحديات كرست مكتبة الصين الوطنية نفسها لتحويل المكتبات بصور مُبتكرة، وهو ما تطلب قدرًا كبيرًا من استكشاف تطوير المكتبات الرقمية والتعليم الاجتماعي وحفظ وترميم التراث الثقافي وتكامل المصادر المكتبية وعرضها، كما بدأت المكتبة مشروعات كبيرة مثل مشروع الترويج للمكتبة الرقمية و"الذاكرة الصينية"، وبنت المتحف الوطني للمجموعات الكلاسيكية؛ للترويج للقراءة على نطاق واسع، وقد حققت هذه الجهود نتائجًا إيجابية.

A case study in national library innovation: newspapers in the British Library

دراسة حالة حول الابتكار في المكتبات الوطنية: الصحف في المكتبة البريطانية:

تأسس برنامج صحيفة £m33 التابع للمكتبة البريطانية، والذي شارف الآن على الاكتمال؛ لتناول العديد من الموضوعات ذات الصلة بالتراث الفكري المُتعلقة بضمان تخزين مجموعة المملكة المُتحدة من الصحف القومية وحفظها وإتاحتها، وتُعد هذه المجموعة من أكبر المجموعات وأكثرها شمولية حول العالم وتضم أكثر من 750 صفحة من صُحف تعود إلى أكثر من ثلاثة قرون. قدم البرنامج مرفقًا لهذا الغرض، مزود بنظام آلي لاسترجاع المعلومات في درجتي حرارة ورطوبة ملائمتين، مما سيُمكن من الحفاظ على مجموعة المكتبة البريطانية من الصحف المطبوعة وفقًا للمعايير لأول مرة. كما أن هناك اقتراحًا لعمل "غرفة الأخبار" في St Pancras والذي وجنبًا إلى جنب مع المجموعة المطبوعة التقليدية والمحتوى الموجود من الصحف على الميكروفيلم والإذاعة والتلفزيون والتسجيلات الإخبارية، إلى مصدر إخباري وإعلامي، ستُمكن زيادة الرقمنة من إتاحة المحتوى إلكترونيًا وأيضًا من الحفاظ على الصحف الأصلية . ثُقدم الورقة البحثية تقريرًا حول عدد من الحلول المُبتكرة التي تم تبنيها لدفع هذا البرنامج إلى الأمام، وخاصةً في نماذج التمويل والتخزين وتقديم الخدمة والإتاحة، يُعد هذا البحث دراسة حالة حول الابتكار في المكتبات الوطنية.

摘要

From inertia to innovation: Information-based organizations in the Age of Intelligence

从保守到创新：智能时代下的信息化机构

Roberta I. Shaffer

信息时代催生出智能时代，各类机构均面临着不断创新文化的挑战。创新是一个广义术语，涵盖发明、独创和即兴创作之义。各机构历经探寻、发起、洞察、启动、想象与灵感，以及启发的过程后，最终实现创新。然而，在通往全面创新的道路上，会有多种选择，如创制一个孵化器，抑或在创新的方法上，可以重复、即兴、不完全或相互借鉴。要开启创新之路，各机构必须察看其运营的方方面面，致力于长期投资，接受可能会出现的一些失败，认真审视自身使命、价值体系和价值主张。在创新方面保守、僵化、故步自封，且无独立运作能力的机构，则更有可能消亡或影响力渐弱，因为他们的环境和文化无法支撑创新。

Innovations in the National Library Board Singapore: A journey

新加坡国家图书馆管理局之创新历程

Ngian Lek Choh

新加坡国家图书馆成立于1960年，始终不懈地致力于转型，以满足其终端用户不断变化的需求。从最初用户不得不前往史丹福路参观国家图书馆，到今天用户携带各种数字设备和移动工具并更乐于在线访问，其用户的需求发生了巨大变化。这为国家图书馆提供了巨大机遇，使其能够借助用户手中任一设备进行开拓、创新、提出让用户随时随地享受7×24小时全天候服务的新举措。

What makes innovation work? Innovation practice in the National Library of the Netherlands

创新为何可行？荷兰皇家图书馆之创新实践

Hildelies Balk
Elsbeth Kwant
Clemens Neudecker

IFLA Journal, 40-3, 157–168

荷兰皇家图书馆(Koninklijke Bibliotheek，以下简称为KB)在过去20年里一直在其服务和组织方面进行创新，并将会一如既往地进行。本文的核心问题是：什么使得创新在KB的组织体系内具有可操作性？我们将重点关注两个案例：一是最近开放的Delpher门户网站，它提供了3千万页的荷兰遗产数字化资源以供访问；二是 KB实验室的新近发展情况，该实验室为内外部研究人员提供了实验平台。对创新理论与实践的回顾(Balk 2013)为我们提供了一系列决定图书馆创新能力的因素，可分为四个方面：领导力和文化，知识和组织学习，协作能力以及组织设计。通过将这些决定因素应用到上述用例，我们希望能够诠释国家图书馆的一系列最佳创新实践。最后，我们将展望荷兰国家数字图书馆的发展前景，在不远的将来把为公共图书馆社区的服务整合到KB中，并与读者分享荷兰图书馆的未来发展蓝图。

Building tomorrow's library today: The New Library of Alexandria

明日图书馆今日建：新亚历山大图书馆

Ismail Serageldin

IFLA Journal, 40-3, 169–173

新亚历山大图书馆在21世纪发挥着独一无二的作用，它集图书馆、博物馆、美术馆、档案馆、研究院、会议中心、科学中心、大学和特殊学校于一身。通过将当今的信息和通讯技术与昔日的丰富文化遗产和国家记忆相融合，亚历山大图书馆已表明自上而下的创新实践不仅可以留存过去，而且可以保障未来。

Qatar National Library – Architecture as innovation in the Arab world

卡塔尔国家图书馆——阿拉伯世界中的建筑创新

Claudia Lux

IFLA Journal, 40-3, 174–181

卡塔尔国家图书馆新馆已做好准备迎接开幕日的到来，本文从新馆筹划公告、新馆核心任务、人员配备、服务和馆藏方面对其展开介绍。图书馆用户为新馆选择了一个独具特色的开放式概念建筑，它能激发探索与创造。国家图书馆也将成为教育城的中央大学图书馆和卡塔尔全体公民的"大都会"。本文还演示了一种不考虑目标受众整合所有馆藏的创新方法。

Bibliothèque et Archives nationales du Québec: Convergence and the path of innovation

魁北克图书档案馆：融合与创新之路

Guy Berthiaume
Pascale Ryan

IFLA Journal, 40-3, 182–185

魁北克图书档案馆，是魁北克市相对而言的新生者，在很多方面独具特色。该馆由三个机构合并而成，继承了三机构各自的任务，这些任务构成了其核心使命：担当国家级图书馆、国家级档案馆和公共图书馆之重任。毫无疑问，此次合并对该馆的原创力极为重要，并为其开拓创新奠定了基础。作为隶属魁北克文化与通信部 (ministère de la Culture et des Communications du Québec) 的政府性机构，BAnQ 的三重使命是获取、永久保存和宣传推广魁北克遗产资料。在同类加拿大省级机构中，它是唯一一家执行国家图书馆使命的机构，而加拿大图书和档案馆则为整个国家履行这一使命。

Built on sound principles: Audio management and delivery at the National Library of Australia

基于健全原则：澳大利亚国家图书馆音频资料管理与传递

Kevin Bradley

澳大利亚国家图书馆口述历史和民间传说馆藏是一个研究资料库，收录了大量不同长度、文献级别的未公开音频记录，这些音频记录均由研究人员创建并为其所用。通常这些音频资料跨度广泛，难以定位；即便如此，从家族史学者到职业作家，各类用户无不赏识这些资源。根据长期施行的保存计划，大部分馆藏按照档案级的标准进行了数字化处理，制作了用户副本，实现了对原始文献，即原始录音的访问。为使用户检索、访问原始录音，并能够在录音记录中定位具体内容，澳大利亚国家图书馆开发了与时间连接的检索与传递系统，以及一个使其能通过其创新聚合平台Trove(http://trove.nla.gov.au)检索到的架构。目前该馆音频管理与传递系统公开提供将近7000小时时长或者说13%的口述历史和民间传说馆藏，且内容在不断丰富。本文介绍了该系统的研发，并探讨了图书馆环境下创新的本质。

Innovation as a strategic choice at the Deutsche Nationalbibliothek

创新：德意志国家图书馆之战略选择

Reinhard Altenhöner
Ulrike Junger
Ute Schwens

同图书馆和图书馆事业一样，德意志国家图书馆(DNB)近年来面临着信息环境下技术驱动的变革。这些变革意味着DNB在其使命及完成使命方式上存有巨大的挑战。举一个重要例子：DNB如何完成涉及所有类型数字出版物的馆藏使命，包括记录这些出版物，满足当代大众以及后代的检索和使用需求？它又将如何在数据和信息的海洋中保持其显要的灯塔位置呢？这一切不会偶然发生，而将是在明确的策略和系统的方法上，仔细规划、有力行动、持续监控的结晶；这意味着其饯行过程和职能需要不断地改进、破而后立。DNB始终将自己视为一个创新性机构，并看到以开放的姿态不断创新的必要性和紧迫性。因此，DNB于2013年启动了一项战略规划。这一规划对机构及其成员是全新事物，因而需要大量学习和准备。主要的第一步是制定2013至2016年的战略目标，辅以组织机构上的调整。这些目标有助于DNB集中力量开展重点工作，也是确定重点项目和优先任务的指导原则。战略目标的当务之急包括大幅增长数字化和网络资源馆藏，开发和实现自动化编目流程，加强数字化力度，以及建设长期保存数字内容的基础设施。此外，还需顾及其他领域、应对其他挑战，因为战略规划和机构调整旨在让DNB拥有不断跟进创新的工具。本文拟从两方面阐述主题：一是介绍DNB的规划，二是列举实例和工作领域，它们可能是成功掌控未来的相关因素。

Innovative services in the National Library of China

中国国家图书馆之创新服务

Han Yongjin

近年来，中国图书馆事业发展迎来前所未有的政治、经济、社会和技术环境，这为事业发展带来新的机遇和挑战。为适应这一新形势的发展，中国国家图书馆一直致力于开阔思路，改革创新，推动国家图书馆的转型发展，在数字图书馆建设、社会教育拓展、文化遗产保存与保护、图书馆馆藏资源的整合与揭示等方面做了大量探索，实施数字图书馆推广工程、中国记忆项目等重大文化工程，建立典籍博物馆，广泛开展阅读推广活动，取得了积极成果。

A case study in national library innovation: newspapers in the British Library

国家图书馆创新案例：英国国家图书馆报纸项目

Andy Stephens
Caroline Brazier
Phil Spence

耗资3千3百万英镑的英国国家图书馆报纸项目已接近尾声，该项目旨在解决一系列与确保英国本国报纸馆藏的长期存储、保存和访问相关的问题。该馆藏是世界上规模最大、最全面的报纸馆藏之一，拥有跨越三个世纪之多的7.5亿页报纸。该项目已交付了一个先进的特制存储设备，它带有全自动检索系统及完整的温湿度调控，这让大英图书馆的印刷报纸馆藏有史以来首次以档案标准得以保存。一项新的服务提议，即新闻空间（the Newsroom），已在圣潘克拉斯馆舍内建成；

通过收集与链接相结合的方式，将传统印刷型和缩微胶片上的报纸内容与电视和电台广播新闻录音以及网络新闻整合成综合性馆藏，这会将传统的报纸阅览室概念转化为新闻和媒体中心。数字化的加强不仅保证了在线访问，还保护了原有报纸免受进一步磨损。本文介绍了在推进报纸项目中采取的诸多创新举措，尤其是在数字化融资模式、存储解决方案、现场服务平台及可获取型等方面的举措，以期为国家图书馆创新提供案例研究。

Sommaires

From inertia to innovation: Information-based organizations in the Age of Intelligence

[De l'inertie à l'innovation : les organisations basées sur les technologies de l'information à l'ère de l'intelligence]

Roberta I. Shaffer

IFLA Journal, 40-3, 145-149

Alors que l'ère de l'information a donné naissance à l'ère de l'intelligence, des organisations très diverses se voient forcées d'adopter une culture d'innovation permanente. L'innovation est un terme global qui recouvre les concepts d'invention, d'ingéniosité et d'improvisation. Les organisations passent par un processus de recherche, d'incitation, de réflexion, d'initiation, d'imagination, d'inspiration et de révélation pour finalement parvenir à l'innovation. Cependant, la voie de l'innovation intégrale est faite de nombreuses options, comme la possibilité de créer une pépinière d'entreprises ou d'oser se répéter, de fonctionner dans l'instant, d'être incomplet ou de se laisser contaminer dans son approche de l'innovation. Pour lancer un processus d'innovation, les organisations doivent être disposées à considérer tous les aspects de leurs activités, à s'engager dans des financements sur le long terme, à accepter la possibilité d'échouer parfois et à examiner sérieusement leurs missions, systèmes de valeur et valeurs ajoutées. Les organisations inflexibles qui fonctionnent de façon isolée et en circuit fermé, qui ne souhaitent pas vraiment innover, manquent de conviction sur leur capacité à obtenir des résultats et opèrent de façon indépendante, sont plus susceptibles de disparaître ou de voir leur influence diminuer du fait que leur environnement et leur culture ne sont pas en mesure de soutenir l'innovation.

Innovations in the National Library Board Singapore: A journey

[Innovations à la direction de la Bibliothèque nationale de Singapour : une aventure]

Ngian Lek Choh

IFLA Journal, 40-3, 150-156

La Bibliothèque nationale de Singapour a été fondée en 1960 et a travaillé sans répit à sa transformation afin de répondre aux besoins changeants des utilisateurs finaux. Depuis les tout premiers temps, lorsque les utilisateurs devaient voyager pour se rendre à la Bibliothèque nationale située sur Stamford Road, aux utilisateurs d'aujourd'hui qui ont sur eux divers appareils numériques et gadgets mobiles et préfèrent accéder au contenu en ligne, les besoins de ses utilisateurs ont radicalement changé. La Bibliothèque nationale a ainsi l'occasion exceptionnelle d'imaginer des prototypes, d'innover et de proposer de nouveaux types de services à ses utilisateurs où qu'ils se trouvent, 24h/24 et 7j/7, en utilisant l'un des appareils dont ils sont en possession.

What makes innovation work? Innovation practice in the National Library of the Netherlands

[Qu'est-ce qui fait le succès de l'innovation ? L'innovation dans la pratique à la Bibliothèque nationale des Pays-Bas]

Hildelies Balk
Elsbeth Kwant
Clemens Neudecker

IFLA Journal, 40-3, 157-168

Ces vingt dernières années, la Bibliothèque nationale des Pays-Bas, (Koninklijke Bibliotheek, ci-après KB)

a innové au niveau de ses services et de son organisation et devrait continuer à le faire à l'avenir. Cet article pose donc une question essentielle : qu'est-ce qui fait le succès de l'innovation au sein de l'organisation de la KB ? Nous nous basons sur deux cas d'utilisation : le développement du portail Delpher ouvert récemment, qui donne accès à 30 millions de pages du patrimoine néerlandais numérisé, et le développement actuel du Laboratoire de recherche de la KB qui procure une plateforme d'expérimentation aux chercheurs internes et externes. Une étude sur la théorie et la pratique de l'innovation (Balk 2013) nous fournit une liste pour contrôler les facteurs qui déterminent la capacité d'innovation d'une bibliothèque, regroupés en quatre thèmes : Leadership et culture, Savoir et apprentissage organisationnel, Capacité de collaboration et Conception organisationnelle. En appliquant cette liste de contrôle aux exemples d'utilisation discutés, nous espérons contribuer à déterminer les meilleures pratiques en matière d'innovation dans les bibliothèques nationales. Enfin, nous nous tournerons vers l'avenir, avec le développement de la Bibliothèque nationale numérique des Pays-Bas, qui devrait intégrer dans un proche avenir au sein de la KB des services destinés à la communauté des bibliothèques publiques. Nous évoquerons aussi certains scénarios possibles pour le futur environnement des bibliothèques aux Pays-Bas.

Building tomorrow's library today: The New Library of Alexandria

[Construire aujourd'hui la bibliothèque de demain : la nouvelle bibliothèque d'Alexandrie]

Ismail Serageldin

IFLA Journal, 40-3, 169-173

La nouvelle bibliothèque d'Alexandrie joue un rôle unique au 21e siècle en tant que bibliothèque, musée, galerie d'art, archive, académie, centre de conférence, centre scientifique, université et école spéciale. En mêlant les technologies de l'information et de la communication d'aujourd'hui au riche patrimoine culturel d'hier et à la mémoire nationale, la Bibliothèque d'Alexandrie a montré que la politique d'innovation appliquée par l'organisation préserve le passé et garantit l'avenir.

Qatar National Library – Architecture as innovation in the Arab world

[Bibliothèque nationale du Qatar : l'architecture comme forme d'innovation dans le monde arabe]

Claudia Lux

IFLA Journal, 40-3, 174-181

L'article présente la nouvelle Bibliothèque nationale du Qatar, en commençant par l'annonce de la bibliothèque projetée, sa mission essentielle, son personnel, les services et les collections alors qu'elle se prépare à son inauguration. Une architecture ouverte au concept unique a été choisie pour inviter à l'exploration et à la créativité de la part des utilisateurs de la bibliothèque. La Bibliothèque nationale fera aussi office de bibliothèque universitaire centrale à Education City ainsi que de métropole pour tous les citoyens du Qatar. Cet article expose aussi une façon innovante de faire fusionner toutes les collections quel que soit le public visé.

Bibliothèque et Archives nationales du Québec: Convergence and the path of innovation

[Bibliothèque et Archives nationales du Québec : convergence et voie de l'innovation]

Guy Berthiaume
Pascale Ryan

IFLA Journal, 40-3, 182-185

Bibliothèque et Archives nationales du Québec (connu sous son acronyme, BAnQ) est encore un nouveau venu dans la ville et est unique à plus d'un titre, du moins au sein de la communauté des bibliothèques et de l'information. Né de la fusion successive de trois institutions, BAnQ a hérité de leurs mandats respectifs, qui constituent le cœur de sa mission : les mandats d'une bibliothèque nationale, d'archives nationales et de bibliothèque publique. Il ne fait aucun doute que c'est cette fusion qui fait l'originalité de l'institution et constitue la base de ses initiatives en matière d'innovation. En tant qu'organisme gouvernemental québécois placé sous la direction du ministère de la Culture et des Communications du Québec, BAnQ a pour triple mission d'acquérir, de conserver de façon permanente et de promouvoir le matériel patrimonial du Québec. Parmi d'autres institutions similaires des provinces canadiennes, c'est la seule à détenir le mandat d'une bibliothèque nationale, alors que Bibliothèque et Archives Canada remplit ce rôle pour le pays dans son ensemble.

Built on sound principles: Audio management and delivery at the National Library of Australia

[Construite sur des principes solides : gestion et fourniture des documents audio à la Bibliothèque nationale d'Australie]

Kevin Bradley

La collection consacrée à l'histoire orale et au folklore à la Bibliothèque nationale d'Australie est une archive de recherche ; il s'agit d'une collection substantielle d'enregistrements audio jamais publiés, de longueurs variées et de niveaux divers de documentation, créés par et pour les chercheurs. Ces enregistrements sont souvent longs et difficiles à consulter ; cependant, ils constituent une ressource très appréciée d'un large groupe d'utilisateurs, qui vont des historiens spécialistes de la famille à des écrivains professionnels. Dans la ligne d'un programme de conservation sur le long terme, la majeure partie de la collection a été numérisée selon les normes d'archivage, et des copies ont été faites à l'intention des utilisateurs, afin de conserver l'accès au document original lui-même, c'est-à-dire la voix. Pour permettre aux utilisateurs de découvrir et d'avoir accès à la source primaire d'enregistrement audio et d'être en mesure de localiser un contenu spécifique dans ces enregistrements, la Bibliothèque nationale d'Australie a développé un système temporel de recherche et de fourniture de documents et un schéma permettant à sa plateforme innovante d'agrégation, Trove (http://trove.nla.gov.au) d'effectuer des recherches. Le système de gestion et de fourniture de documents audio de la bibliothèque se compose actuellement de près de 7000 heures, à savoir 13 pour cent de la collection consacrée à l'histoire orale et au folklore actuellement disponible publiquement, du contenu devant y être ajouté en permanence. Cet article décrit le développement de ce système et étudie la nature de l'innovation dans un environnement bibliothécaire.

Innovation as a strategic choice at the Deutsche Nationalbibliothek

[L'innovation comme choix stratégique à la Deutsche Nationalbibliothek]

Reinhard Altenhöner
Ulrike Junger
Ute Schwens

Comme les bibliothèques et la bibliothéconomie en général, la bibliothèque nationale allemande (Deutsche Nationalbibliothek ou DNB) a dû faire face ces dernières années à des changements technologiques dans l'environnement d'information. Ces changements sont un défi considérable pour la DNB en ce qui concerne son mandat et la façon de le remplir. Pour citer un exemple essentiel : comment la DNB va-t-elle assumer le fait que son mandat axé sur les collections soit étendu aux publications numériques de toutes sortes, y compris l'obligation d'enregistrer ces publications et de les mettre à la disposition des générations actuelles et futures ? Comment peut-elle demeurer un fanal bien visible dans cet océan de données et d'informations ? Cela ne se produira pas par accident, mais sera le résultat d'une planification minutieuse, d'actions volontaires et d'un contrôle permanent, basés sur une stratégie claire et une approche systématique. Cela signifie qu'il faudra examiner les processus et les fonctions puis les supprimer ou en créer de nouveaux. La DNB s'est toujours considérée comme une institution innovante – la nécessité de s'ouvrir à des innovations incessantes et d'initier de tels développements est devenue de plus en plus urgente. Par conséquent, la DNB a lancé en 2013 une procédure stratégique pour répondre à ces exigences. Il s'agit d'une procédure nouvelle pour l'institution et ses membres, qui nécessite beaucoup d'apprentissage et de préparation. Un premier pas important a consisté à définir les objectifs stratégiques pour les années 2013 à 2016 et à concevoir un projet de développement organisationnel. Ces objectifs aident la DNB à rester concentrée et servent de ligne directrice pour établir les priorités dans les projets et les tâches. Parmi les exemples de priorités stratégiques : une augmentation substantielle de la collecte de ressources numériques et en ligne, le développement et la mise en œuvre de processus de catalogage, l'intensification des efforts de numérisation et la mise en place d'une infrastructure pour la conservation sur le long terme du contenu numérique. Cependant, il y a d'autres domaines dont il faut s'occuper et d'autres défis à relever – le processus stratégique et le domaine du développement organisationnel sont pour la DNB des outils pour continuer à innover en permanence. Cet article aborde le sujet de deux points de vue : d'une part, nous décrivons le développement du processus au sein de la DNB et d'autre part, nous nommons des exemples et des domaines de travail qui peuvent jouer un rôle pour parvenir à maîtriser le futur.

Innovative services in the National Library of China

[Services innovants à la Bibliothèque nationale de Chine]

Han Yongjin

Ces dernières années, la bibliothéconomie en Chine a été confrontée à de nouvelles opportunités et de nouveaux défis, en raison de changements sans précédent sur le plan politique, économique, social et technique

en Chine. Pour s'adapter à ces changements, la Bibliothèque nationale de Chine s'emploie à transformer les bibliothèques de façon innovante. Elle a consacré de nombreuses recherches au développement des bibliothèques numériques, à l'éducation sociale, à la protection et la conservation des patrimoines culturels ainsi qu'à l'intégration et à la présentation des ressources bibliothécaires. Elle a aussi mis en œuvre de grands projets, y compris le projet de promotion de la bibliothèque numérique et le projet « Mémoire chinoise », et construit le Musée national des Collections classiques pour promouvoir des activités intensives de lecture. Tous ces efforts ont obtenu de bons résultats.

A case study in national library innovation: newspapers in the British Library

[Une étude de cas sur l'innovation au sein d'une bibliothèque nationale : les journaux à la British Library]

Andy Stephens
Caroline Brazier
Phil Spence

IFLA Journal, 40-3, 206-212

Le programme mis en place par la British Library pour un montant de 33 millions de livres est bientôt achevé. Il avait été créé pour prendre en compte un certain nombre de problèmes patrimoniaux en rapport avec le stockage sur le long terme, la conservation et l'accès à la collection nationale de journaux britanniques, l'une des plus grandes et plus complètes collections de journaux du monde, avec plus de 750 millions de pages de journaux couvrant plus de trois siècles. C'est grâce à ce programme qu'ont été mis à disposition des équipements ultramodernes construits spécialement, avec un système de consultation entièrement automatisé et un contrôle intégral de la température et de l'humidité, qui vont permettre pour la toute première fois de conserver les collections de journaux imprimés de la British Library dans des conditions correspondant aux normes d'archivage. Une nouvelle proposition de services – la Salle de presse – a été créée à St Pancras. Elle va transformer le concept traditionnel de salle de lecture de journaux en une plateforme d'accès aux nouvelles et aux médias, en joignant collecte et connexion et en combinant le contenu traditionnel imprimé et sur microfilms des journaux avec des enregistrements de programmes télévisés et radiophoniques ainsi qu'avec des informations en ligne pour créer une offre intégrée. La numérisation accrue va permettre un accès en ligne tout en évitant que les journaux imprimés d'origine ne se détériorent. L'article évoque un certain nombre de solutions innovantes qui ont été adoptées en faisant avancer le programme consacré aux journaux – en particulier relativement aux modèles de financement de la numérisation, aux solutions de stockage, à la fourniture de services en ligne et l'accessibilité – offrant ainsi une étude de cas sur l'innovation au sein des bibliothèques nationales.

Zusammenfassungen

From inertia to innovation: Information-based organizations in the Age of Intelligence

[Von der Trägheit zur Innovation: Informationsbasierte Organisationen im Wissenszeitalter]

Roberta I. Shaffer

IFLA-Journal, 40-3, 145-149

Nachdem das Informationszeitalter nun in das Wissenszeitalter übergegangen ist, sehen sich Institutionen aller Art mit der Herausforderung konfrontiert, eine Kultur der ständigen Innovation zu assimilieren. Der Sammelbegriff / die umfassende Bezeichnung ist „Innovation"; dies beinhaltet die Konzepte der Erfindung, Findigkeit // Erfindungsreichtum und Improvisation. Dabei durchlaufen die Organisationen einen Prozess der Recherche, Initiierung, Einsicht, Initiierung, Imagination und Inspiration und Aufklärung, bevor schließlich und endlich die Innovation realisiert wird. Der Weg zur vollständigen Innovation beinhaltet jedoch viele Optionen, wie beispielsweise die Schaffung eines Förderzentrums oder die Möglichkeit einer iterativen, unmittelbaren, unvollständigen oder zündenden Innovationsstrategie. Um den Innovationsprozess in die Wege zu leiten, müssen die Organisationen dazu bereit sein, alle Aspekte ihrer Tätigkeiten ins Auge zu fassen, sie müssen sich langfristig der finanziellen Förderung verschreiben, die Möglichkeit des Versagens einkalkulieren und ihre Zielsetzungen, Wertsysteme und Visionen ernsthaft hinterfragen. Organisationen, die engstirnig, starr, unbeugsam und unaufrichtig im Zusammenhang mit den Innovationsbemühungen umgehen, die sich unsicher sind, ob sie dies auch realisieren können und unabhängig handeln werden mit größerer Wahrscheinlichkeit verschwinden oder an Einfluss verlieren, da ihre Umgebung und ihre Kultur nicht innovationsfreundlich ist.

Innovations in the National Library Board Singapore: A journey

[Innovationen beim National Library Board Singapur: Eine Reise]

Ngian Lek Choh

IFLA-Journal, 40-3, 150-156

Die National Library von Singapur wurde im Jahr 1960 gegründet und hat unermüdlich an ihrer eigenen Umgestaltung gearbeitet, um den veränderten Anforderungen ihrer Endanwender Rechnung zu tragen. Von den Anfängen, wo sich die Nutzer selbst auf den Weg machen mussten, um die Nationalbibliothek in der Stamford Road zu besuchen, bis hin zu den heutigen Nutzern, die eine Vielzahl digitaler Geräte und mobiler Apparate bei sich tragen und den gewünschten Content vorzugsweise online abrufen, haben sich die Erfordernisse der Nutzer drastisch geändert. Dadurch bieten sich der Nationalbibliothek hervorragende Möglichkeiten zur Prototypierung und Innovation. Sie hat damit die Chance, neue Wege zu finden, um den Nutzern ihren Service anzubieten, wo immer sie sich befinden, an 7 Tagen in der Woche rund um die Uhr, wobei jedes beliebige Gerät verwendet wird, das gerade zur Hand ist.

What makes innovation work? Innovation practice in the National Library of the Netherlands

[Wodurch funktioniert die Innovation? Innovationspraxis in der Nationalbibliothek der Niederlande]

Hildelies Balk
Elsbeth Kwant
Clemens Neudecker

IFLA-Journal, 40-3, 157-168

Die Nationalbibliothek der Niederlande (Koninklijke Bibliotheek, nachstehend „KB" genannt), hat ihren Service und die Organisation in den letzten 20 Jahren kontinuierlich erneuert und will sich auch in Zukunft weiter um Innovation bemühen. Die zentrale Frage in diesem Artikel ist: Wodurch funktioniert die Innovation im Rahmen der Organisation der KB? In diesem Zusammenhang werden wir uns schwerpunktmäßig mit zwei Nutzungsfällen befassen: der Entwicklung des kürzlich eröffneten Delpher Portal, das Zugang zu 30 Millionen Seiten des digitalisierten Dutch Heritage bietet, und der aktuellen Entwicklung des KB ResearchLab, das den hauseigenen wie auch externen Forschern eine Plattform für Experimente bietet. Eine Besprechung der Innovationstheorie und

-Praxis (Balk 2013) enthält eine Checkliste der Einflussfaktoren, von denen die Innovationskapazität einer Bibliothek abhängt, nach vier Themen geordnet: Führungsqualitäten und Kultur, Wissen und Organisatorisches Lernen, Zusammenarbeitsfähigkeit und Organisatorische Gestaltung. Durch die Anwendung dieser Innovations-Checkliste auf die besprochenen Nutzungsfälle hoffen wir, zum Fundus von bewährten Innovationsmethoden bei den Nationalbibliotheken beitragen zu können. Abschließend folgt ein Ausblick auf die Entwicklung der Digitalen Nationalbibliothek der Niederlande, die ihre Services für die öffentliche Bibliotheks-Community in naher Zukunft in die KB integriert; zudem betrachten wir einige potenzielle Szenarien bezüglich der Zukunft der Bibliothekslandschaft in den Niederlanden.

Building tomorrow's library today: The New Library of Alexandria

[Building tomorrow's library today: Die New Library in Alexandria]

Ismail Serageldin

IFLA-Journal, 40-3, 169-173

Die New Library in Alexandria übernimmt eine einzigartige Rolle, die dem 21. Jahrhundert gemäß ist – sie fungiert als Bibliothek, Museum, Kunstgalerie, Archiv, Bildungsanstalt, Konferenzzentrum, Forschungszentrum, Universität und Sonderschule. Durch die Kombination moderner Informations- und Kommunikationstechnologie mit dem reichhaltigen kulturellen Erbe und der nationalen Geschichte des Landes beweist die Bibliothek von Alexandria, dass Top-Down-Innovationsmaßnahmen die Vergangenheit erhalten und die Zukunft sichern können.

Qatar National Library – Architecture as innovation in the Arab world

[Die Nationalbibliothek in Qatar – Architektur als Innovation in der arabischen Welt]

Claudia Lux

IFLA-Journal, 40-3, 174-181

Dieser Beitrag stellt die neue Nationalbibliothek von Qatar vor. Er kündigt die geplante Bibliothek an, beschreibt ihre Kernmission, die Personalausstattung, die Dienstleistungen und die Sammlungen, während sich die Bibliothek auf den Tag der Eröffnung vorbereitet. Die einzigartige Architektur mit dem offenen Raumkonzept lädt zur Erkundung ein und fordert die

Kreativität der Bibliotheksnutzer heraus. Außerdem dient die Nationalbibliothek als zentrale Universitätsbibliothek in Education City und steht darüber hinaus als Metropolraum allen Bürgern von Qatar offen. Überdies beschreibt dieser Artikel eine innovative Strategie zur Zusammenführung aller Sammlungen, unabhängig von der Zielgruppe.

Bibliothèque et Archives nationales du Québec: Convergence and the path of innovation

[Bibliothèque et Archives nationales du Québec: Die Annäherung und der Weg der Innovation]

Guy Berthiaume
Pascale Ryan

IFLA-Journal, 40-3, 182-185

Die Bibliothèque et Archives nationales du Québec (auch unter ihrer Abkürzung BanQ bekannt) ist ein relativer Neuling in der Stadt und ist in vielfacher Hinsicht einzigartig, zumindest in der Bibliotheks- und Informationsgesellschaft. Sie ist aus der sukzessiven Fusion von drei Institutionen hervorgegangen und hat deren jeweilige Mandate übernommen, die nun auch den Kern ihrer Mission ausmachen: die Mandate einer Nationalbibliothek, der Nationalarchive und einer öffentlichen Bibliothek. Es gibt keinen Zweifel, dass dieser Zusammenschluss ein zentraler Faktor für die Originalität der Institution war und nun auch die Grundlage für ihre innovativen Initiativen bildet. Ein staatliches Unternehmen von Québec unter dem Ministerium für Kultur und Kommunikation (Québec's Ministry of Culture and Communications, ministère de la Culture et des Communications du Québec), besteht die dreifache Mission der BanQ darin, die kulturelle Überlieferung und die Materialien des Kulturerbes von Québec zu beschaffen, dauerhaft zu erhalten und den Menschen nahezubringen. Unter den anderen ähnlichen Institutionen der Provinzen Kanadas ist dies die Einzige, die das Mandat einer Nationalbibliothek hat, wohingegen Library and Archives Canada diese Rolle für das gesamte Land übernimmt.

Built on sound principles: Audio management and delivery at the National Library of Australia

[Auf der Basis vernünftiger Grundsätze: Das Audio Management and Delivery – System der Nationalbibliothek von Australien]

Kevin Bradley

IFLA-Journal, 40-3, 186-194

Die "Oral History and Folklore" - Sammlung der Nationalbibliothek von Australien stellt ein Forschungsarchiv dar; es ist eine umfassende Sammlung unveröffentlichter Tonträgeraufnahmen unterschiedlicher Länge und Dokumentationsniveaus, die von Forschern und für Forscher aufgezeichnet wurden. Diese Tonaufnahmen sind häufig extensiv und erschweren die Navigation; trotzdem sind sie eine sehr geschätzte Ressource für eine Vielzahl ganz unterschiedlicher Nutzer, von Familienhistorikern bis hin zu professionellen Autoren. Im Zug eines langfristigen Konservierungsprogramms sind die meisten Inhalte der Sammlung nach Archivstandards digitalisiert worden und es wurden Nutzerkopien erstellt. Damit ist der Zugriff auf das jeweilige Primärdokument – die Stimme – gesichert. Um den Nutzern die Entdeckung und den Zugang zu den Tonaufzeichnungen (den Primärquellen) zu ermöglichen und spezifische Inhalte dieser Aufzeichnungen lokalisieren zu können, hat die Nationalbibliothek Australiens ein verknüpftes Such- und Abrufsystem entwickelt und ein Schema erstellt, nach dem dieses System - Trove (http://trove.nla.gov.au) – über seine innovative Aggregationsplattform durchsucht werden kann. Zurzeit macht das Audio Management and Delivery - System der Bibliothek fast 7.000 Stunden oder 13 Prozent der Oral History and Folklore - Sammlung öffentlich verfügbar, wobei ständig weiterer Content hinzugefügt wird. Der vorliegende Beitrag beschreibt die Entwicklung dieses Systems und die Charakteristika dieser Innovation im Rahmen einer Bibliotheksumgebung.

Innovation as a strategic choice at the Deutsche Nationalbibliothek

[Innovation als strategische Entscheidung in der deutschen Nationalbibliothek]

Reinhard Altenhöner
Ulrike Junger
Ute Schwens

IFLA-Journal, 40-3, 195-201

Ebenso wie die Bibliotheken und das Bibliothekswesen im Allgemeinen ist auch die Deutsche Nationalbibliothek (DNB) in den letzten Jahren mit technologiegetriebenen Änderungen der Informationsumgebung konfrontiert worden. Diese Änderungen stellen eine erhebliche Herausforderung in Bezug auf das Mandat der DNB und dessen Umsetzung dar. In diesem Zusammenhang soll einmal ein wichtiges Beispiel angeführt werden: Wie wird die DNB mit einem Sammlungsmandat umgehen, das sich auch auf digitale Publikationen aller Art erstreckt; einschließlich der Pflicht zur Registrierung/Speicherung dieser Publikationen und ihrer

Bereitstellung für die heutige wie auch zukünftige Generationen? Wie schafft sie es, aus einem Ozean aus Daten und Informationen weiterhin als gut sichtbarer Leuchtturm herauszuragen? Dies passiert nicht zufällig, sondern ergibt sich aus einer sorgfältigen Planung, entschlossenen Maßnahmen und ständiger Überwachung auf Basis einer klar und deutlich formulierten Strategie und eines systematischen Ansatzes. Dies bedeutet, dass die entsprechenden Prozesse und Funktionen überarbeitet, beendet oder neu eingerichtet werden müssen. Die DNB hat sich selbst schon immer als innovative Institution betrachtet – die Notwendigkeit, für immer neue Innovationen offen zu sein und solche Entwicklungen auch selbst in die Wege zu leiten, hat mit der Zeit nur noch an Dringlichkeit zugenommen. Daher hat die NB im Jahr 2013 einen strategischen Prozess gestartet, um dieser Anforderung gerecht zu werden. Dieser Prozess ist neu für die Institution und ihre Mitglieder, und er erfordert sehr viel Lernvermögen und Vorbereitung. Ein wichtiger erster Schritt bestand in der Definition der strategischen Ziele für die Jahre 2013 bis 2016; hinzu kam ein Projekt für die Organisationsentwicklung. Diese Ziele helfen der DNB dabei, sich auf sich selbst zu konzentrieren und dienen als Richtlinie zur Priorisierung der Projekte und Aufgaben. Beispiele für strategische Prioritäten beinhalten eine beträchtliche Aufstockung der Sammlung der digitalen Bestände und der Web-Ressourcen, der Entwicklung und Implementierung von automatisierten Katalogisierungsvorgängen, die Intensivierung der Digitalisierungsbemühungen und die Erstellung einer Infrastruktur für die langfristige Konservierung digitaler Inhalte. Darüber hinaus gibt es jedoch auch noch weitere Bereiche, die der Aufmerksamkeit bedürfen, und weitere Herausforderungen, denen man sich stellen muss – der strategische Prozess und die Organisationsentwicklung dienen der DNB als Werkzeuge zur ständigen Weiterverfolgung der Innovationsbemühungen. Der vorliegende Artikel möchte sich dem Thema aus zwei Perspektiven annähern: Einerseits beschreiben wir die Prozessentwicklung in der DNB, andererseits führen wir Beispiele und Arbeitsbereiche auf, die als relevante Faktoren der erfolgreichen Zukunftsbewältigung eingestuft werden können.

Innovative services in the National Library of China

[Innovative Dienstleistungen der Nationalbibliothek von China]

Han Yongjin

In den letzten Jahren haben sich dem Bibliothekswesen in China ganz neue Chancen eröffnet, aber es sind auch neue Herausforderungen aufgrund eines nie dagewesenen Wandels des politischen, wirtschaftlichen, sozialen und technischen Umfelds in China aufgetreten. Um mit diesem Wandel mithalten zu können, konzentriert sich die Nationalbibliothek von China auf die innovative Umgestaltung der Bibliotheken. Sie hat umfassende Forschungen in Bezug auf die Entwicklung digitaler Bibliotheken, die soziale Bildung, die Konservierung und den Erhalt der kulturellen Erbes sowie die Integration und Ausstellung/Darstellung der Bibliotheksbestände durchgeführt. Außerdem hat sie wichtige Projekte ins Leben gerufen, beispielsweise das „Digital Library Promotion Project" und das „Chinese Memory". Das „National Museum of Classic Collections" wurde errichtet, um die Nutzer umfassend zum Lesen anzuregen. Alle diese Bemühungen haben sich positiv ausgewirkt.

A case study in national library innovation: newspapers in the British Library

[Eine Fallstudie der Innovation in einer Nationalbibliothek: Zeitungen in der British Library]

Andy Stephens
Caroline Brazier
Phil Spence

Das „Newspaper Programme" der British Library, das £33m kostet und nahezu abgeschlossen ist, wurde errichtet, um eine Reihe von Legacy-Problemen im Zusammenhang mit der Sicherstellung der langfristigen Speicherung und Konservierung zu beheben und den Zugang zur nationalen Zeitungssammlung Großbritanniens zu gewährleisten – einer der größten und umfangreichsten Zeitungssammlungen der Welt, mit über 750 Millionen Zeitungsseiten aus mehr als drei Jahrhunderten. Aus diesem Programm ist ein eigens zu diesem Zweck erbauter hochmoderner Speicher hervorgegangen, mit einem vollautomatischen Abrufsystem und umfassender Regulierung der Temperatur und Luftfeuchtigkeit. Damit lassen sich die Printzeitungssammlungen der British Library zum ersten Mal in der Geschichte unter standardmäßigen Archivbedingungen aufbewahren. Ein neues Serviceangebot – der Newsroom in St Pancras – wird über eine Kombination aus Sammlungen und Internetanschluss und durch die Vereinigung von traditionellen Druckmedien und Mikrofilm-Zeitungsinhalten mit TV und Radioaussendungen ein integriertes Angebot aus Nachrichtenaufzeichnungen und Internetnachrichten

schaffen und damit das Konzept des traditionellen Zeitungsleseraums in ein Nachrichten- und Medienzentrum verwandeln. Die verstärkte Digitalisierung ermöglicht den Online-Zugang und schützt das ursprüngliche Zeitungspapier vor externen Einflüssen. Der vorliegende Beitrag beschreibt einige innovative Lösungen, die im Rahmen des Newspaper Programme entwickelt wurden – insbesondere bezüglich der Finanzierungsmodelle für die Digitalisierung, Lagerlösungen, Onsite-Serviceangebote und Zugänglichkeit – und dient damit als Fallstudie für die Innovation der Nationalbibliotheken.

Рефераты статеи

От инерции к инновации: Век интеллекта и организации, активно работающие с информацией

Роберта И. Шаффер

IFLA Journal, 40-3, 145-149

Поскольку Информационный век дал импульс к развитию Века интеллекта, перед организациями, при всем их разнообразии, встала задача внедрения культуры постоянных инновационных решений. Определение инновации довольно всеобъемлюще, и включает в себя такие понятия, как изобретательность, неординарность и импровизация. Организации проходят через такие этапы, как исследование, побуждение, понимание сущности, посвящение, создание образа, вдохновение и озарение для того, чтобы в итоге приобрести мотивацию. Тем не менее, путь к полному новаторству предлагает много вариантов на выбор, таких, например, как создание инкубатора или использование подхода к инновации, включающего цикличность, внезапность, несовершенство или легкость в передаче. Чтобы начать инновационный процесс, организации должны иметь желание взглянуть на все аспекты своей деятельности, принимать долгосрочные обязательства в вопросах финансирования, допускать возможность какой-либо ошибки и серьезно воспринимать свои цели, системы ценностей и предлагаемые преимущества. Организации, которые являются замкнутыми, негибкими, закоренелыми, неискренними в отношении инноваций, неуверенными в собственной способности самостоятельно действовать и демонстрировать результат, вероятнее всего, исчезнут или потеряют свое влияние, поскольку их окружение и культура не вынесут испытания инновациями.

Новшества в Совете Национальной библиотеки Сингапура: обзор

Нгиан Лек Чо

IFLA Journal, 40-3, 150-156

Национальная библиотека Сингапура была создана в 1960 году и с того времени неустанно работает над своим перевоплощением в интересах изменяющихся потребностей своих пользователей. С первых дней, когда пользователям приходилось добираться до Национальной библиотеки на Стэмфорд Роуд, до настоящего времени, когда пользователи обладают массой цифровых устройств и мобильных приспособлений и предпочитают работать с материалами в режиме онлайн, их интересы изменились коренным образом. Это предоставляет Национальной библиотеке колоссальные возможности по моделированию, разработке нововведений и внедрению новых методов обслуживания своих пользователей, где бы те ни находились, круглые сутки, 7 дней в неделю, используя любые устройства, находящиеся у них под рукой.

Что способствует эффективному внедрению инноваций? Внедрение новаторских решений в Национальной библиотеке Нидерландов

Хильделис Балк

Элсбет Квант

Клеменс Нейдеккер

IFLA Journal, 40-3, 157-168

Национальная библиотека Нидерландов (Королевская библиотека (Koninklijke Bibliotheek), далее по тексту - КВ) в течение последних 20 лет внедряла новаторские решения в сфере оказываемых ею услуг и модернизировала собственное организационное устройство, и в будущем планирует следовать тем же курсом. Главный вопрос настоящей статьи: что способствует эффективному внедрению инновационных решений в организации КВ? Мы сконцентрируем свое внимание на двух примерах: развитии открытого недавно портала "Delpher", который предоставляет доступ к 30 миллионам страниц нидерландского культурного наследия, а также на текущем развитии

проекта "КВ ResearchLab", который является платформой для экспериментов как местных, так и зарубежных исследователей. Обзор теории и практики инноваций (Балк 2013) дает нам контрольный перечень факторов, которые определяют способность библиотеки к инновационным переменам; факторы разделены на четыре группы: Руководство и культура, Знания и организационное обучение, Способность к сотрудничеству и Организационная структура. Используя указанный контрольный перечень применительно к обсуждаемым практическим примерам, мы надеемся внести свой вклад в формирование передовых практических методов внедрения новаторских решений в государственных библиотеках. В завершение мы заглянем в будущее развития Национальной цифровой библиотеки Нидерландов, интегрирующей в КВ сервисные возможности для сообщества публичных библиотек, а также поделимся с читателями некоторыми возможными сценариями развития библиотек в Нидерландах.

Создаем библиотеку будущего уже сегодня: Новая Александрийская библиотека

Исмаил Серагелдин

IFLA Journal, 40-3, 169-173

Новая Александрийская библиотека в 21-м веке выполняет уникальную функцию, являясь библиотекой, музеем, художественной галереей, архивом, академией, центром деловых встреч, научным центром, университетом и специальной школой. Сочетая современные информационные и коммуникационные технологии с богатым историко-культурным наследием и национальной памятью, Александрийская библиотека показала, что внедрение инноваций сверху вниз позволяет сохранить прошлое и гарантирует будущее.

Национальная библиотека Катара - архитектура как инновация в арабском мире

Клаудиа Люкс

IFLA Journal, 40-3, 174-181

Состоялось представление новой Национальной библиотеки Катара, которое началось с объявления о планируемом открытии библиотеки, ее главной миссии, комплектовании персоналом, оказываемых услугах и библиотечных фондах, о ее подготовке ко дню открытия. Была выбрана уникальная открытая архитектурная концепция, которая пробуждает у пользователей библиотеки исследовательский и творческий интерес. Национальная библиотека также будет являться центральной университетской библиотекой в Городе Образования, а также столичной библиотекой для всех жителей Катара. В статье также описан инновационный метод объединения всех библиотечных фондов вне зависимости от целевой аудитории.

Национальная библиотека и архив Квебека: Взаимодействие и инновационный путь

Гай Бертиаум

Паскаль Райан

IFLA Journal, 40-3, 182-185

Национальная библиотека и архив Квебека (широко известно ее сокращенное название - "BAnQ") является относительным новичком в городе и во многих аспектах представляет собой уникальное явление, как минимум, в среде библиотечного и информационного сообщества. Возникнув вследствие последовательного слияния трех учреждений, она унаследовала их соответствующие полномочия, которые лежат в основе ее миссии: полномочия национальной библиотеки, национального архива и публичной библиотеки. Вне сомнения, данное слияние стало главной причиной самобытности этого учреждения и является фундаментом для всех его прогрессивных инициатив. Являясь государственным юридическим лицом Квебека при Министерстве культуры и коммуникаций Квебека, BAnQ объединяет в себе три миссии: получать, постоянно сохранять и популяризировать материалы, являющиеся культурным наследием Квебека. Среди других подобных учреждений провинций Канады только она имеет статус национальной библиотеки, при этом в масштабе всей страны данную функцию выполняет Библиотека и архив Канады.

Основано на здравых принципах: Управление и выдача звуковых материалов в Национальной библиотеке Австралии

Кевин Бредли

IFLA Journal, 40-3, 186-194

Коллекция устной истории и фольклора Национальной библиотеки Австралии является архивом для проведения исследований; это обширная коллекция неопубликованных аудиозаписей различной продолжительности и уровня документирования, созданная исследователями и для исследователей.

Часто эти записи имеют большую продолжительность, и в них сложно ориентироваться, но даже с учетом этого они являются чрезвычайно ценным ресурсом для широкого круга пользователей, от семейных историков до профессиональных писателей. Вслед за долгосрочной программой по обеспечению сохранности материалов большая часть коллекции была преобразована в цифровой формат в соответствии с архивными стандартами, также были сделаны копии для пользователей, которые сохраняют доступ непосредственно к исходному документу, которым является голос. Для того чтобы пользователь мог обнаружить и получить доступ к исходной аудиозаписи, а также имел возможность найти конкретный материал среди всех этих записей, Национальная библиотека Австралии разработала систему поиска и выдачи результата на основе привязки ко времени, а также схему, которая позволяет выполнять поиск при помощи объединяющей платформы "Trove" (http://trove.nla.gov.au). В настоящее время Система управления и выдачи звуковых материалов библиотеки предоставляет общий доступ приблизительно к 7.000 часов или 13 процентам коллекции устной истории и фольклора, и пополнение материалов продолжается. В настоящей работе описывается развитие данной системы и обсуждается природа инновации в библиотечной среде.

Инновация как стратегический выбор в Немецкой национальной библиотеке

Рейнхард Альтенхёнер
Ульрике Юнгер
Уте Швенс

IFLA Journal, 40-3, 195-201

Как и все библиотеки и библиотечное дело в целом, Немецкая национальная библиотека (DNB) в последние годы столкнулась с переменами, вызванными появлением новых технологий в информационном пространстве. Данные перемены бросают серьезный вызов DNB в отношении круга ее обязанностей и полномочий, а также способов их реализации. Приведем один важный пример: как поступит DNB, если круг ее обязанностей будет включать необходимость хранения различного рода цифровых публикаций, включая необходимость осуществлять запись данных публикаций и обеспечивать доступ к ним как настоящему, так и будущим поколениям? Как она сможет сохранить свою роль яркого и заметного маяка в морях данных и информации? Это не произойдет случайно, а будет результатом тщательного планирования, решительных действий и непрерывного контроля, основанных на четкой стратегии и системном подходе, что означает, что процессы и функции должны будут подвергнуться пересмотру, отмене или созданию заново. DNB всегда рассматривала себя как передовое учреждение, и необходимость быть открытой для постоянных новаторских решений, а также выступать инициатором таких событий становится все более неотложной. И поэтому в ответ на данное требование DNB запустила в 2013 году стратегический процесс. Этот процесс является новым для данного учреждения и его сотрудников и требует большой работы по обучению и подготовке. Важным первым шагом было определение стратегических целей на 2013 - 2016 годы, дополнением к чему стал проект по организационному развитию. Указанные цели помогают DNB сфокусироваться, а также служат руководством для определения приоритетных проектов и задач. Примерами определения стратегических приоритетов стали существенное увеличение фонда цифровых и сетевых ресурсов, разработка и внедрение процессов автоматической каталогизации, наращивание усилий по преобразованию материалов в цифровой формат, а также создание инфраструктуры для долгосрочного сохранения информационных материалов в цифровом формате. Тем не менее, существуют другие сферы, которые требуют внимания, и иные задачи, требующие решения: разработка стратегических процессов и организационное развитие являются для DNB инструментами непрестанного и последовательного внедрения инноваций. Данная статья ставит своей задачей подойти к вопросу с двух направлений: С одной стороны, мы описываем развитие процессов в DNB, а с другой стороны, мы приводим примеры и указываем рабочие области, которые могут стать существенными факторами в планировании будущего.

Инновационные услуги Национальной библиотеки Китая

Хан Йонгджин

IFLA Journal, 40-3, 202-205

В последние годы в области библиотечного дела в Китае появились новые возможности и встали новые задачи, вызванные небывалыми переменами в политической, экономической, социальной и технической сферах Китая. Для того чтобы идти в ногу с этими изменениями, Национальная библиотека

Китая занята вопросом внедрения инновационных перемен в библиотеках страны. Была проведена серьезная исследовательская работа в области развития цифровых библиотек, социального воспитания, обеспечения сохранности и хранения культурного наследия, а также интегрирования и демонстрации библиотечных ресурсов. Были начаты серьезные проекты, включая Проект содействия цифровой библиотеке и "Китайскую память", также был построен Национальный музей классических произведений с целью развития повышенного интереса к чтению. Все указанные усилия принесли положительные плоды.

Исследование инноваций в национальных библиотеках на практическом примере: газеты в Британской библиотеке

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Керолайн Брейзиер
Фил Спенс

IFLA Journal, 40-3, 206-212

Программа Британской библиотеки стоимостью 33 миллиона фунтов стерлингов по сохранения фонда газет, которая уже близится к завершению, была утверждена для решения нескольких вопросов сохранения наследия, связанных с обеспечением долговременного хранения, сохранности и доступа к коллекции национальных газет Великобритании, одной из крупнейших и наиболее полных коллекций газет во всем мире, содержащей более 750 миллионов газетных страниц, охватывающих более трех столетий. В рамках данной программы было создано специализированное хранилище, оборудованное по последнему слову техники, с полностью автоматизированной поисковой системой и полным управлением температурой и уровнем влажности, которое впервые за всю историю позволит хранить коллекции печатных газет Британской библиотеки в соответствии с архивными стандартами. Новым словом в сфере услуг стал Новостной читальный зал, который был создан на вокзале Сент-Панкрас, и который, предоставляя комбинированный доступ как к традиционной коллекции, так и к электронным носителям информации, а также сочетая в едином всеобъемлющем предложении газеты в печатном виде и в виде микрофильмов с записями новостей из телевизионных передач и радиопрограмм, а также новостей из глобальной сети, превратит привычную концепцию помещения для чтения газет в центр доступа к новостям и средствам информации. Увеличение доли материалов в цифровом формате обеспечит как доступ в режиме онлайн, так и сохранение оригинальных печатных новостных материалов от дальнейшего износа и разрушения. В данной работе назван ряд инновационных решений, которые были реализованы в ходе продвижения программы сохранения фонда газет, в частности, относящихся к моделям финансирования процесса преобразования материалов в цифровой формат, к решениям в части организации процесса хранения, к предоставлению обслуживания на месте, а также доступу к материалам; и сама данная работа, таким образом, является практическим исследованием инновационных процессов в национальных библиотеках.

Resumenes

De la inercia a la innovación: organizaciones basadas en la información en la Era de la Inteligencia

Roberta I. Shaffer

IFLA Journal, 40-3, 145-149

A medida que la Era de la Información ha ido evolucionando hacia la Era de la Inteligencia, instituciones de todos los tipos se han visto obligadas a adoptar una cultura de innovación constante. Innovación es un término amplio que engloba los conceptos de invención, ingenio e improvisación. Las organizaciones se someten a un proceso de consulta, instigación, comprensión, iniciación, imaginación, inspiración y descubrimiento para llegar en última instancia a la innovación. Sin embargo, el camino hacia la innovación total ofrece muchas opciones, como crear una incubadora o adoptar un enfoque iterativo, instantáneo, incompleto o contagioso hacia la innovación. Para iniciar el proceso de innovación, las organizaciones deben estar dispuestas a analizar todos los aspectos de sus operaciones, establecer compromisos de financiación a largo plazo, aceptar la posibilidad de cometer errores y tomarse en serio sus aspiraciones, sistemas de valores y propuestas de valor. Las organizaciones cerradas, inflexibles, exclusivistas y poco sinceras en relación con la innovación, inseguras de su capacidad de lograr lo que se proponen y operar de forma independiente son más propensas a desaparecer o a que su influencia disminuya porque su entorno y su cultura no fomentan la innovación.

Innovaciones en la Comisión de la Biblioteca Nacional de Singapur: un viaje

Ngian Lek Choh

IFLA Journal, 40-3, 150-156

La Biblioteca Nacional de Singapur se fundó en 1960 y trabaja incansablemente para satisfacer las necesidades de sus usuarios. Desde los usuarios de los primeros tiempos que tenían que viajar para visitar la Biblioteca Nacional situada en Stamford Road hasta los usuarios actuales que portan diversos dispositivos digitales y artilugios móviles y prefieren acceder al contenido online, las necesidades de los usuarios han cambiado radicalmente. Esto ofrece a la Biblioteca Nacional enormes oportunidades para experimentar, innovar e idear nuevas formas de atender a sus usuarios estén donde estén, las 24 horas del día y los 7 días de la semana, utilizando cualquier dispositivo que tengan a mano.

¿Qué hace que la innovación funcione? Práctica de innovación en la Biblioteca Nacional de Holanda

Hildelies Balk

Elsbeth Kwant

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IFLA Journal, 40-3, 157-168

La Biblioteca Nacional de Holanda (Koninklijke Bibliotheek, en adelante KB) lleva 20 años innovando sus servicios y su organización y tiene previsto seguir haciéndolo en el futuro. La pregunta esencial en este artículo es: ¿qué hace que la innovación funcione en la organización de la KB? Nos centraremos en dos casos prácticos: el desarrollo del recién inaugurado portal Delpher, que concede acceso a 30 millones de páginas de legado holandés digitalizado, y el desarrollo actual del KB ResearchLab, que dota a los investigadores internos y externos de una plataforma para realizar experimentos. Una revisión de la teoría y la práctica de la innovación (Balk 2013) nos proporciona una lista de factores que determinan la capacidad de innovación de una biblioteca, agrupada en cuatro temas: Liderazgo y cultura, Conocimientos y aprendizaje organizativo, Capacidad de colaboración y Diseño organizativo. Mediante la aplicación de esta lista de innovación a los casos prácticos debatidos, esperamos contribuir al conjunto de buenas prácticas en innovación en bibliotecas nacionales. Por último, analizaremos el desarrollo de la Biblioteca Digital Nacional de Holanda, que integrará servicios para la comunidad bibliotecaria pública en la KB en el futuro cercano y comparte con

la audiencia algunos supuestos para el futuro del panorama bibliotecario en Holanda.

Construyendo hoy la biblioteca del mañana: la nueva Biblioteca de Alejandría

Ismail Serageldin

IFLA Journal, 40-3, 169-173

En el siglo XXI, la nueva Biblioteca de Alejandría desempeña un papel único como biblioteca, museo, galería de arte, archivo, academia, palacio de congresos, centro de las ciencias, universidad y escuela especial. Mediante la perfecta fusión de la tecnología de la información y las comunicaciones actual con el rico legado cultural y la memoria nacional de ayer, la Biblioteca de Alejandría ha demostrado que la innovación desde arriba preserva el pasado y garantiza el futuro.

Librería Nacional de Qatar – La arquitectura como innovación en el mundo árabe

Claudia Lux

IFLA Journal, 40-3, 174-181

La nueva Biblioteca Nacional de Qatar se presenta con el anuncio de la biblioteca planificada, su misión central, el personal, los servicios y las colecciones, mientras se prepara para el día de la inauguración. Se seleccionó una arquitectura de concepto abierto único que invita a sus usuarios a explorar y ser creativos. La Biblioteca Nacional también actuará como biblioteca universitaria central en la Ciudad de la Educación, así como biblioteca municipal para los ciudadanos de Qatar. Este artículo también ilustra un método innovador de fusión de colecciones con independencia de la audiencia destinataria.

Bibliothèque et Archives nationales du Québec: convergencia y la senda de la innovación

Guy Berthiaume
Pascale Ryan

IFLA Journal, 40-3, 182-185

Bibliothèque et Archives nationales du Québec (conocida por su acrónimo BAnQ) es una casi recién llegada a la ciudad y es, en muchos aspectos, única, al menos entre la comunidad bibliotecaria y de la información. Nacida de la fusión sucesiva de tres instituciones, heredó sus respectivos cometidos que conformarían el núcleo de su misión: los cometidos de una biblioteca nacional, archivos nacionales y biblioteca pública. No

hay duda de que esta fusión fue determinante para la originalidad de la institución y conforma la base de sus innovadoras iniciativas. La triple misión de BAnQ, una empresa pública quebequesa bajo los auspicios del Ministerio de Cultura y Comunicaciones de Québec (ministère de la Culture et des Communications du Québec), consiste en adquirir, preservar permanentemente y promover el patrimonio cultural de Quebec. De todas las instituciones provinciales canadienses similares, es la única que tiene el cometido de una biblioteca nacional, mientras que Library and Archives Canada cumple esa misión para todo el país.

Bases sólidas: gestión y distribución de audio en la Biblioteca Nacional de Australia

Kevin Bradley

IFLA Journal, 40-3, 186-194

La Oral History and Folklore Collection de la Biblioteca Nacional de Australia es un archivo de investigación; una colección importante de grabaciones sonoras inéditas de diversa duración y nivel de documentación creada por y para investigadores. La mayoría de estas grabaciones son largas y complicadas; aún así, son un recurso muy valorado por una amplia variedad de usuarios, desde biógrafos de familias hasta escritores profesionales. Tras un largo programa de preservación, la mayoría de la colección se ha digitalizado siguiendo normas archivísticas y se han realizado copias de usuario que preservan el acceso al documento original en sí, es decir, la voz. Para que los usuarios puedan descubrir y acceder a la grabación sonora original y localizar contenido específico dentro de dichas grabaciones, la Biblioteca Nacional de Australia ha desarrollado un sistema de búsqueda y suministro vinculado al tiempo y un esquema que para explorar dicho sistema a través de su innovadora plataforma de agregación, Trove (http://trove.nla.gov.au). El Sistema de gestión y suministro de audio de la biblioteca suma en la actualidad 7.000 horas, lo que equivale al 13% de la colección Oral History and Folklore disponible al público, y se sigue añadiendo contenido. En este artículo se describe el desarrollo de dicho sistema y se analiza el carácter de innovación dentro de un entorno bibliotecario.

Innovación como opción estratégica en la Deutsche Nationalbibliothek

Reinhard Altenhöner
Ulrike Junger
Ute Schwens

IFLA Journal, 40-3, 195-201

Al igual que el resto de las bibliotecas, y la biblioteconomía en general, en los últimos años la Deutsche Nationalbibliothek (DNB) se ha visto obligada a acometer cambios tecnológicos en el entorno de la información. Estos cambios constituyen un reto considerable en términos del cometido de la DNB y su forma de cumplirlo. Por citar un ejemplo importante: ¿cómo gestionará la DNB un cometido de recopilación que se extiende a las publicaciones digitales de todos los tipos, incluida la obligación de grabar dichas publicaciones y ponerlas a disposición de las generaciones actuales y futuras? ¿Cómo se las arreglará para seguir siendo un faro visible en el mar de datos e información? Esto no ocurrirá por accidente, sino que será el resultado de una planificación detenida, acciones decididas y supervisión continua, basadas en una estrategia clara y un enfoque sistemático, y esto significa que los procesos y funciones deberán ser revisados, ultimados o establecidos de nuevo. La DNB siempre se ha considerado una institución innovadora; la necesidad de abrirse a innovaciones reiteradas e iniciar dichos avances es cada vez más urgente. Por ello, la DNB inició en 2013 un proceso estratégico para responder a esta necesidad. Este proceso es nuevo para la institución y sus miembros, y exige mucho aprendizaje y preparación. Un primer paso importante fue la definición de los objetivos estratégicos para los años 2013-2016, complementada por un proyecto para el desarrollo organizativo. Estos objetivos ayudan a la DNB a mantenerse centrada y actúan como una guía para priorizar proyectos y tareas. Ejemplos de prioridades estratégicas son un incremento sustancial de la colección de recursos digitales y web, desarrollo e implementación de procesos de catalogación automáticos, intensificación de las iniciativas de digitalización y creación de una infraestructura para la preservación de contenido digital a largo plazo. Sin embargo, hay otras áreas que deben atenderse y otros retos que afrontar: el proceso estratégico y el desarrollo organizativo son para la DNB herramientas para seguir innovando. El artículo aborda el tema desde dos perspectivas: por un lado describimos el desarrollo de procesos en la DNB, y por el otro ofrecemos ejemplos y áreas de trabajo que podrían ser factores relevantes para dominar el futuro.

Servicios innovadores en la Biblioteca Nacional de China

Han Yongjin

IFLA Journal, 40-3, 202-205

En los últimos años, la biblioteconomía en China se ha topado con nuevas oportunidades y retos debido a los

cambios sin precedentes del entorno político, económico, social y técnico en China. Para mantenerse al día de estos cambios, la Biblioteca Nacional de China se ha consagrado a la transformación de las bibliotecas de formas innovadoras. Ha llevado a cabo mucha investigación sobre el desarrollo de bibliotecas digitales, educación social, preservación y conservación de legados culturales e integración y visualización de recursos bibliotecarios. También ha lanzado importantes proyectos, como el Proyecto de Promoción de Bibliotecas Digitales y la "Memoria China", y ha construido el Museo Nacional de Colecciones Clásicas para promover actividades de animación a la lectura. Todas estas iniciativas han dado resultados positivos.

Un caso práctico de innovación de bibliotecas nacionales: prensa en la Biblioteca Británica

Andy Stephens
Caroline Brazier
Phil Spence

IFLA Journal, 40-3, 206-212

El Programa de Prensa de 33 millones de libras de la Biblioteca Británica, a punto de completarse, se implantó con el objetivo de abordar diversas cuestiones patrimoniales asociadas a la garantía del almacenamiento, la preservación y el acceso a largo plazo de la colección nacional de prensa del Reino Unido, una de las colecciones de prensa más completas del mundo, con más de 750 millones de páginas de periódicos que abarcan más de tres siglos. Como parte del programa se han creado unas instalaciones de almacenamiento de vanguardia, con un sistema de recuperación totalmente automático y control de temperatura y humedad, que permitirán conservar las colecciones de prensa de la Biblioteca Nacional en condiciones archivísticas normalizadas por primera vez en la historia. En St Pancras se ha creado una nueva propuesta de servicio, la Newsroom, que por medio de una combinación de recopilación y conexión y una combinación de contenido impreso convencional y contenido de prensa en microfilm con grabaciones de emisiones de noticias de radio y televisión y noticias web en una oferta integrada, transforma el concepto de sala de lectura de prensa tradicional en un centro multimedia y de noticias. El aumento de la digitalización permitirá el acceso online y la protección del papel de periódico original. El artículo describe diversas soluciones innovadoras adoptadas durante la implementación del Programa de Prensa, en concreto las relacionadas con los modelos de financiación de la digitalización, las soluciones de almacenamiento, el suministro de servicios in situ y la accesibilidad, y, por lo tanto, constituye un caso práctico sobre la innovación en bibliotecas nacionales.