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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>

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Forty years of IFLA Journal

Stephen Parker

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This issue marks the beginning of the 40th year of publication of IFLA Journal. When the journal was launched in March 1975, Herman Liebaers, former President of IFLA, wrote in a Foreword:

“When the idea for an IFLA Journal was launched several years ago, I was one of the Board members who received it with some scepticism, believing that there were already so many professional journals.”

However, he concluded,

“The new IFLA Journal has been designed as a means of communication between members of the library profession. But we hope, and it is our intention, that in its articles and reports a more positive image of the contribution librarians are making to our changing society will be presented to a wider audience.”¹

As long as the journal was published only in print format, its audience was, in all likelihood, limited to IFLA members and paid subscribers. Now that the full text of the journal is available online on the publisher’s website (<http://ifl.sagepub.com/>) from the first issue to the most recent, and on the IFLA website (<http://www.ifla.org/publications/ifla-journal>) from 1993 onwards, it is indeed accessible to a wider audience, including more than 6,000 institutions which have access through institutional consortia or developing world initiatives – the latter at little or no cost. It seems clear that the journal is now reaching a much wider audience than that of IFLA membership alone.

This seems to be an appropriate moment to pay tribute to the untiring work of the members of the Editorial Committee, who, apart from providing general guidance on the future of the journal at their annual meetings during each year’s World Library and Information Congress, are also responsible for reviewing and evaluating papers submitted for publication – including the annual selection of WLIC conference papers – and thus play a key role in maintaining the quality of the journal’s content. With several changes

taking place in the membership of the Editorial Committee this year, and the introduction of new terms of reference, we would like to say a special “thank you” to retiring members Christine Welles (former Chair), Sanjay Bihani, Felipe Martínez, Ellen Namhila (who will now act as liaison between the Committee and the Governing Board) and Cristóbal Pasadas, all of whom served on the committee for several years. Thanks are also due to the five members who continue in office – Jerry Mansfield (Chair), Ben Gu, Omnia Sadek, Réjean Savard and Ludmila Tikhonova – and the four new members – Dinesh Gupta, María del Carmen Díez-Hoyo, Mahmood Khosrowjerdi and Rafael Ball – who were appointed recently by the IFLA Professional Committee, all of whom are listed in the preliminary pages of the print edition and on the publisher’s website.

All but the last two papers in this issue were originally presented during WLIC Singapore in August 2013.

The first, ‘A living, breathing revolution: how libraries can use “living archives” to support, engage, and document social movements’, by Tamara Rhodes of North Carolina Central University, won the LIS Student Paper Award 2013, sponsored by the IFLA Education & Training Section in collaboration with ekz.bibliotheksservice GmbH, and was presented at the 2013 IFLA conference in Singapore. The paper describes the #searchunderoccupy exhibit in the Sheila C. Johnson Design Center in New York City as a ‘living archive’ that visually displays the creative and critical responses of the New School’s student community to the Occupy Wall Street movement. The exhibit is composed of videos, photographs, audio and performance projects as well as live feed tag clouds, posters, and blogs, and “presents a future library full of infinite possibilities”.

A similar project is described in the next paper, ‘Archiving Egypt’s revolution: The “University on the Square Project”’, documenting January 25, 2011 and beyond’, by Stephen Urgola of The American

University in Cairo. The project, devised by a group of archivists, faculty, administrators, and students at the American University in Cairo, aimed to collect the tangible remains of Egypt's January 25 Revolution, such as banners, tear gas canisters and digital photographs and videos taken by observers and participants. An oral history component aimed to record the experiences of a wide range of participants in the uprising and the subsequent protest and political activity in Egypt.

The next paper, 'TIB's Portal for audiovisual media: New ways of indexing and retrieval', by Janna Neumann and Margret Plank of the German National Library of Science and Technology (TIB) describes the development of a web-based portal for audiovisual media which offers new methods for searching within videos enabled by automated video analysis with scene, speech, text and image recognition. Search results are connected to new knowledge by linking the data semantically. The portal optimizes access to scientific videos such as computer animations, lecture and conference recordings.

A different aspect of library work is dealt with in the next paper, 'Who will serve the children: recruiting and educating future children's librarians', by Virginia A. Walter of the University of California, Los Angeles. The paper identifies desirable traits for children's librarians and presents strategies for recruiting people to the profession. The limitations of current graduate library education in the United States are discussed and examples of professional development opportunities for children's librarians are provided. The paper concludes with suggestions for actions to advance the education and ongoing training of children's librarians that could be taken by the IFLA Section on Libraries for Children and Young Adults.

From California to Australia: the next paper, 'Agile management: strategies for success in rapidly changing times – an Australian University Library perspective', by Andrew Wells of the University of New South Wales, explores the concept of agile management, and discusses the extent to which innovations and developments in Australian university libraries reflect the application of agile management techniques. Changes at The University of New South

Wales Library are examined as a case study in relation to agile management concepts.

The last two papers in this issue move away from libraries and library work altogether. In the first paper, Prithviraj K.R. of Kuvempu University, and B.T. Sampath Kumar, of Tumkur University, both in India, report on 'Corrosion of URLs: implications for electronic publishing'. Their study aimed to analyze the accessibility, corrosion and half-life of URLs cited in the articles of Indian LIS conference proceedings published during 2001 to 2010. After examining nearly 6,000 URLs cited in 1,700 articles, the study found that slightly more than half of the URLs were not accessible at the time of testing. The estimated average half-life of missing URLs was 4.94 years. The authors conclude that there is a need to improve the various retrieval tools being used to recover vanished URLs.

The final paper in this issue, 'Information culture in three municipalities and its impact on information management amidst e-government development', by Proscovia Svård of the University of Amsterdam, presents research conducted in three municipalities involved in e-government development in Sweden and Belgium. Efficient e-government requires effective information management if the municipalities are to attain their ultimate goal of high quality service delivery. However, the research showed that, despite investments in information systems, the information culture in the municipalities will have to change if this is to be achieved. The paper highlights some of the challenges caused by the attitudes of municipal employees, such as lack of information management skills, collaboration, information management systems and satisfactory information management architecture. Huge investments are currently being made in the development of e-services, but there remain soft issues such as these that need to be seriously addressed.

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A living, breathing revolution: How libraries can use ‘living archives’ to support, engage, and document social movements

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Abstract

Where does and should the future of libraries lie? What were once concrete, brick, and glass structures have since become a third place where community, art, and culture reside. What is next? The #searchunderoccupy exhibit in the Sheila C. Johnson Design Center in New York City is a ‘living archive’ that visually displays the creative and critical responses of the New School’s student community to the Occupy Wall Street movement. It is composed not only of elements such as video, photographs, audio and performance projects, but also text-based works such as live feed tag clouds, posters, and blogs. By their very nature, libraries are poised to become forces for social change and using this exhibit as an example, libraries themselves can show the life of their communities by putting their responses on display to support their involvement in social movements, engage others, and document for the future. There are many iterations of the living archive in libraries such as the digitization of audio-visual materials or allowing people to share their memories, knowledge, photos and opinions through a virtual space. The closest to the #searchunderoccupy exhibit example is capturing the activities and conversations of designer William McDonough for the Stanford University libraries. Unlike these projects, the New School’s method allows for a greater range of self-expression through visual mediums and accounts for the technology of today. Social media is what has helped spread the social movements of the current generation and with its ever-changing nature, this version of a living archive presents a future library full of infinite possibilities.

Keywords

libraries, living archives, Occupy Wall Street, social movements

Introduction

“It is of course generally conceded that the day has gone by when the library can be a store-house of the classics and of standard literature and nothing more . . . We must remember that the world, politically, economically and socially is traveling at a tremendous rate . . . With the world of which it is a part moving at this gait, the library must move with it or drop behind.” (Imhoff, 1911: 2)

Published in a bibliography entitled *The Library and Social Movements: A List of Material Obtainable Free or at Small Expense*, these poignant words are the foundation of an opportunity for libraries, in the face of current global social movements to support,

engage, and document the social movements occurring in their own communities. This case study focuses on the format of the ‘living archive’. It also uses the #searchunderoccupy exhibit, organized by the Sheila C. Johnson Design Center and The New School in New York City, as a model that introduces an array of visual elements, social media, and a virtual archive into its structure to document social movements. To make a case for how libraries may use this model, a discussion follows of why libraries should be concerned with this topic, previous iterations of living

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archives, and a description of the model that made the #searchunderoccupy exhibit so successful.

Why should libraries be involved?

In ‘supporting’ social movements, libraries will be continuing their tradition of facilitating the social discourse of the community. As a representative for all types of libraries on a national scale, the American Library Association (ALA) provides evidence of the libraries’ interest in being supporters of and contributors to the social rights activities of their communities. The ALA created its Social Responsibilities Round Table (SRRT) in 1970 with the purpose of “making libraries more responsive to current social needs” (Rubin, 2010: 66). During the turbulent times of the Civil Rights Movement, the ALA resigned its opinion about providing library services to African Americans (Rubin, 2010: 66). It felt that because it was a representative of libraries and librarians across the nation, expressing an opinion on the issue would thereby pass judgment on its members (Rubin, 2010: 66). In the 1960s, when the movement had reached a precipice, it became impossible for the ALA to retain its previous position and it took a stand by advocating free library service to all (Rubin, 2010: 66). Since its creation, the SRRT as well as the ALA have advocated for the rights of numerous groups and round tables were created to continually address them.

The ALA’s 2011–2015 strategic plan supports the transformation of libraries to incorporate the proposed living archive model. The plan’s third goal area is transforming libraries. Two goal objectives that are relevant to this project are: to increase recognition of and support for experimentation with innovative and transformational ideas; and to help libraries make use of new and emerging technologies by promoting and supporting technological experimentation and innovation (American Library Association, 2010). These exemplify the ALA’s commitment to the introduction of new elements into libraries to move toward the concept of the future library. As the previously mentioned bibliography stated, in 1911 libraries were tasked with becoming more than a “store-house” of books (Imhoff, p.2). Today, that feeling remains and the vague phrase of “more than” has now become more concrete; libraries need to follow the lead of the ALA’s objectives and become a “third place”. Urban Sociologist Ray Oldenburg describes the “third place” as a place distinct from home and work (Harris, 2007: 145). Quoting Bryson, Usherwood and Proctor (2003), Harris’ (2007) article explains that because libraries can be “a meeting place, a learning resource and comfortable and relaxing public space,”

libraries have the opportunity to become a community focal point. As this central place, libraries are a foundation for the social movements of its community.

The ‘living archive’

Presenting the many interpretations of the term ‘living archive’ can show the evolution towards and the foundations of the #searchunderoccupy model. A search through newspaper databases yields references to the term ‘living archive’ when describing an archive of specialty plants, an individual who has an abundance of knowledge of various past events, or reviving forgotten plays that capture the social issues of their times. In these forms, “living” takes on a more literal sense as it refers to the actual subject or to the liveliness of the medium. The next version is used by the Brubeck oral history project at the University of the Pacific in California. Dave and Iola Brubeck donated memorabilia relating to their musical lives to the University of the Pacific. Dave commented that the appeal of donating these items was the “university’s commitment to treating the material as a ‘living’ archive” (Pillsbury, 2008: 12). The ability for change within the collection is the essence of this archive. From the initial goal of creating an exhibit that would travel through physical spaces to its inclusion in a virtual space and the later additions of the Brubeck’s recorded interviews, the fluidity of the collection is what makes it “living” (Pillsbury, 2008: 12).

Following this example of fluidity in the collection, many projects have created virtual interfaces that allow more of this. In a 1996 *Library Journal* article, Collins features the internet as a living archive. He stated that the “Web” was “finding a purpose as a place of historical memory” that can “offer permanent access to voices that are forgotten, outdated, or otherwise marginal” (Collins, 1996, 37). This model can be seen throughout many current projects. Whether to celebrate the anniversary of a particular organization or to collect touching memories for advertising, the involvement of interactive comment or submission forms in a website is becoming a common feature. A simple search for ‘state fair memories’ generates an array of state fair websites where anyone can submit their state fair memories into an online form. NC LIVE, a statewide online library service, is celebrating the organization’s fifteen year anniversary by collecting stories and memories from library patrons and staff across North Carolina using the same format (NC LIVE, 2013, para. 1). A similar initiative is the National Public Radio’s (NPR) StoryCorps. Individuals can make an appointment to visit the StoryCorps facility and record their story to be

archived at the American Folklife Center at the Library of Congress (National Public Radio, 2013).

Another feature of a living archive is the method of capturing events as they occur. Archives may do this in a number of ways, ranging from the storage and provision of video and audio recordings taken at the time of an event, to the constant addition of new information as it is actually happening. At the primary stage of this feature is the collection of the South African liberation struggle, which was presented at the 73rd annual International Federation for Library Associations and Institutions (IFLA) conference in 2007 (Matthew, Peters, and Petit-Perrot). Its intent is to digitize and preserve the audio-visual archives on the history of the South African liberation struggle to “create interactive knowledge environments” (Matthew, Peters and Petit-Perrot, 2007: 1). This project digitized past videos of the day-to-day events of one African province as well as other significant events that occurred in additional African countries (Matthew, Peters and Petit-Perrot, 2007: 2). The use of active events, rather than singular accounts or interviews, is what brings this archival initiative closer to the proposed model.

Taking the element of capturing events even further, and making it specific to libraries, is the current project of the Stanford University Libraries to archive the past and present artifacts of William McDonough (PR Newswire, 2013, para. 1). William McDonough is a leading architect for sustainable development and Stanford University seeks to create a digital archive of his writings, activities and conversations (PR Newswire, 2013, para. 2). His historical collections span more than 40 years of his professional career, but they would also like to continually add his appearances, projects, and tweets to the collection (PR Newswire, 2013, para. 3). The perpetual introduction of new material and the aim to include social media makes this one of the three closest versions of the #searchunderoccupy model that will be mentioned here.

The second, which is not affiliated with libraries, is outlined in the blog, “Arabic Literature (in English)”. A post entitled “The Archive of the Revolution: A Living Archive” discusses two projects to archive the Egyptian revolution (Antoun, 2012). The Mosireen film collective has filmed or gathered 1000 hours of footage and is contending with how to organize the vast collection that includes cellular video footage (Antoun, 2012). They are also recording their archival process to tell the story of the archive itself (Antoun, 2012). The second project is part of an initiative from the Egyptian National Archives. The issues facing historian Khaled Fahey are that of ensuring the

capability of telling multiple stories and narratives (Antoun, 2012, para. 13). Many of the questions the committee has to answer surround the parameters of the revolution such as when it began and who the actors were. They have decided to continue with the fluid aspect of a living archive and plan to continually revisit the answers they have created.

The final version of a living archive that has been chosen as a foundation leading up to the description of the #searchunderoccupy model is the work of the DOK, a modern Dutch library in the Netherlands. A collaboration with the library, multiple design firms, and national organizations, culminated in the creation of DOK Agora (Boekesteijn, 2010). DOK Agora is a multimedia center exhibit that features stations where users can record their stories and have them exhibited on a 33 x 10 inch video wall (Boekesteijn, 2010). The exhibit has a theme, which changes every three months. This theme stays relevant to the library’s population and features related materials from their collections and local archives (Boekesteijn, 2010, para. 2). A grand opening event will open each theme and at the end of the three months, a similar event will highlight the best stories contributed (Boekesteijn, 2010, para. 5). In this format, the exhibit is constructed by the users with all their contributions archived afterwards on the library’s website (Boekesteijn, 2010, para. 5). This innovative project represents the epitome of a service to the community; it features their stories and highlights their opinions on and memories of events happening in their neighborhood.

Though there are many living archives that have come before it and have highlighted some successes of this archival imperative, the #searchunderoccupy (#suo) exhibit combines varying forms of visual expression, social media, and an extensive virtual archive that libraries can incorporate. The key characteristic of modern social movements is their changing nature. As *Encyclopedia Britannica* outlines, the goals and organization of a social movement are by their very nature subject to ebb and flow. They result from a generally spontaneous grouping of individuals with a loosely organized campaign and the relationships among them are “not defined by rules and procedures,” but by a shared “common outlook on society” (Social Movement, 2013). To this end, the Occupy Wall Street Movement (OWS) is clearly identified as a social movement and one that affected many communities across the world.

According to Radhika Subramaniam, the Director and Chief Curator of the Sheila C. Johnson Design Center, The New School’s response to the OWS movement was not to document it, but rather to “respond to the archival imperative that already

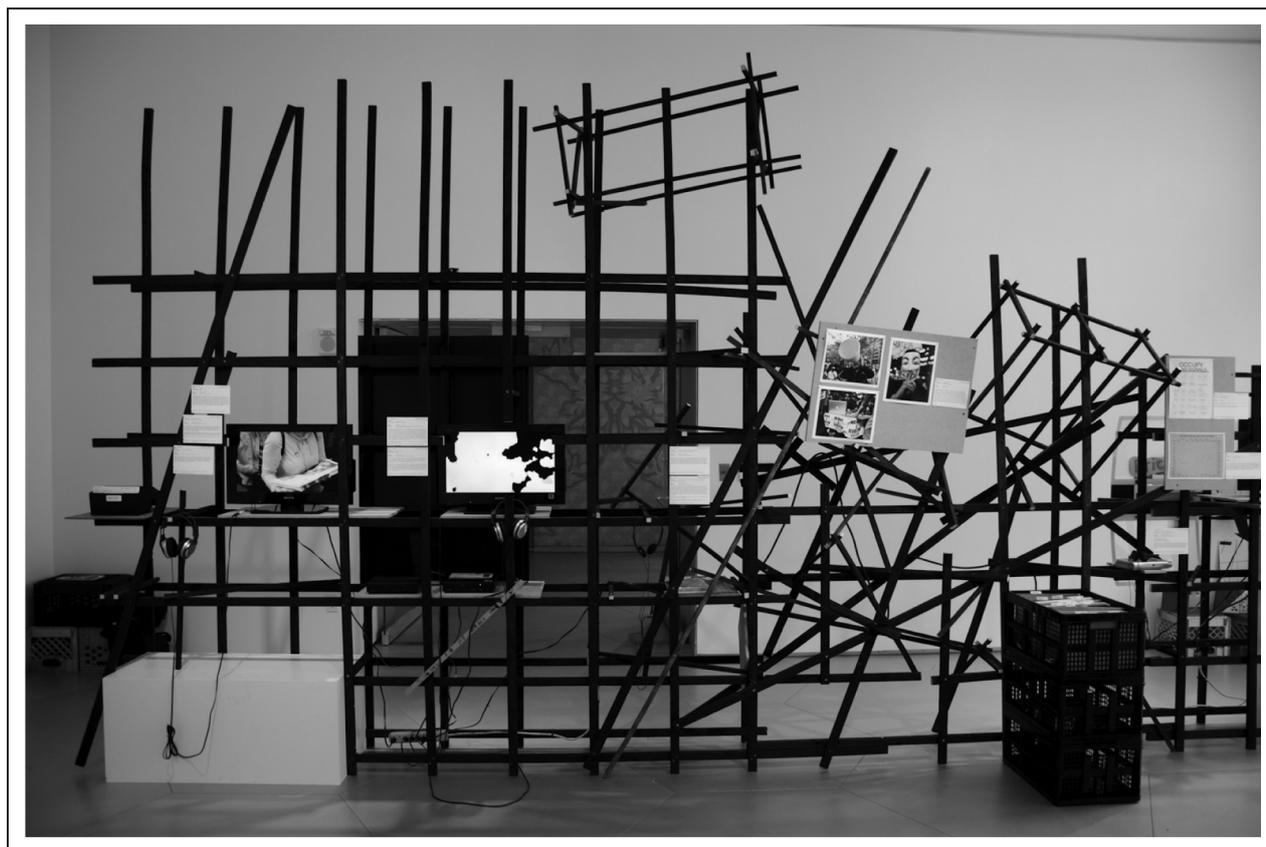


Figure 1. Photograph by: Chris Hyun Choi.

seemed to be embedded in OWS” and the living archive format was chosen as a way of “contending with the events unfolding day by day”. While they were considering the project, the New School faculty and students, many of whom were already involved in OWS, had their own occupation which gave additional meaning to the project (R. Subramaniam, personal communication, April 9, 2013). The result was *#searchunderoccupy*, exhibited from March 1–April 1, 2012 in the Sheila C. Johnson Design Center in New York City. Its focus was the New School community’s response to the OWS movement. An open call for submissions was put out in November 2011 by advertising through student unions, professors and their classes, and social media (R. Subramaniam, personal communication, April 9, 2013). While they initially planned to have a review process, “the curatorial approach was archival and therefore inclusion rather than exclusion was the approach when criteria couldn’t be established and the situation was evolving” (R. Subramaniam, personal communication, April 9, 2013). The result was an exhibit and virtual archive where the mediums ranged from video, photographs, audio, and performance projects, and also include text-based works such as live feed tag clouds, posters, and blogs.

Each of the larger categories of the elements listed above demonstrates how libraries can incorporate the living archive model within the purview of the service they dedicate to the members of their community.

Visual elements

Art is very much an important part of social movements, more specifically the OWS movement. It is an important part of expression and learning, and therefore activism. The *#suo* exhibit featured many forms of visual expression. Each medium created an interactive experience that facilitated learning about the movement, supporting the involvement of the New School community, and engaging others in their conversation.

Lee Gibson is an artist who was invited by the design center’s director to submit an installation. His work acted as the static focal point of the exhibit, where visitors could watch video of responses from members of the New School community and learn other facts about the movement.

Other installations included a large crossword puzzle where visitors could fill in what they knew and

instances of police behavior and police misconduct related to Occupy events.

Another initiative specifically targets using Twitter as a way of mobilizing protest movements. @OccupyPOPS is a Twitter bot that automatically coordinates weekly mini-occupy movements throughout New York City. The POPS (Privately Owned Public Space) program is one where the city grants additional floor space to developers as long as it may be for public use (New York City. Department of City Planning, 2013). The bot monitors Foursquare and Twitter check-ins and sends a tweet to a user who is near a POPS location. It requests that the user verify information provided by the city about the space and also to include whether it appears suitable for Occupy. Not only is this project clarifying data given by the city, it is also using mini Occupy movements to increase the usage of these spaces.

The final element that is advantageous for libraries when incorporating the #suo model is the virtual archive. When the exhibit ended on March 1, 2012, the activity and discourse continued online. Occupydatanyc.org focuses on archiving the projects, datasets, tools and scripts, and events and hackathons that began with the #suo exhibit and involve the New School community. Since the exhibit, numerous hackathons have been held with tutorials on how to aggregate data using mongoDB and on open source mapping. On March 31, 2012, the Aronson Gallery held a gathering in preparation for OWS Archive Day. They reviewed the progress made with their visualization projects and reviewed options for further collaboration (Christo, 2012b). Through the archive, it is clear to see that these initiatives have gone beyond OWS to include a larger view of consciousness to other events that are affecting the community. With #occupysandy, its participants used data techniques similar to those employed by OWS to document and track the records of the homes and families affected by Hurricane Sandy on October 29th, 2012 (Rood, 2012). Each data project documents the products and methods used, which makes the archive a knowledge base for others who wish to mimic their efforts.

Conclusion

The modern concept of a library is rooted in providing a service to its community, and with constant technological advances and changes to how individuals go about their daily lives, it is imperative for the library to change. The modern social movement is quick forming, fluid, and vast. It incorporates strong visuals and social media as well as virtual archival

imperatives. Libraries have an opportunity to do the same to support, engage, and document what is happening around them, to take part in the changes within the lives of their users. The future library has a finger on the pulse of the community. The future library looks outside of its walls to collaborate with other agencies and organizations. The future library embraces all forms of expression and technology to stay current and relevant.

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Archiving Egypt's revolution: The 'University on the Square Project', documenting January 25, 2011 and beyond

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Abstract

During the 18 days in early 2011 that came to be known as Egypt's January 25 Revolution, a group of archivists, faculty, administrators, and students at the American University in Cairo met to devise ways to document those historic events. The resulting project, University on the Square: Documenting Egypt's 21st Century Revolution, addressed the challenge of collecting the tangible remains of the protests like banners and tear gas canisters and the many digital photographs and videos taken by observers and participants. It also launched an oral history effort to record the experiences of a wide range of participants in the uprising and the subsequent protest and political activity in Egypt. Throughout the course of its activities the involvement of the community played an important role in the initiative. This paper describes the project's methods and what it has collected, as well as challenges faced. Other projects to document Egypt's revolution, and a comparison of their goals with that of AUC's efforts, will also be covered.

Keywords

archives, crowdsourcing, revolution, Egypt

A major theme of the worldwide media coverage of the 18 days of protests that brought down Egypt's President Hosni Mubarak in early 2011 was the participation of ordinary Egyptians. Television and print journalists and Internet commentators highlighted demonstrators' use of Facebook for organizing the protests, and the way they expressed themselves through their chants and the signs they carried into Tahrir Square. The protesters actively recorded the events around them too; as an Egyptian filmmaker put it, "I think it (Egypt) was the most photographed revolution in the history of man. You'd have ten people protesting and another fifteen people filming them with their phones." (Halliburton, 2013)

But would the photographs and videos taken on mobile phones, the banners displayed at Tahrir Square, the blog posts, the tear gas canisters picked up as souvenirs – the memories – be preserved for future generations? How would Egypt's "January 25 revolution" be documented? This was the concern of a group of administrators, archivists, oral historians, technology officers, journalism faculty, and other staff

members at the American University in Cairo (AUC), who gathered shortly after the removal of President Hosni Mubarak. The result was the formation of a project titled "University on the Square: Documenting Egypt's 21st Century Revolution," supported with start-up funding from the Andrew Mellon Foundation.

It was natural for the American University in Cairo to launch a project to document Egypt's revolution. The university's downtown campus buildings on Tahrir Square stood witness to the historic events, visible in much of the media coverage of the demonstrations. AUC students, faculty, staff, administrators, and alumni had taken part in the protests in various ways. The University on the Square project would use the opportunity offered by their participation to document the revolution, by reflecting the experiences of AUC community members.

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Project staff realized that prompt intervention was critical. The preservation of digital photographs and ephemeral items like banners and signs required active collecting. Awaiting donations of documentary materials, perhaps years after the fact as often occurs with archival collecting, would not be viable: it was unlikely that photographs or videos taken on mobile telephones, for example, would be available for long. Quickly identifying participants who could sit for oral history interviews would also be desirable. So in a matter of weeks the University on the Square team developed a collecting strategy and publicized the project at AUC.

This involved building tools to permit the active involvement of participants in the protests. AUC's academic computing staff developed a website with an upload module to allow people to contribute their digital photographs and videos. With this in place, the project team launched a publicity campaign, sending out email announcements inviting the AUC community to participate and make contributions. A booth was set up outside the university library where student volunteers promoted the initiative. They encouraged fellow students and others to upload digital images using on-site laptop computers, and invited them to sign up for oral history interviews. When a lecture or similar program related to the revolution took place on campus, project staff would solicit participation at that location as well.

Response to the crowdsourcing aspect of the project was encouraging, with dozens of donors contributing digital photographs and videos through the University on the Square website. These visual resources, as well as audio files of oral history interviews, were made accessible online, described according to archival standards, through the CONTENTdm-based digital library of AUC's Rare Books and Special Collections Library (at <http://digitalcollections.aucegypt.edu/cdm/landingpage/collection/p15795coll7>), which became the repository for all material collected by the University on the Square project.

The project also encouraged students to contribute classwork related to the revolution (ranging from papers to paintings and audio documentaries), much of it prepared for specially-themed courses at AUC in the spring of 2011. This student work, as well as Masters' theses by AUC graduate students and publications by university faculty, became part of the University on the Square archive on the AUC Digital Archive and Research Repository, a D-Space platform institutional repository. Another student effort supported by project staff was a wiki-based 'Biographical Dictionary of the Egyptian Revolution, 2011'

produced by students. In addition to facilitating the construction of Internet resources, the project also collected hundreds of websites related to the revolution, including blogs, news media reports, and Twitter feeds, using the Rare Books Library's ArchiveIt web archiving subscription service.

The oral history component of the University on the Square project illustrated the range of participants in the Egyptian revolution who were connected in some way with AUC. The interviews revealed diversity in terms of involvement, socioeconomic class, gender, religion, and language (interviews were conducted in English or Arabic, according to the preference of the interviewee). For example, while individuals at the highest levels of politics were represented (like a dean who served on a national political advisory committee), the interviewees also included the university security guards on duty at the Tahrir Square campus during the demonstrations.

Faculty and student activists offered vivid accounts of their participation in the marches to Tahrir Square and clashes with riot police. Alumni contributed to rich oral history interviews, including those by journalists who described the challenges of covering the protests. Some of the most moving testimonies came from staff, professors, and students for whom the demonstrations represented their first political participation in their own country.

Other revealing interviews included those with individuals who did not support the revolution. Such interviews expressing misgivings about the change in regime, while reflecting the views of an important segment of the Egyptian population, were few in number. This was most likely due to a reluctance to be seen as being on the 'wrong side of history.' The project welcomed such voices, however; while University on the Square was launched during a wave of enthusiasm for the revolution, it sought the contributions from people with a variety of experiences and perspectives.

As the oral history efforts progressed, interviewees suggested others with experiences to share; this came to be the main way the project identified people to interview. Since many of those who were recommended had no association with AUC, the scope of the project was expanded to include the contributions of anyone with material to donate or a story to tell, regardless of their connection with the university. As a result the project's oral history subjects came to include individuals like faculty and students from Egyptian national universities, young revolutionaries associated with soccer fan clubs ('ultras'), and even the barber who witnessed events from his shop near the AUC entrance gate.

In addition to broadening the range of contributors to University on the Square, the project team also had to repeatedly adjust the time frame to be documented. As months of continued protests, elections, and other political developments made it clear that ‘revolution’ could be construed more broadly than first envisioned, the period of time to be covered was refocused beyond the initial 18 days. This had practical implications; for example, this required updating oral history interview scripts on a regular basis.

More significantly, unfolding events made it more difficult to solicit interviews and donations of material like digital photos and videos. By late spring 2011, when the initial exuberance following President Mubarak’s departure wore off and the subsequent unstable political climate soured the national mood, participation in the project diminished. This necessitated an outreach effort that went beyond email solicitations, flyers, and Tweets about the project. Even in an age of social media, the project team found that cultivating personal contacts and making extensive one-on-one follow-up efforts were most effective for encouraging people to take part in oral history interviews and donate items to the project archive.

The content of the oral histories was also affected, their tone colored by the occasional outbreaks of violence and the uncertainty about Egypt’s political direction. Surprisingly, however, there was little concern about anonymity even as the emerging governing entities appeared disinclined toward freedom of expression; only two interviewees requested that we conceal their identities in the online audio interviews and associated descriptions. The project’s association with AUC did deter some potential interviewees, who criticized the university for attempting to ‘capitalize’ on the revolution. Other faculty members and students active in the demonstrations declined to be interviewed, citing the university administration’s approach to the revolution and its previous relationship with the Mubarak family.

Continued revolutionary events also affected the collection of artifacts and ephemeral materials. Collecting efforts had begun early: in the days after the president’s February 2011 removal, one project member gathered up numerous banners erected by demonstrators. During the project’s early months donors also gave items related to the protests at Tahrir Square, like tear gas canisters picked up from the ground or souvenir flags and t-shirts. Materials were also received from the AUC Press, whose campus offices were the scene of clashes between protesters and state security forces in late January 2011; the Press donated some of the items left behind, like a pair of boots belonging to a riot policeman.

The numerous gatherings at Tahrir Square throughout 2011 and 2012 – including protests against military rule and demonstrations about the shape of Egypt’s new constitution – required a sustained collecting initiative. Project staff attended many of these events to collect samples of the banners, signs, and leaflets on display or distributed, and purchased souvenirs (typically commemorating the deceased ‘martyrs’ of the revolution) sold by the vendors who set up shop at the square. Coupled with the acquisition of hundreds of newspapers (spanning the spectrum of opinion and affiliation), the leaflets, signs, and other written materials from the protests reveal the demonstrators’ ideas and the ways they expressed them.

The University on the Square represented one of several documentation projects initiated with the goal of documenting Egypt’s revolution. These initiatives varied significantly in their structure and goals, but typically framed their efforts in terms of ‘crowdsourcing,’ seeking contributions of documentary material from the public. Websites inviting people to upload their photographs and videos, like IAmJan25.com and iwasintahrir.com, were assembling visual documentation by early spring 2011, but offered minimal structure or description. Other sites relied upon particular kinds of expertise: R-Shief.org on data mining to preserve the digital legacy of the Arab Spring, and tahrirdocuments.org the Arabic language skills of international students in Cairo who gathered and translated political leaflets and other documents distributed at Tahrir Square demonstrations.

Major institutions in Egypt rapidly embarked upon documentation projects after 18 days of protests in 2011. Within days of the fall of President Mubarak, the Bibliotheca Alexandrina announced that it would be amassing documentation about the revolution for its Memory of Modern Egypt Arabic-language digital library, including material contributed by the public. (‘Bibliotheca Alexandrina begins documenting’ 2011)

Egypt’s National Archives also sought to assemble written documents, visual material, and oral history testimonies from around the country, establishing a Committee to Document the January 25 Revolution under the leadership of historian Khaled Fahmy, a long-time advocate of open access to government archives in Egypt. The National Archives project grappled with many of the same issues of scope and scale as the University on the Square, such as what period of time would be documented, and whose contributions would be sought. (Shenker, 2011) That effort proceeded haltingly, in part for logistical reasons related to the capacities of the National

Archives' digital infrastructure, as material was intended to be made freely accessible on the Internet. More significantly, Egypt's laws limiting access to archives in state custody posed a barrier, and the project's association with the government engendered reluctance on the part of potential contributors (Barsalou, 2012).

Projects not grounded in existing institutions, resembling Internet start-ups, were better positioned to proceed. 18 Days in Egypt is a crowdsourcing project by a group of filmmakers and digital media specialists supported by funding from the Ford Foundation, Sundance Institute, and Tribeca Film Institute. Framed as a 'collaborative documentary project,' 18 Days underwent substantial changes in its display and collecting platform. It currently offers thematic slide shows displaying the photographs, videos, Twitter feeds, and other material from contributors, who could upload material about the story they wanted to tell via the site, or who were assisted in doing so by project fellows operating throughout Egypt. The project's goal has been evolving as well, having started as an intended collecting portal for the creation of a single documentary film (Elayat, 2013).

Other documentation entities have embraced much more explicitly political goals. Mosireen was formed by a group of filmmakers in early 2011 to provide online access to videos taken by participants in the revolution, and to train and equip citizens to continue make their own films. Mosireen's mission extends beyond preserving and making accessible the more than ten terabytes of footage it has collected, to producing video pieces "that support protest, that support the demands of the revolution." As one of their associates noted at a 2012 panel discussion, "we don't pretend to be objective, we have a position that what is happening in the revolution is something that we need to support."

Qomra.org, launched later than most other projects, is notable for its geospatial presentation: photographs or videos contributed by members of the public are plotted on an interactive map where events related to the revolution took place. At these physical locations, Qomra has mounted QR code stickers, so that passers-by can use a mobile phone to link to an image of an event that took place there. The initiative envisions the assemblage of user-generated documentation as a means toward a more political end: educating citizens and serving as a platform for debate (Aboufotouh, 2013).

As the description of these projects indicates, substantial effort has gone into preserving and making accessible documentary evidence of the January 25 revolution and its aftermath. The various initiatives

fill particular niches in terms of their methods and technical platforms, scope, and goals. While University on the Square: Documenting Egypt's 21st Century Revolution has its basis in using the American University in Cairo community as a lens through which to view the revolution, inviting contributions from a wider pool of people in Egypt has expanded the project's reach. This has been extended further by hosting content collected for outside documentation efforts, such as interviews conducted by a college oral history class visiting Egypt from the USA, and a California scholar's collection of images and recorded testimonies from revolution-inspired graffiti artists.

The University on the Square's 250 oral history interview recordings, more than 5,000 digital photographs, 300 videos, 1000 documents and artifacts, and numerous websites and scholarly contributions, will be made available online via the digital library of AUC's Rare Books and Special Collections Library, where much is already accessible. Users from within and outside AUC have made use of the materials for purposes such as conference presentations, displays and exhibitions, dissertation research, university outreach, and various kinds of articles. In these ways, the project plays a role in ensuring that this critical period in Egypt's history is documented for future generations.

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TIB's Portal for audiovisual media: New ways of indexing and retrieval

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Abstract

The German National Library of Science and Technology (TIB) is developing a web-based platform for audiovisual media. The forthcoming audiovisual portal optimizes access to scientific videos such as computer animations, lecture and conference recordings. TIB's AV-Portal offers new methods for searching within videos enabled by automated video analysis with scene, speech, text and image recognition. Search results are connected to new knowledge by linking the data semantically. This paper aims at describing the TIB's portal for audiovisual media and the multimedia retrieval technologies as well as the added value for libraries and their users.

Keywords

audiovisual media, multimedia indexing, multimedia retrieval, automated video analysis, search tools

Background

The German National Library of Science and Technology (TIB)¹ ranks as one of the largest specialized libraries worldwide. It is jointly financed by the federal government and the federal states ("Länder") of Germany. TIB is a member of the Leibniz-Association, an umbrella organization for 86 institutions conducting research and providing scientific infrastructure. The TIB's task is to comprehensively acquire and archive literature from around the world pertaining to all areas of engineering as well as architecture, chemistry, information technology, mathematics and physics. The TIB's portal GetInfo provides access to more than 150 million data sets from specialized databases, publishers and library catalogues. Further, the TIB actively participates in a large number of projects with a focus on visual analytics.

The Competence Centre for Non-Textual Materials at TIB is engaged in achieving fundamental improvements to conditions pertaining to the access and use of non-textual material such as audiovisual media, 3D objects and research data. This material is to be systematically collected at the Competence Centre, and preserved as cultural heritage. In this context the TIB together with the Hasso-Plattner Institut for software system technology GmbH (HPI)², is developing a

web-based platform for audiovisual media. The future AV-Portal will optimize access to and the use of scientific videos from the fields of engineering and science. The TIB is converting known, multimedia analysis methods such as scene, speech, text and image recognition in order to enhance bibliographic metadata. The results are connected to new knowledge by linking the data semantically. The aim is to make it as easy for users to locate and use the growing stock of non-textual material as it is for them now to procure textual media. In 2011, a partially functioning prototype of the AV-Portal was developed; in 2012-2013, the further development and the beta operation of a system followed and, for 2014, the full operation of the portal is planned.

Related work

In the face of a rapidly increasing number of non-textual objects and the necessity of indexing the contents even of individual film sequences, an

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intellectual, 'manual', indexing is unthinkable. This drives the demand for efficient automated metadata extraction. Additionally new tools and technologies are necessary in order to improve access to non-textual objects. During the last years there have been made different steps in this direction.

The Project 'Mediaglobe'³ was funded by the German Federal Ministry of Economics as part of the THE-SEUS research programme⁴ from 2007 to 2012. The project's objective was to develop solutions which allow media archives to not only optimally digitize, comprehensively index and efficiently administer their growing inventory of audiovisual documents on German history, but also to make them accessible online. The project partner, the Hasso-Plattner Institut for Software System Technology GmbH incorporated the development of automated and semantic media analysis and metadata generation, as well as semantic search technologies.

Yovisto⁵ is a video portal for lecture recordings. Research and development foci are on automated video analysis and on the integration of so-called user-generated Web 2.0 services like tagging, evaluation and annotation. Currently, the project is being continued by the Semantic Web research group at the Hasso-Plattner Institut for Software System Technology GmbH (HPI).

ScienceCinema⁶ is a video portal created by the Office of Scientific and Technical Information (OSTI)⁷ one of the operation offices of the U.S. Department of Energy⁸ as well as the European Organization for Nuclear Research (CERN).⁹ Using innovative audio indexing and speech recognition technology from Microsoft Research, ScienceCinema allows users to search for specific words and phrases spoken within video files, whereas the search term is highlighted in the audio snippets.

Voxlead News¹⁰ is using multimedia search technologies from Exalead S.A.¹¹ It also searches the spoken content of radio and television programmes, thus enabling innovative navigation within the video.

In this paper we focus on the generation of enhanced metadata by means of automated video analysis; the user benefits in the search process by named entity recognition as well as representing it in a web-based portal.

The video analysis methods

Use case for the AV-Portal

A researcher produces a video and uploads it via the TIB's web form into the media asset management system, where the video is transcoded. The bibliographic metadata like author, title, description, etc. needs to

be provided by the author. Then the video is processed for receiving enhanced, comparatively fine granular metadata, which will be also indexed next to the bibliographic metadata. The enlarged index makes it possible to improve search results. The automated video analysis contains the following processes:

The process of scene recognition provides a visual table of content of the video. In this case, the video will be scanned and decomposed into time-based fragments. The cuts will be set automatically at scene edges. The scenes are furthermore divided into shots and subshots. Each time-based scene is represented by one keyframe in the visual table of content. For the automated scene recognition the used algorithm has to be trained with enough and diverse video material to obtain satisfying and correct results. As implemented in the above mentioned portals Yovisto or Mediaglobe, the scenes will be visualized in the form of a visual table of content. By clicking onto a keyframe the user can jump directly into the selected scene. The visualization in the web-based portal allows the user to easily browse across the video.

The process of automated image recognition allows the detection of categories. The categories are classified as visual concepts in six subject areas. These are architecture, chemistry, information technology, mathematics, physics, and engineering, the main fields TIB is focusing on. For every subject area a list of specific concepts was defined. Some cross-subject concepts have also been integrated for each subject area, like, e.g. lecture, conference, interview and screencast. The training of the concepts was realized by using manually annotated video material. For this annotation experts of TIB had to find enough images for each concept. For example in the subject area of engineering the specific concept "shipping" was defined. The annotated keyframes contain different shipping images as the main part of the scene content, which could easily be analyzed by object detection. However the principle problem that appeared in this part of the process was the definition of the specified subject concepts. The concept definition for the applied sciences (e.g. engineering and architecture) was found much easier than the definition of the other sciences (e.g. chemistry and physics). Most difficulties were found in the subject field of mathematics, because of very abstract video scenes, that could not be defined into a concept. Therefore in this case mainly the cross-subject concepts were used. As the video is analysed by automated image recognition, the detected concepts are indexed and included as enhanced metadata. Within the faceted search of the portal the

user can easily narrow his search with the given facets and find relevant videos by concept.

The process of speech recognition automatically extracts the spoken text within the video.

The audio analysis is divided into two different processes. The structural analysis distinguishes between the spoken word and other sounds (e.g. music).¹² The second part of the automated speech recognition (ASR) is a speech to text analysis¹³, where the auditive structure is matched to (the spoken) words. The quality of the results is, however, dependent upon the quality of the speaker; dialects, background noises and voice overlaps can be problematic. Further the challenge is to achieve good matching, which requires a preceding domain training of the spoken text. The training material was selected and provided by TIB experts, so that subject specific vocabulary could be added to each subject domain. Therefore up to 170 videos were required, including the corresponding transcript in German as well as English. Successful audio analysis allows the user to navigate across the spoken text of the video.

The process of text recognition extracts textual information within the video images. The so called intelligent character recognition (ICR) contains of text pre- and postprocessing as well as standard optical character recognition (OCR)¹⁴. The text preprocessing analysis recognizes and extracts the written text. The standard OCR transforms the extracted text block to textual information. The postprocessing analysis corrects the textual information by using lexical analysis. The extracted textual information, e.g. from slides, is also included as enhanced metadata within the faceted search.

As the automated video analysis is finished, the extracted textual information is linked to the underlying knowledge base of the AV-Portal by using the process of Named Entity Recognition (NER). Named Entity Recognition means 'locating and classifying atomic elements [...] into predefined categories such as names, persons, organizations, locations, expressions of time, quantities, monetary values, etc.'¹⁵ It allows exploring the content in much greater depth. The process needs the development of a knowledge base in German as well as English. The extracted German text will be linked to the German Authority File, Gemeinsame Normdatei (GND), which functions as the underlying German knowledge base within the portal. The GND is a standardized vocabulary used for cataloguing in German libraries. It provides connections to synonymous and super-/subordinated terms respectively.

The English knowledge base for the AV-Portal has not yet been selected. The different options like e.g. Library of Congress Subject Headings (LCSH)¹⁶ have all been dismissed because of missing linkage to the German knowledge base. The linkage however is essential for the enhanced search process.

On the basis of the video analysis technologies and the connection to the knowledge base the TIB is able to develop with HPI and provide a portal for audiovisual media, which offers the user new ways of searching and browsing within scientific films from the fields of science and technology.

The AV-Portal

In order to ensure the future accessibility and usability of knowledge via the AV-Portal, the development has been accompanied by user-centred methods. As a process model, this offers several methods for the development of information systems which can be meaningfully used in a library context to develop user-friendly approaches. DIN EN ISO 9241-210 (DIN 2010)¹⁷ serves as a basis for this user-centred approach. There, the process of designing utilizable systems based on the phase analysis of the usage context, definition of the requirements, conception and design/prototyping and evaluation is described. The following measures were used:

- Expert interviews with representatives from scientific institutes, film institutes, libraries and universities
- Context analysis: Research into publicly available AV-Portals, automated metadata extraction, content-based search methods and visualization
- Development of a low fidelity prototype of the AV-Portal on the basis of the results
- Focus groups with users from the target groups (engineering and science)
- Development of a high fidelity prototype on the basis of the results
- Usability testing with 12 users
- Optimization
- Usability testing / eye tracking with 30 users

On the left side of the start page (see Fig. 1) a short description is displayed. Here the video retrieval technologies which have been used are explained. At first a search scenario has been supported whereby the user knows precisely what he/she is searching for, giving the opportunity to use the Boolean AND to connect the search terms. Additionally the option of browsing to see what

TIB AV-Portal English TIB TECHNISCHE INFORMATIONSBIbliothEK
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About the AV-Portal
Welcome to the TIB AV-Portal
Do you use, publish or cite scientific audiovisual material? The AV portal of the German National Library of Science and Technology (TIB) provides new multimedia retrieval methods for the search in high grade scientific films from the fields of technology and the natural sciences.

- ✓ Search in scientific films
- ✓ Simple publishing from copyrighted videos
- ✓ Professional quality control and indexing
- ✓ Semantic search by use of multimedia analysis method

[More Information](#)

Subjects

- Mathematics (Subject) (12 videos)
Recently added:
O2A.1 Kehrwert ableiten
- Physics (Subject) (12 videos)
Recently added:
Erkenntnisse aus der Unendlichkeit
- Engineering (Subject) (16 videos)
Recently added:
Technik, die versteht
- Chemistry (Subject) (4 videos)
Recently added:
Katalyse für die Zukunft
- Information Technology (Subject) (21 videos)
Recently added:
Ultra high-Speed Mobile Information and
- Architecture (Subject) (10 videos)
Recently added:
Mit den Menschen bauen

Figure 1. Prototype Start page.

content and functionalities the portal offers has been supported. Therefore on the right side of the start page the six TIB subjects have been displayed together with additional subjects at the bottom. However, users who want to access basic information about their subject, and do not know a great deal about the relevant themes, subject areas and authors can use filters like “subject” and “producers”. Also a watchlist, the video upload section and the login section have been placed in the top section. The Login is important for users who want to watch or download licensing restricted videos. There will be a German and an English version of the portal, the English version has not yet been completed.

The relevant hits have been displayed in a list together with a thumbnail and a snippet (Fig. 2). It can be checked whether the hits derive from the metadata or from the media analysis like speech, text or image recognition. To narrow the list of search results a faceted search can be used. The facets *Subject*, *Publisher*, and *License* derive from the static metadata, which the author has delivered together with the video. The entries included in the other facets have been extracted by automated

video analysis. The facet *Category* derives from the visual analysis and includes the genre of the video like e.g. interview, conference, inside or outside shot. The facets *Person*, *Organizations*, *Places*, and *Other* concepts derive from either speech recognition or text recognition.

Picking an interesting video from the list of search results, detailed information is displayed (Fig. 3). A HTML 5 player has been implemented as well as a flash player as a backup. By moving over the segments the visual index is displayed. This provides a quick overview of the video content and facilitates access to particular segments. The red segments contain the search term, whereas the yellow segment is the current segment. The segments have been indexed based on time code. The time code is displayed over on the right side followed up by the extracted metadata from the automated media analysis. The data gained from speech, text and visual analysis has been aggregated and colour coded. Again the current segment is highlighted. By clicking on one of the keywords the user can jump to the desired segment of the video. The user can also search within the extracted metadata using the search entry.

The screenshot shows the TIB AV-Portal interface. At the top, there is a search bar with the term "Roboter" entered. The page displays 8 search results in a grid format. Each result includes a video thumbnail, a title, a description, and a publisher. The results are:

- Einführung : Was braucht man für einen humanoiden Roboter?** by Karlsruhe Institut für Technologie (KIT), InsideScience - Öffentliche
- Fluid Aktoren : Die Natur als Vorbild für Humanoide Roboter** by Karlsruhe Institut für Technologie (KIT), InsideScience - Öffentliche
- Maschinen mit Köpfchen** by Deutsche Forschungsgemeinschaft (DFG), with metadata: 2 Analysis: 10
- Technik , die versteht** by Deutsche Forschungsgemeinschaft (DFG)
- Supersymmetrische Teilchen-Kaskaden jenseits des Standardmodells der Teilchenphysik**
- Erfolgreich mit integrativen Produktionstechnologien**
- Einführung : Präzision und die fundamentalen Fragen der Teilchenphysik**
- Die Monte-Carlo-Simulation für die Teilchenphysik**

 On the right side, there is a filter panel with categories like Subject (Physics, Engineering), Publisher (InsideScience, Karlsruhe Institut für Technologie, Deutsche Forschungsgemeinschaft), Date (2009, 2011, 2012), and License.

Figure 2. Prototype Search results.

Conclusion

The supply, use and significance of non-textual media is continually increasing but only a tiny proportion of these materials can be searched and explored right now. To face these new challenges libraries have to open up their library portals to non-textual information, develop new tools for indexing, searching, browsing and displaying the data as well as enrich the data with semantic information.

The TIB converts state of the art multimedia analysis methods for searching within videos enabled by automated analysis with scene, speech, text and image recognition in order to generate additional metadata. The search results are connected to new knowledge by linking the data semantically.

- Scene recognition: a visual table of contents provides a quick overview of the video content, facilitating access to particular segments.
- Image recognition: based on visual features in the video (such as colour distribution), the system automatically recognizes whether it is a lecture, an interview or an experiment.

- Speech and text recognition: both the spoken word and lettering in the video (for example, in logos or slides) are automatically recognized. The search term is highlighted, enabling navigation within the video.
- Semantic search: by adding semantic information to the data gained from video analysis, explorative navigation of the stock can be performed, enabling connections between audiovisual media.

The objective is to expand the hitherto text-based search in bibliographical metadata to a media and cross-data search. In doing so, digital full texts with numerical data and facts, other research information, audiovisual media, visualizations, etc. will be integrated into a single user interface. The search space is widened, due to the connection between audiovisual media and TIB's portal GetInfo that contains information such as digital full texts, numerical data and facts as well as research data. Audiovisual media will be clearly referenced by the allocation of a Digital Object Identifier (DOI). The search tools provided by the AV-Portal offer innovative search scenarios and new ways of tapping into knowledge.

The screenshot displays the TIB AV-Portal website. At the top, there is a navigation bar with links for Home, Subjects, Publisher, and About AV-Portal. A search bar contains the text "Roboter". To the right, there are social media icons for Facebook and Twitter, and a "Follow us" button. Below the navigation bar, the page title "Video Detail Page" is visible, along with social media sharing options for Like, Tweet, +1, and Email. The main content area features a video player titled "Maschinen mit Köpfchen" showing a robot with large eyes. To the right of the video player is an "Automated Media Analysis" panel. This panel includes a search bar, checkboxes for ASR, OCR, and VCD, and a list of detected segments with their corresponding metadata tags. The segments are: 00:00 (Technical drawing, Screenshot, Machine, Roboter), 00:05 (Technical drawing, Möglichkeit, Screenshot, Machine, Systems <München>), and 00:11 (Forscher <Motiv>, Technical drawing, Forschungseinrichtung, Screenshot, Rennteam, Machine, Kunst <Zeitschrift, Wien>).

Figure 3. Prototype Player and aggregated metadata from automated media analysis.

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Who will serve the children? Recruiting and educating future children's librarians

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Abstract

The paper identifies some desirable traits for children's librarians and presents strategies for recruiting people to the profession. Library school curriculum is discussed in terms of learning outcomes based on the 'Competencies for Librarians Serving Children in Public Libraries' developed by the Association for Library Service to Children. Limitations of current graduate library education in the United States are acknowledged and examples of professional development opportunities for children's librarians are given. Finally, suggestions are made for possible actions to advance the education and ongoing training of children's librarians that the IFLA Section on Libraries for Children and Young Adults could take.

Keywords

children's librarians, graduate library education, professional development for children's librarians, competencies for children's librarians

Lesson One: Who should serve?

Who will serve the children? This is an important question for all of us who are passionate advocates for good library service for every child everywhere. How can we recruit the best and the brightest? What attracts people to our profession? Can we agree on the personal traits for men and women who hold this position? How should they be educated?

I can only attempt to answer these questions from an American perspective. I realize that every nation – maybe even each local library – has different social, economic, and cultural frameworks that would generate different answers. I think the questions are important, however, and may trigger some relevant thinking, no matter where you are from.

In a report to the American Library Association in 1905, Frances Jenkins Olcott, the head of the children's department of the Carnegie Library of Pittsburgh, described the characteristics of the ideal candidate to the training school for children's librarian at her institution:

Sympathy with and respect for children, strength of character, a genial nature, a pleasing personality, an instinct for reading character, adaptability, and last but

not least, a strong sense of humor. Her home training and education should have given her a love and knowledge of books, a fund of general information, a quick and accurate mind. These qualities are difficult to find combined in one person (Olcott 1905).

More than 100 years later, we find this description remarkably appropriate. Of course, we no longer expect that a children's librarian would necessarily be female. We do not concern ourselves with the applicant's home training, but we do consider her prior education. At UCLA, our application procedure provides little opportunity to assess a future student's personality. Fortunately, most people who have chosen to specialize in library service to children seem to have pleasing personalities.

There is at least one desirable characteristic unmentioned by Olcott that is a concern for us in the United States. Our country has moved steadily from its roots in European culture to being a much more diverse

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and multicultural society. We have always been a nation of immigrants, but increasingly those immigrants are arriving from Asia and Latin America, rather than from Europe. These newcomers often settle in enclaves of families from their native countries, and adults are sometimes slow to learn English. Children's librarians who are able to speak the home language of the families they serve are at a distinct advantage when it comes to marketing and delivering the library's services. Surely new Americans will feel more at home in the public library if they see their own culture reflected in the materials, services, and employees there.

Lesson One, therefore, is a reminder to all of us to be proactive about recruiting the very best people to our profession. Bonus points will be awarded to successful efforts to tell our story to people of color who might not have considered children's librarianship as a career. Latino and Asian students at UCLA have told me that it had been difficult to convince their parents of the value of an MLIS degree. Some of these were young people who were the first college graduates in their families. Their parents expected them to leverage that hard-won bachelor's degree with a more prestigious and higher-paying career in law, medicine, or business.

Lesson Two: How will we recruit them?

I will begin by considering what attracts people to our profession. Let us start by admitting that it is not a particularly glamorous or highly-paid profession. Yet every year at UCLA and other library schools throughout the United States, enthusiastic, bright, well-educated people launch their careers as children's librarians. Some of them are starting second careers. In my classes at UCLA, there have been former clowns, attorneys, housewives, flight attendants, accountants, poets, computer programmers, chefs, actors, musicians, and many burned-out schoolteachers. And some arrive at graduate school straight out of undergraduate programs. I asked some of our alumni why they had decided to become children's librarians. Here are their answers:

"I was stuck in a job that was not fulfilling. I wanted something better, and I remembered how much fun I had in libraries when I was a child. I wanted to give back that fun to children today. I've been doing the job for four years and turned down one promotion because I want to stay a children's librarian."

"I thought I wanted to be a teacher until I started taking courses for a credential. I didn't want to be restricted to a curriculum and state standards. I remembered how

important the public library was to me as a child. Going there was the first thing I was allowed to do independently. I wanted to empower children – and this is it for me."

"I was a library kid, the kind who rode his bike to the library to discover what was out there beyond his small suburban world. I never dreamed of being a librarian, but it finally made sense when a few other occupational doors were closed to me. Being a librarian, working with kids and teens, is the best decision I ever made. I need that playful, inquisitive energy around me. I'm all grown up now, but I'm still that library kid at heart."

"We had a good family friend who was a children's librarian, and she loved her job. When I started thinking about being a librarian, I heard that they always need people to work with children. So that was why I chose this specialization at first. Now that I've been doing this job for nearly ten years, I can see that it's the most fun and the most important work."

"I was inspired by my children's librarian. She found so much joy in her work and passed it on to me and the other children who came to her library. Now I am the one who finds joy in my work and tries to pass it on."

Do you hear a common theme in their stories? These successful children's librarians had positive experiences in libraries and with librarians when they were young, and they find their jobs to be not only fulfilling, but joyful. A survey conducted in 2009 by *School Library Journal* showed that most children's librarians were satisfied with their jobs. Those working in public libraries found that working with young people, assisting customers, and connecting kids to reading and lifelong learning were the top reasons for job satisfaction. Factors that contributed to dissatisfaction were inadequate library funding, low salary, and increased workload. Significantly, 93 percent of those surveyed said they would recommend the profession enthusiastically or with some reservations, and 93 percent said they would do it all over again (Kenney 2009).

The lesson we should learn from both the qualitative and quantitative evidence is that children's librarians themselves are the best and most obvious recruiters to the profession that they love. Perhaps our national library associations should make buttons for them to wear that proclaim: I LOVE MY JOB. Or ASK ME WHY I LOVE MY JOB. Practicing children's librarians should be encouraged to talk to their young library patrons about what it takes to do their job. Perhaps recruitment materials could be developed that target children, planting seeds that could flower as they get older and consider their own career goals.

Lesson Three: What will they know?

Most of my research lately has involved outcome evaluation. An outcome for library services is defined as “the change in attitude, behavior, skill, knowledge, or status that occurs for users after a purposeful action on the part of the library and library staff” (Dresang, Gross, and Holt 2006, 3). Progressive library managers are increasingly being asked to demonstrate the outcomes of their services. Ideally, outcomes for particular services are determined before they are implemented and derived from a systematic analysis of possible needs for those services. After the needs are established, desired outcomes are developed, and programs or services are planned and implemented to meet those needs.

Can we apply the outcome-based planning and evaluation model to answer the question, “What will future children’s librarians know?” One possible approach might be to look at the list of competencies for children’s librarians developed by the Association for Library Service to Children (ALSC), a division of the American Library Association (ALA). Originally developed in 1989, they were revised in 1999 and again in 2009. These could be considered learning outcomes for people aspiring to careers as children’s librarians. The “Competencies for Librarians Serving Children in Public Libraries” are organized into nine broad categories:

1. Knowledge of client group.
2. Administrative and management skills.
3. Communication skills.
4. Knowledge of materials.
5. User and reference services.
6. Programming skills.
7. Advocacy, public relations, and networking skills.
8. Professionalism and professional development
9. Technology.

Specific skill and knowledge outcomes are listed under each of the broad competency area. To demonstrate competent knowledge of client group, a children’s librarian should understand theories of infant, child, and adolescent learning and development and their implications for library service. He or she assesses the diverse needs, preferences, and resources of the community on a regular and systematic basis and maintains regular communication with other agencies, institutions, and organizations serving children in the community. And there is more – five additional outcomes for just the first competency (Competencies 2009).

The ALSC ‘Competencies for Librarians Serving Children in Public Libraries’ are a powerful statement

of the professional expertise needed to do this job. An introduction to the Competencies maintains that a master’s degree in library and information science from an ALA-accredited graduate school is the appropriate professional degree for a children’s librarian. However, a children’s librarian is directed to on-the-job training and continuing education opportunities in addition to their specialized formal coursework in order to achieve and maintain the skills, orientations, and understandings encompassed in the Competencies.

The graduate library and information studies program at UCLA, where I have taught since 1990, is a 2-year program with a rigorous six course core curriculum required of all students. The core curriculum provides the broad knowledge and skills needed by any professional librarian or other information professional. Students take an additional 12 courses that either deepen their understanding of the core or enable them to specialize in an area such as youth services. Most students use three of their course credits in their second year to do an internship in one of more than 100 possible libraries or archives in Southern California. By the time a student has completed the core requirements, taken the five electives we regularly offer in the area of children’s and young adult librarianship, and interned with experienced librarians, they are highly skilled and dedicated entry-level professionals, ready and eager to serve children and teens. However, it is hard to imagine that any of them have mastered all of the ALSC competencies. The mark of a true professional is that he or she continues to grow and to develop their knowledge and skills as long as they serve. They take classes. They attend workshops and webinars. They attend conferences and tend their professional networks. No professional is “finished” when they graduate from school. Maintaining one’s professional expertise really takes lifelong learning.

For most of us in the United States, however, it starts with library school and the MLIS degree. This brings us to Lesson Four.

Lesson Four: Where and how will they learn it?

Let us assume now that we have assembled a cadre of bright, enthusiastic, diverse future children’s librarians, all with pleasing personalities, of course. If they live in the United States, they will have graduated from 4-year colleges with a bachelor’s degree in any of a variety of areas although English majors will probably be over-represented. There will be some who have graduate degrees in other areas, some who have years of experience working in libraries or

elsewhere, and some who are young enough to be my grandchildren.

Graduate programs that offer the master's degree in library and information science in the United States, Puerto Rico and Canada are accredited by the American Library Association through the hard work of the Committee on Accreditation. Sixty-three master's degree programs are currently accredited. The introduction to the Standards for Accreditation states that accreditation assures that an institution or program "(a) has clearly defined and educationally appropriate objectives expressed as student learning outcomes, (b) maintains conditions under which achievement of objectives can reasonably be expected, (c) is in fact accomplishing objectives substantially, and (d) can be expected to continue to do so" (2008: 3).

An ALA-accredited master's degree program must show evidence of systematic planning to review its visions, mission, goals, and objectives, ongoing assessment of its attainment of those goals and objectives, redesign of its activities in response to the results of that assessment, and communication of its efforts to its stakeholders and constituents. Those program objectives should reflect the essential nature of the field of library and information studies, defined broadly as a concern with recordable information and knowledge and the services and technologies that facilitate its management and use. There is no mention of children or library services to children anywhere in the Standards.

Because the Standards do not require any program to offer courses related to library services for young people, a student has no guarantee that he or she will be able to specialize in – or even be taught the basics of – children's librarianship. And no public library can assume that a graduate of an ALA-accredited program has received any relevant training.

A recent editorial in *Library Journal*, 'Can We Talk About the MLS?', questions the value of ALA-accredited degrees (Kelley 2013). The author, who is the editor-in-chief of the journal, claims that his own master's degree in library science was heavy in theory and light in practical applications. Its only value, according to him, is that it is required for getting a professional job in most American libraries.

This editorial provoked more than 100 comments after it appeared online. Most agreed with Kelley, lamenting the money they had spent on a master's degree that they found irrelevant to the actual duties they were asked to perform. Some of the respondents were clearly bitter because in the current tight job market, they had been unable to recoup their investment in the graduate degree because employment opportunities were few and salaries low. Some complained about the

glut of students being produced by rapidly proliferating online programs. Many argued for an undergraduate degree as the basis for entry-level library professionals. Interestingly, one person who argued strongly against the MLS as a requirement for public librarians, did admit that "children's librarians definitely have a whole set of knowledge and skills relating to early literacy and working with kids that the MLS seems vital for" (Kelley, 'Comments' 2013).

In a moment, I will suggest some alternative or additional ways that future children's librarians might prepare for their professional careers. However, for those going down the traditional path of an MLS, there is no guarantee that their master's degree program will offer adequate coursework for their specialization. Another worrisome consequence of the downgrading or elimination of coursework for children's librarianship at the major research universities is that these PhD-granting universities are graduating very few people who are qualified to teach and do research in this area. It is a vicious downward spiral.

Perhaps the most important lesson learned about education for children's librarians is that an ALA-accredited MLS program may not deliver a good foundation for the future development of the ALSC competencies. What innovative alternatives can we suggest to ensure that the best and the brightest future librarians have received the best possible education and training to serve the children?

I have recently been involved in consulting projects for the State Libraries of Pennsylvania and New York. As in the rest of the United States, public libraries are funded by local governmental agencies: townships, cities, and counties. The State Library offers technical support, training, and funding opportunities for special projects. Both New York and Pennsylvania are homes to very small and poorly-resourced rural and small town libraries as well as relatively well-funded and well-established urban and suburban library systems. While the large systems require their professional librarians to have the MLS degree, the smaller libraries tend to be staffed by people with less specialized educational backgrounds. They may even lack a bachelor's degree. Often the only person working at their tiny library with limited hours, they are unable to get away for much training.

New York is currently working on a plan to train children's librarians in the state in best practices for early childhood literacy services. It is going to have to grapple with the problem of reaching those small town and rural library workers. Pennsylvania has already completed an innovative 5-year training program called *Preschool Connections* that was conceived as a way to develop capacity to implement

quality services to young children and their families and caregivers. The staff at the Commonwealth Library headquarters divided the state into five geographic regions. Targeting one region each year, they invited the smallest libraries to apply to participate in Preschool Connections. Each library committed to send from one to three people to four one-day training programs during the year. The attendees could include trustees and volunteers as well as the one person responsible for service to children. The four training workshops were conducted by two experienced children's librarians and covered topics such as collection management, early childhood development, parent education, quality programming, multicultural sensitivity, and public relations. At each workshop, attendees were given books and equipment such as puppets, flannel boards, and educational toys. Each participating library also received furniture and equipment designed to make their public space more appealing and family friendly. More than 100 very small Pennsylvania libraries participated in Preschool Connections. All transformed their public areas into a welcoming space for families with young children, and most were able to improve the quality of their programming and early childhood collections.

Early childhood literacy services are a big priority for American public libraries, and other states have offered relevant professional development opportunities through webinars and other online resources. 'Utah Kids Ready to Read' is a website for parents as well as librarians. Colorado Libraries for Early Literacy has created StoryBlocks, videos to use in training. The Indiana State Library has mounted a Pinterest page for Every Child Ready to Read, an early childhood literacy initiative developed by the Association for Library Service to Children and the Public Library Association.

What could IFLA do?

As you can see, the United States does not have a unified approach to educating children's librarians or to training them when they are on the job. National associations such as the Association for Library Service to Children promulgate best practices, but there is no mechanism for enforcing them. Each state develops its own priorities for supporting local libraries. It is all a big patchwork quilt with no coordination. So what is an international organization like IFLA, representing libraries all over the world to do?

The Section on Libraries for Children and Young Adults has actually made a start. Their publications,

Guidelines for Library Services to Babies and Toddlers, Guidelines for Children's Library Services, and Guidelines for Library Services for Young Adults, provide clear blueprints for establishing good services for young people. The next step might be to develop training modules for each set of guidelines in both print and online formats that could be translated into many languages and made available through the IFLA website. Perhaps this section could partner with the Sections on Continuing Professional Development and Workplace Learning to accomplish this.

A partnership between this section and the Section on Education and Training might produce a White Paper that assesses the need for formal educational programs for youth services librarians throughout the world. We librarians have so much to learn from each other.

It is important that we are as well prepared as we can be to serve the children. I have learned so much from all of you as I have attended these IFLA conferences. You have strengthened my belief that good library services are essential to helping the children of the world reach their potential. One of my favorite books for young people is a novel in verse, *The Surrender Tree* by Margarita Engle (2008). It is the story of Cuba's wars for independence from Spain, fought from 1858 to 1899. The dominant voice in the novel is that of Rosa, a slave who escaped to the forest and joined the freedom fighters there. She uses her healing skills and knowledge of medicinal plants to ease the pain and suffering of wounded men on both sides of the fighting. Eventually a young girl joins Rosa and learns from her how to be a healer in her own right. Rosa thinks that she is like the rock-hard wood of the guayacan tree, so heavy that it cannot float, while young people are like the wood of a balsa tree, light and airy.

Young people drift on airy daydreams.

Old folks hold them in place. (113)

I write in my book, *Twenty-First-Century Kids, Twenty-First Century Librarians* (2010) that we adults are the anchors for the next generation's dreamers, not to hold them back but to lift them up. "It is really the children who will claim the future, but we must ensure that they are given the supports and opportunities that will enable them to do so with hope and joy and a sense of their rightful entitlement" (Walter 2010: 87). I would argue today that the children's librarians who are privileged to spend their workdays with young people also must be given the supports and opportunities to do their jobs well.

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Agile management: Strategies for success in rapidly changing times – an Australian University Library perspective

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Abstract

This paper explores the concept of agile management, revealing multiple meanings for the term. Notable innovations and developments in Australian university libraries reflect conscious (or possibly not) applications of agile management techniques. As a case study, changes at The University of New South Wales Library are examined in the light of agile management concepts.

Keywords

agile management, change management, university libraries, innovation, digital libraries

Introduction – agile management

Agile management is a term more associated with the commercial world than with libraries. It is used in commercial and manufacturing environments to emphasize the need to move easily and quickly in response to changing economic circumstances or competitive forces. One of the Oxford English Dictionary definitions of ‘agile’ states that, for a company or activity, it means being able to change or be changed rapidly in response to customer needs and market forces. Other adjectives associated with agility are ‘adaptive’, ‘flexible’ and ‘responsive’. At first thought, ‘agile management’ hardly seems to be a term to apply to universities and their libraries. These organizations are not typically seen as nimble in the face of change; instead, they are often perceived as bureaucratic, conservative and traditional. In the eyes of many, this stability is seen as a virtue. Libraries strive to be adaptive, flexible and responsive but the general perception is that they tend to act cautiously, adopting evolutionary approaches over those that are revolutionary. Exploring the concept of agile management can help us determine whether this is a fair perception or not.

Two of the IFLA 2013 Congress themes appear to align strongly with the concept of agile management. The theme of ‘users driving access and services’ implies that libraries need to adopt a responsive approach. The theme of ‘ideas, innovations and

anticipating the new’ is reflected in the commercial world, with competition driving the creation of new products and services. While libraries have a proud history of innovation, it is worth examining whether this reflects agile approaches, such as flexibility, responsiveness and speed.

A recent short paper in a management journal provides five ‘ways’ for businesses to become more agile and strengthen them to meet the challenges of difficult economic conditions (Birkinshaw 2012). They are:

1. *Use peripheral vision.* Organizations should actively monitor trends and innovations. The congress theme of ‘anticipating the new’ seems particularly apt here. Scenario planning is a useful tool to help identify and assess industry changes.
2. *Encourage dissent.* Leaders of organizations are successful when they encourage debate and are prepared to have their assumptions and beliefs challenged. There are dangers in organizations becoming complacent or being unwilling to change course.

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3. *Experiment*. It is important that organizations try out new activities, even if this requires redirecting resources from existing activities.
4. *Simplify and flatten*. Birkinshaw recommends pushing decision-making to the front line to enable responsiveness as opportunities arise. He notes that “agile companies are typically very flat, with clear lines of accountability” and mentions that they are often major users of outsourcing, allowing them to reduce or increase capacity as needed.
5. *Act quickly*. Paradoxically, it is sometimes smarter to wait, make preparations and save resources, so that when an opportunity arrives, an organization can act quickly.

Birkinshaw’s five ways of agile management are put forward in the context of economic conditions and competitive markets. This context partially applies to university libraries which have faced reduced funding and other economic pressures such as increased prices for information resources. Another environmental factor is the rapid change of the scholarly information environment, along with users preferring and expecting to access scholarly content on mobile devices. These major changes inject uncertainty into all players in the information industry – libraries, suppliers, library system vendors, publishers and library consortia. The digital era has arrived quickly and suggests more nimble responses are needed. Has this happened?

Changes In Australian higher education and university libraries

Background

First, it is useful to provide some background about the higher education system in Australia. (Sources of data for this section come from official statistics published by the Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education (<http://www.innovation.gov.au>) and the Council of Australian University Librarians (CAUL) (<http://www.caul.edu.au>)). There are 39 Australian universities, 37 of which are public and 2 private, serving a population of 23 million people. Universities are funded through a mix of government and non-government sources. In approximate terms, government provides about 55 percent of the revenues, with student fees from both domestic and international cohorts providing 38 percent. Revenue growth has been considerable, rising from AU\$10.2 bn in 1996 to AU\$21.5 bn in 2010, which is an increase of 211 percent. Expenditure on university libraries as a

proportion of university revenues fell from 3.4 percent to 3 percent over this period.

While university libraries’ share of revenue decreased, enrolments have soared. Between 2000 and 2010, enrolments rose from 695,485 to 1,111,352, which is an increase of nearly 60 percent. From these figures, it is clear that library expenditure per population member decreased over time. Australian university libraries have found themselves meeting increased demand for services and resources, while budgets did not increase commensurably. How did they manage?

Digital information and innovation

Australian university libraries seized opportunities presented by e-journals. Many university libraries adopted an electronic-preferred policy for journals in the early 2000’s, often in the face of dissent from academic and library staff. CAUL statistics show that serial volumes added to Australian university library collections fell from 170,889 to 34,498 between 2000 and 2011, which is a decrease of 80 percent. This figure reveals the amount of print journals *not* being added to shelves. Australian university libraries stopped taking print subscriptions. When backfiles and initiatives such as JSTOR became available, many libraries removed journals from shelves, placing them in storage or discarding them. This released space, enabling libraries to seize an opportunity to improve the study and learning environments for students which had suffered as growing print collections consumed increasing amounts of library buildings. Australian university librarians are surprised to see questions in library user surveys in other nations attempting to gauge the degree of comfort users have about print versions of serials being removed in favour of electronic versions. In Australia, this is an unnecessary question – the print has been and continues to be removed, along with major reductions in print subscriptions. Between 2000 and 2001, Australian university libraries increased the stock of study seats by 26 percent, from 60,601 to 76,551 places. This is merely a statistic, however: it does not reflect the amount of innovation, creativity and experimentation applied to the provision of new study spaces. This was not merely about adding more carrels or rows of desks. The new spaces featured group study rooms, informal environments, technology and flexibility to support major changes in teaching and learning practices.

These changes reflect some of the ‘ways’ of agile management. The rapid uptake of e-journals and moving to electronic-preferred over 12 years ago is a good example of ‘anticipating the new’ and applying

innovation. The transition was carried out in the face of hostile comment. There was a degree of experimentation at work here too. The opportunities presented by the release of space enabled university libraries to act quickly and improve the student experience, adding considerable value to the services offered to users.

This was the first act in the transition from print to digital libraries. The next act brought new opportunities.

Digital repositories and new roles

A significant development in the last decade has been the development of repositories. It is fair to say this employed the 'peripheral vision' way of agile management. In 1997, a small group of Australian university librarians became aware of an activity led by Virginia Polytechnic called the Networked Digital Library of Theses and Dissertations (NDLDT). This initiative enabled the dissemination of higher degree theses via the World Wide Web using software developed by Virginia Polytechnic. This was clearly an interesting innovation. Seven university libraries under the leadership of The University of New South Wales Library won project funding from the Australian Research Council to implement and test the NDLTD system – this is a good example of experimentation, another 'way' of agile management. The project worked, and in 2000, it migrated to program status to become the Australian Digital Theses (ADT) Program managed by the Council of Australian University Librarians. In its time, the ADT Program was regarded as a major innovation (Genoni 2003). The ADT Program expanded to include all university libraries in Australia and New Zealand contributing digital versions of theses. Digital theses became standard business and several universities are now in the process of implementing the digital thesis as the 'version of record'. The transition from print to digital for this research output is well under way.

The success of the ADT Project led to further employment of 'peripheral vision'. Australian university librarians were becoming aware of developments in institutional repository software. It was clear that digital theses could seed institutional repositories, which would contain other research outputs in a wide variety of formats. Government funding enabled further experiments such as ARROW (Australian Research Repositories Online to the World) which ran from 2004 to 2008. Led by Monash University Library, its key goal was to identify software and solutions for best practice institutional repositories which could store any digital research output in any

format (Groenewegen 2008). ARROW was one of a number of experiments which have led to institutional repositories becoming standard activities in Australian university libraries. Factors contributing to this included some universities adopting a strong approach to open access, such as Queensland University of Technology, and government-led research assessment exercises (Research Quality Framework, Excellence in Research Australia) which required universities to provide repositories of evidence containing publications authored by university researchers.

These activities continue to steer Australian university libraries towards new roles in supporting research. The implementation of research assessment exercises provided opportunities to develop new services for academics covering bibliometrics and research measurement. Many libraries are developing research data management services, and taking advantage of the opportunity to experiment provided by the Australian National Data Service (<http://www.and.s.org.au>). Repository developments provided the platform for the development of new services to support research which were aligned.

The 'ways' of agile management here include use of peripheral vision to monitor trends and innovation and a willingness to experiment. While government funding provided some resources, libraries needed to divert resources to support experimentation. Leaders recognized that external project funding would meet only a portion of costs: the remainder would have to be met internally. This is an example of agile management.

Applying Birkinshaw's five 'ways' demonstrates features of agile management across Australian university libraries. There are other examples of innovation include quality programs, staff development and support for learning and teaching. Of course, not all libraries have done and can do this at the same pace. However, the transformations in all libraries over a decade are significant, so a close examination of one university library, the one I lead, follows.

Agile management at UNSW library

The University of New South Wales is a major research-intensive Australian university in Sydney. It was founded in 1949. UNSW Library has faced rapid changes in its operating environment over the last decade. The changes in the information environment are a challenge for all university libraries, but as will be discussed later, these have been exploited to enable change. UNSW Library sees its future as a digital library and states this regularly to its users and the senior management of the university. The

University of New South Wales has been through rapid enrolment growth. For example in the 2005 to 2010 period, full time equivalent enrolments grew 30 percent (from 28,381 to 37,020). In the same period, the library's budget increased by 9 percent. Some conscious (and not-so-conscious) application of agile management has enabled the maintenance of services and resources. However, Birkinshaw's recommendation to 'simplify and flatten' organizational structure and culture is highly relevant. The library's ability to be responsive and more nimble arose from a process to simplify its structure.

This process of simplification was hardly agile or nimble. A major structural change in 2005 was the outcome of a process which commenced in 2002. This began with scenario planning (mentioned in the 'way' of using peripheral vision) which developed a vision for UNSW Library in 2007. This was a highly consultative and slow process. Its benefit was to build agreement that the library needed to change in the face of major changes in the information environment. UNSW Library's structure featured special discipline-based libraries which were created when print was dominant. The scenario planning process recognized the need to move away from a structure which was designed to support a print-based service model which emphasized on-site physical interaction with users, staff and resources. The model duplicated services across libraries. The costs involved in maintaining this structure limited the library's ability to release resources to enable innovation and carry out the experimentation needed for the transition to a digital library.

The outcome was the abolition of special libraries, replaced by a simple structure emphasizing that UNSW Library is one library, not several. The proportion of resources applied to managing digital services has steadily increased, with one of the three departments called Digital Library Services. The other two departments are Information Services (client and academic support) and Central Services (physical library and corporate services). This is not the structure of a library dominated by print. There is no 'front-room/back-room' division, as no technical services department exists. With nearly 95 percent of the budget for information resources used for online resources, a structure which aligns with the dominance of digital information and services is essential. A further emphasis driving the need for a different structure was the existence of a technologically literate population.

This simplification of structure has enabled the library to deal with rapid changes in enrolment with less resources, and act in an agile manner.

Here are some notable examples.

1. *No service desks.* There are no desks in our libraries. Instead, users are greeted in Help Zones. A tiered reference model is used. This is a case of using the 'way' of peripheral vision. Customer service models in other environments such as banks and airports stimulated our thinking. It has worked well – users and staff enjoy interacting in a more friendly and relaxed atmosphere. This change was implemented quickly, over a period of 3 months. It did not require extensive consultation and persuasion.
2. *Self-help.* The library had to develop a service model which could meet increasing enrolments in a relatively static budget. Self-help is a conscious strategy which suits the online environment. People are becoming comfortable with searching and carrying out transactions online. More than 90 percent of borrowing is now performed by users. A recent implementation of the RightNow software features a knowledge base that develops in response to client needs. This strategy moves the Library forward to understanding and delivering services for a predominantly digital information environment. In 2013, UNSW has nearly 50,000 students: this strategy is essential for the library to scale its services according to its budget.
3. *Stop doing things or do them differently.* Librarians find this hard to do, but every service needs continual examination. Our key action was to stop face-to-face information literacy classes and transfer it to the online environment, as suits a digital library. Face-to-face information literacy does not scale (there are too many students), does not appeal to technologically literate students and frequently uses teaching styles that our old-fashioned.
4. *Stop doing things to release resources for new activities.* Changing the structure, reference services and the information literacy model enabled us to redirect the considerable professional resources of the library's information services staff to develop new services supporting research, such as research impact measurement and bibliometrics. Resources were also redirected to placing more effort in communicating with academic staff.

While the management of UNSW Library has not consciously used the term 'agile management' to describe its approach, it has used many of the 'ways' of agile management described by Birkinshaw to meet the challenges of rapid change.

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Author biography

Andrew Wells is the University Librarian at The University of New South Wales. He was appointed to this position in September 2001. Since then, Andrew has overseen major changes to the University Library's services, organization and buildings. He has taken a strong interest in improving facilities and steering the Library through a period of rapid changes in scholarly information. Andrew has contributed services to many university activities, including a four year period as a Board member on the UNSW Student Union and

its successor Arc between 2004 and 2008. Andrew has held senior positions in several major Australian libraries. Prior to joining UNSW, Andrew was the Assistant Director General, Resource Sharing Division at the National Library of Australia (1996-2001). At the State Library of New South Wales, he occupied senior positions in a variety of roles, building on major periods of service at the University of Queensland Library, Macquarie University Library and a previous stint at UNSW Library from 1982 to 1986. Andrew has been active in the library profession through his involvement in a wide range of committees, professional bodies and activities. He was the President of the Council of Australian University Librarians from 2007 to 2009 and is Chairperson of CEIRC (CAUL Electronic Information Resources Committee) for 2006 and 2007. He resumed this position again from 2010 to 2013. Andrew was a member of the Board of Intersect, NSW's e-research Group. He served on OCLC Asia Pacific Regional Council and OCLC Global Council from 2011 to 2013. In 2011, Andrew was awarded the Fellowship of the Australian Library and Information Association. Contact: UNSW Library, University of New South Wales, Sydney, Australia. Email: a.wells@unsw.edu.au



Corrosion of URLs: Implications for electronic publishing

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Abstract

The aim of this study is to analyze the accessibility, corrosion and half-life of URLs cited in the articles of Indian LIS conference proceedings published during 2001 to 2010. A total of 5,698 URLs cited in the 1,700 articles were examined. The percentage of URLs increased from 39.10 percent in 2001 to 73.47 percent in 2009. The study found that 50.09 percent of URLs were not accessible at the time of testing and the remaining 49.91 percent of URLs were accessible. The HTTP 404 error message – “file not found” was the overwhelming message encountered and represented 53.29 percent of all HTTP messages. The study also noticed that the average half-life of URLs of missing URLs was estimated to be 4.94 years. Even though there are various retrieval tools being used to recover vanished URLs, still there is a need to improve such tools.

Keywords

URLs, corrosion, half-life, electronic publishing

Introduction

In recent years researchers have focused on the growing reliance on the Internet as a source of information and the increasing frequency with which authors cite websites and pages to document their scholarly research (Casserly and Bird 2003). The outburst of e-contents such as e-journals, e-books, etc., has facilitated access to scholarly information; thus, the nature of citations is susceptible of change. Print-to-web citations and web-to-print citations are now fairly common and thus it seems inevitable that web resources are becoming favored in scholars' communication. The cited content is considered as available if it can be found either at the URLs included in the sample citation or elsewhere on the web (Riahinia et al. 2011). During the last decade many journal articles, including refereed articles, contain citations to web sources. Despite the popularity of web citations, recent studies have documented that the problem of URL corrosion is a serious issue, not only for web masters, but also for academics who use web sources in their research (Dimitrova and Bugeja, 2007b).

This corrosion of URLs definitely will have an implication for electronic publishing. It is also noticed

that the corrosion of URLs was found in earlier studies (Aronsky et al., 2007; Ducut et al., 2008; Goh and Ng, 2007; Lopresti, 2010; Sampath Kumar and Manoj Kumar, 2012; Sampath Kumar and Vinay Kumar, 2013). Today the Internet has expanded access to scholarship, but its dynamism poses many challenges to scholarly communication. Keeping in view the disappearing nature of URLs citations, the present study explores the impermanence of URLs cited in articles of Indian conference proceedings and its impact on electronic publishing.

Previous works

There is a substantial body of literature in the field of web citations and decay. This part of the study discusses the literature related to the use of URLs as citations in scholarly literature and the corrosion of URLs.

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In the year 2006, a study by Dimitrova and Bugeja (2007) focused on six leading communication journals and their use of online citations in articles published between 2000 and 2003. The findings showed that online citations in the .gov and .org domains were more likely to remain accessible over time. Year of publication and URL level also emerged as significant predictors of online citation permanence. More than 37 percent of the online citations had disappeared from the original source over a four-year period (2000–2003).

Goh and Ng (2007) investigated the link decay phenomenon in three leading information science journals. The study revealed that approximately 31 percent of all citations were not accessible during the time of testing and the majority of errors were due to missing content (HTTP error code 404). Citations from the .edu domain were found to have the highest failure rates (36 percent) when compared with other popular top-level domains. The results of the study indicated that link decay was a problem that cannot be ignored, and the implications for journal authors and readers are discussed.

Ducut et al. (2008) conducted a survey on the accessibility of MEDLINE URLs. Some 10,208 URL addresses were checked for errors during the initial run. A total of 2,245 (21.99 percent) were not accessible during the initial run. Of these, 544 URLs were found to have errors in formatting. A total of 163 URLs redirected to another page and the updated addresses were used in the study. In the same year, Casserly and Bird (2008) conducted a comprehensive study to determine the persistence of URL citations. They found a decrease of 17.4 percent in persistence. The researchers also found an increase in the number of journals that provide instructions to authors on citing content on the web. Wu (2009) analyzed 1,637 web references in articles in two Chinese academic journals published during 1999 to 2003. His study showed that web references accessibility has a strong negative correlation with age. Web references decay at a rate of about 9 percent to 10 percent annually. He also estimated that about 65 percent to 72 percent of web references could be accessed in newly published Chinese academic journals. Six years after publication, about 90 percent could not be accessed.

Lopresti (2010) examined citations in five leading environmental science journals for accuracy. As many as 647 (24.41 percent) of the 2,650 citations checked were found to contain errors. Of the five journals, *Conservation Biology* had the lowest percentage of citations with errors and the journal *Climatic Change* had the highest. Rhodes (2010) examined the persistence of URLs extracted from law and policy-

related materials over a three year period (2008–2010). She found that URLs at .gov top-level domain are more vulnerable to link rot than those at the .org top-level domain.

Riahinia et al. (2011) analyzed 37,791 citations extracted from six LIS scholarly journals, of which 4,840 (12.8 percent) were web citations. The mean averages of web and print citations per article were 4.09 and 27.9 respectively. Of all web citations, 4,617 (95 percent) were persistent, and 5 percent returned errors and thus were not accessible. The most prevalent domain of citations was .html and the most favorable and persistent file format was .pdf. Saberi et al. (2011) analyzed the accessibility and decay of 558 web citations used in refereed articles published in the first 10 years of the *Journal of Artificial Societies and Social Simulation*, published between 1998 to 2007. The study showed that 75 percent (421 URLs) were accessible and the remaining 25 percent (137 URLs) were inaccessible.

Sampath Kumar and Prithviraj (2012) examined 350 conference articles published in Indian Association of Teachers of Library and Information Science (IATLIS) conference proceedings during the period 2001–2008. The study showed that overall, 45.61 percent (307) of web citations were missing from the total of 673 web citations and the percentage of missing web citations had gradually decreased from 2001 (66 percent) to 2008 (30.27 percent). Of the 307 missing web citations, the top-level domain .org had the highest percentage (30.29 percent) of missing URLs, followed by the .edu domain (21.49 percent). Mardani's (2012) study showed that out of 46,762 web citations, 40,954 (88 percent of the total) were available and 5,808 (12 percent of the total) were missing. As reported in other studies, most Internet users encounter the 404 error (page not found). The highest percentages of inactive URLs were found to be associated with the .gov top-level domain. A study by Sampath Kumar and Manoj Kumar (2012) analyzed 2,890 URL citations cited in articles in four LIS scholarly journals published between 1996 and 2009. Of the total of 2,890 URL citations, 754 (26.08 percent) encountered access errors and were designated missing web citations. Further, they found that 70.15 percent of all the missing URLs were due to HTTP error 404 (page not found). The top-level domain having the greatest number of missing URLs was the commercial domain .com (27.90 percent), followed by .org (24.03 percent).

A recent study by Sampath Kumar and Vinay Kumar (2013) investigates the availability, persistence and half-life of URL citations cited in two Indian LIS journals articles published between 2002

Table 1. Summary of URLs corrosion in previous studies.

Sl. No.	Authors	Year	Percentage of URLs corrosion
1	Rumsey	2002	51.53
2	Veronin	2002	59
3	Casserly and Bird	2003	42.6
4	Spinellis	2003	28
5	Markwell and Brooks	2003	20
6	Dellavalle, et al.,	2003	13
7	Sellitto	2004	45.8
8	McCown, et al.,	2005	29.5
9	Aronsky, et al.,	2006	11.9
10	Goh and Ng	2007	31
11	Dimitrova and Bugeja	2007	39
12	Thorp and Brown	2007	53.24
13	Ducut, et al.,	2008	21.99
14	Wagner, et al.,	2009	49.3
15	Wu	2009	55.77
16	Nagaraja et al.,	2011	17
17	Isfandyari-Moghaddam and Saberi	2011	31
18	Riahinia, et al.,	2011	5
19	Saberi, et al.,	2011	25
20	Sampath Kumar and Prithviraj	2012	45.61
21	Mardani	2012	12
22	Saberi and Abedi	2012	27
23	Sadat-Moosavi, et al.,	2012	36
24	Sampath Kumar and Manoj Kumar	2012	26.08

and 2010. Authors found that 39.84 percent of URL citations were not accessible and remaining 60.15 percent of URL citations were still accessible.

Most of the studies mentioned above clearly indicate that web citations in scholarly publications are increasing, but that the major problem of web citations is their permanence. The percentages of URLs corrosion found in the previous studies are presented in Table 1.

Research objectives and hypotheses

The present study investigates the availability and corrosion of URLs cited in conference proceedings published during 2001 to 2010. The study was carried out with the following objectives and hypotheses:

Objectives

- To know the pattern of use of URLs by Indian LIS professionals in conference proceedings.
- To know the rate of corrosion of URLs cited in the articles of conference proceedings.
- To examine the top-level domains associated with active and missing URLs.

- To identify the correlation between the path depth and corrosion of URLs.
- To calculate the half-life period of URLs cited in conference proceedings.

Hypotheses

- There is an increase in the number of URLs during 2001 to 2010 in selected Indian LIS scholarly communications.
- Corrosion of URLs will increase as their age increases.
- There is significant association between the corrosion of URLs and top-level domains.
- The path depth and corrosion of URLs are positively correlated.

Methodology

Selection of conference proceedings and articles

The data for the present study were drawn from a selective sample of three Indian LIS conference proceedings published in printed form during 2001 to 2010. The present study has chosen the following three conferences proceedings:

CALIBER conference conducted by INFLIBNET

Convention on Automation of Libraries in Education and Research Institutions (CALIBER) is an annual convention, organised by INFLIBNET Centre in collaboration with different Universities. The convention provides a unique forum to the library and information professionals, teachers, IT professionals, consultants and users involved in automation and networking of libraries as well as information providers to come together and interact on the subjects of mutual interest (INFLIBNET, 2013)

NACLIN Conference Proceedings

The National Convention on Knowledge, Library and Information Networking (NACLIN) is the official convention of Developing Library Network (DELNET), New Delhi. NACLIN is devoted to discussing how the latest technologies can enhance library services, and help in the dissemination of information among library users including students, staff and patrons (NACLIN, 2013). DELNET is well known network in India in the field of Library and Information Science. DELNET has been established with the prime objective of promoting resource sharing among the libraries through the development of a network of libraries (DELNET, 2013).

ILA conference conducted by Indian Library Association. Indian Library Association (ILA) is the largest and renowned professional body in the field of Library and Information Science in India. It is a premier association committed to the cause of Library Movement and Development (ILA, 2013).

These conference proceedings were considered on the basis of their reputation and long publishing history.

Selection of articles and references

The study was undertaken to know the availability and corrosion of URLs cited in the articles of above conference proceedings published during 2001–2010. All articles ($N = 1,700$) published in these three conference proceedings were selected. All the references ($N = 15,745$) which are appended at the end of each of the articles under the heading 'references' were collected. The editorial articles, abstracts, expanded bibliographies, end notes, footnotes, e-mail links, annotations and book reviews, etc., were not considered as citations and thus not counted in the data collected for further study. In some articles citations referring to print sources and URLs were listed twice in the references sections. When this occurred they were only counted as single citations.

The 1,700 articles that formed the source of the sample citations used in this study contained a total of 15,745 citations, of which 10,047 were print citations and 5,698 were URLs.

Selection of testing of URLs

The researcher extracted all URLs ($N = 5,698$) from the list of references. URLs that occurred in the same article twice or more were counted as a single URL. However, if the same URL was cited in other articles it was then considered as an independent URL for statistical analysis. The URLs so extracted were then tested to determine whether they were active or missing on the web. The researcher checked all of them one by one in the World Wide Web Consortium's (W3C) Link Checker (<http://validator.w3.org/checklink>). The Link Checker tool was selected for its unique features to test the persistence and accessibility of URLs. Those URLs which led directly to the web source were classified as active URLs and those which received an HTTP error message were classified as missing URLs.

The exact error message was recorded and then classified according to type of error (ex: HTTP 403, HTTP 404, HTTP 500, HTTP 502, HTTP 503, etc.). Furthermore, the URL for each online citation was

coded for top-level domain (ex: .com, .org, .gov, .edu, etc.), file format (ex: .html, .pdf, .doc, etc.) and URL path depth (ex: 0, 1, 2, 3, etc.).

The statistical program SPSS 19.0 for Windows was used to generate contingency tables and calculate the Pearson's Correlation and Chi-Square values. A $p < .05$ level of significance was used for the study.

Analysis of data

Distribution of articles, citations and URLs

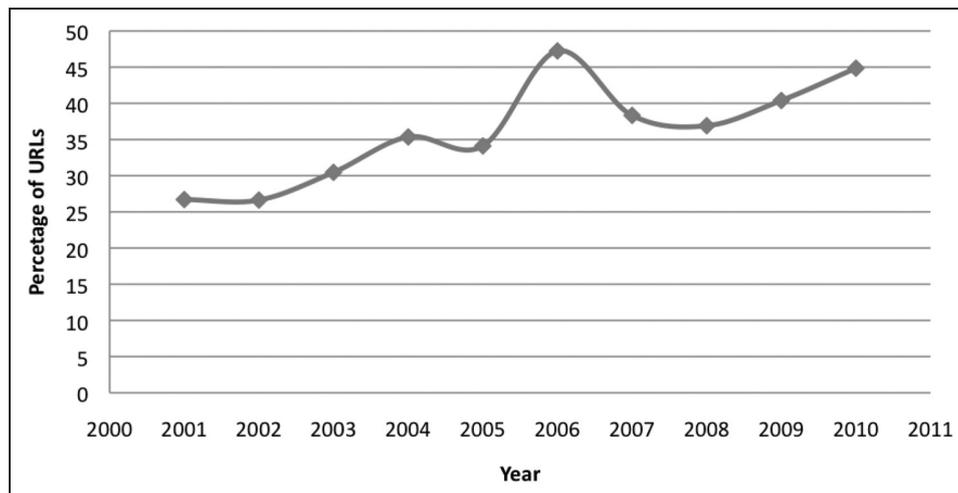
The 1,700 articles that formed the source of the sample citations used in this study contained a total of 15,745 citations. Of these 10,047 (63.81 percent) were print references and 5,698 (36.18 percent) were URL citations (Table 2). The data presented in Table 2 also illustrate that the percentage of articles with at least one URL has increased from 39.10 percent in 2001 to 91.67 percent in 2010. There was a constant and continuous increase in the number of articles with URLs over the years 2001–2010. In total, there were 1,011 (59.47 percent) articles with URLs among the 1,700 articles published in the selected LIS conference proceedings during 2001–2010.

The average number of URLs per article ranged from a low of 1.99 in 2001 to a high of 5.63 in 2010. The average number of URLs per article was 3.35 across all the 1,700 conference articles. Further, the years 2006 and 2010 witnessed the highest percentages of URLs with 47.24 percent and 44.85 percent respectively, which were comparatively higher than the decadal percentage of URLs (36.19 percent). The percentage of URLs had increased from the year 2001 (26.70 percent) to 2010 (44.85 percent).

A noteworthy finding of the study is that there was high use of URLs in the conference articles of the later years (2006–2010) compared to the earlier years (2001–2005) of the decade studied. This phenomenon could be attributed to the popularity of the web as an established source of information with universally accessible free digital information which might have prompted the authors to access and cite more and more web resources in their articles. Indeed, the higher numbers of URLs found in the later years of the decade studied here are in conformity with the findings of Zhang (2001), Rumsey (2002), and Spinellis (2003), who reported a relative increase of URLs in the articles published during the later years of their studies. To support this, the correlation analysis also indicates that there is a negative correlation between the year and the percentage of URLs ($r = -.777$, $p = .014$). This indicates that conference proceedings published in recent years have more URLs compared to earlier ones (Figure 1).

Table 2. Year-wise distribution of articles, citations and URLs.

Publication year of the conference proceedings	Total no. of articles	No. of articles with URLs	Percentage of articles with URLs	Total no. of citations	Total no. of print citations	No. of print citations per article as an average of all articles	Total no. of URLs	No. of URLs per article as an average of all articles	URLs as percent of all citations
2001	156	61	39.10	1165	854	5.47	311	1.99	26.70
2002	174	82	47.13	1453	1066	6.13	387	2.22	26.63
2003	182	71	39.01	1474	1025	5.63	449	2.47	30.46
2004	171	97	56.73	1519	982	5.74	537	3.14	35.35
2005	168	113	67.26	1636	1078	6.42	558	3.32	34.11
2006	195	130	66.67	1867	985	5.05	882	4.52	47.24
2007	220	138	62.73	2022	1247	5.67	775	3.52	38.33
2008	214	153	71.50	2179	1375	6.43	804	3.76	36.90
2009	196	144	73.47	2129	1269	6.47	860	4.39	40.39
2010	24	22	91.67	301	166	6.92	135	5.63	44.85
All years	1700	1011	59.47	15745	10047	5.91	5698	3.35	36.19
Average citations per article				9.26					
Percentage of citations of all the years						63.81		36.19	

**Figure 1.** Year-wise distribution of URLs.

Contents of URLs

A citation was considered complete if it included minimum information about the web document, i.e. name of the author, title, publication, publisher, date of publication, URL and date of access. The URLs content noted in the references lists varies from 'Only URL' to 'URL accompanied by partial or complete bibliographic information'. A total of 5,698 URLs found in the selected conference proceedings were classified on the basis of the web citation content (bibliographical descriptions) and the resultant data is presented in Table 3 for further analysis.

The analysis of data presented in Table 3 shows that 33.15 percent of the 5,698 URL citations contained only URLs, whereas 56.83 percent contained URLs with partial bibliographic information and only

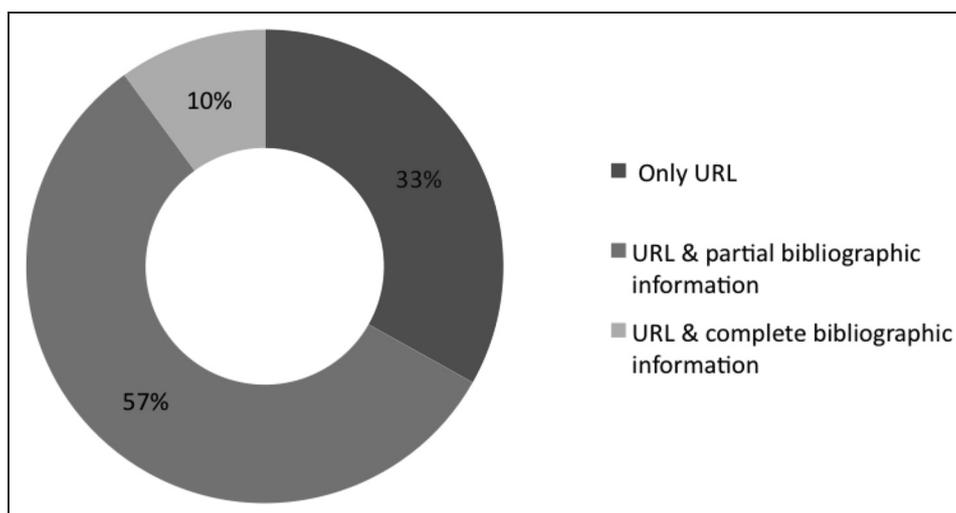
10.02 percent contained URLs with complete information (Figure 2).

Missing URLs by year

The researchers considered a web source as a missing URL if it returned with an HTTP error message. The data about percentage of active and missing URLs presented in Table 4 shows that 49.91 percent URLs (2,844 of 5,698) remained active while the rest 2,854 (50.09 percent) were found to be missing. The largest number of missing URLs in any one year (62.57 percent) was those cited in conference articles published in 2004, followed by 60.45 percent in 2001. The percentages of missing URLs were found to be decreasing during the later years from 2006 (48.53

Table 3. Contents of URLs.

Conference proceedings	Total no. of URLs	Only URL	percent	URL and partial bibliographic information	percent	URL and complete bibliographic information	percent
CALIBER	2489	673	27.04	1559	62.64	257	10.33
ILA	1634	545	33.35	909	55.63	180	11.02
NACLIN	1575	671	42.60	770	48.89	134	8.51
Total	5698	1889	33.15	3238	56.83	571	10.02

**Figure 2.** Contents of URLs.**Table 4.** Percentage of missing URLs.

Publication year of the conference proceedings	Total no. of citations	Total no. of URLs	No. of active URLs	Percentage of active URLs	No. of missing URLs	Percentage of missing URLs
2001	1165	311	123	39.55	188	60.45
2002	1453	387	178	45.99	209	54.01
2003	1474	449	199	44.32	250	55.68
2004	1519	537	201	37.43	336	62.57
2005	1636	558	250	44.80	308	55.20
2006	1867	882	454	51.47	428	48.53
2007	2022	775	422	54.45	353	45.55
2008	2179	804	443	55.10	361	44.90
2009	2129	860	504	58.60	356	41.40
2010	301	135	70	51.85	65	48.15
All years	15745	5698	2844	49.91	2854	50.09

percent) to 2009 (41.40 percent), which is also shown in Figure 3.

Table 4 also displays the summary of active URLs and it is very clear that the year of publication is significantly related to the citations' stability, and that, specifically, the URLs from the most recently published conference articles were more likely to remain active compared to those cited in older articles. This is evident from the fact that 58.60 percent of URLs for

the year 2009 were active, whereas only 39.55 percent of URLs were active for the year 2001. This shows that there was an increase in the percentage of active URLs from 2001 to 2010.

The results of this study indicate that the early-published articles (2001 to 2005) collectively had a greater number of missing web references. The percentage of missing URLs was greater in the first period – 57.58 percent (2001–2005) as compared with 45.22

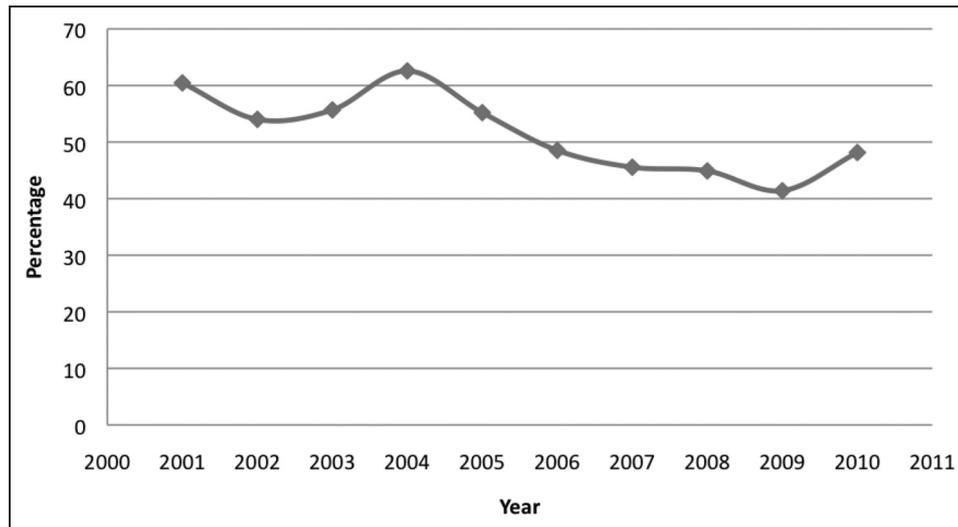


Figure 3. Percentage of missing URLs.

Table 5. Missing URLs cross tabulated by conference proceedings.

Publication year of the conference proceedings	Total no. of citations	Total no. of URLs	No. of active URLs	Percentage of active URLs	No. of missing URLs	Percentage of missing URLs
CALIBER	6144	2489	1363	54.76	1126	45.24
ILA	5949	1634	733	44.86	901	55.14
NACLIN	3652	1575	750	47.62	825	52.38
Total	15745	5698	2846	49.95	2852	50.05

Table 6. HTTP errors associated with missing URLs.

HTTP error	No. of missing URLs	Percentage of missing URLs
HTTP 300	0	0
HTTP 301	2	0.07
HTTP 302	4	0.14
HTTP 400	27	0.95
HTTP 401	0	0
HTTP 403	353	12.37
HTTP 404	1521	53.29
HTTP 406	20	0.70
HTTP 410	5	0.18
HTTP 500	910	31.89
HTTP 501	7	0.25
HTTP 502	1	0.04
HTTP 503	4	0.14
Total	2854	100

percent for the second period (2006–2010). This shows that there is a positive correlation between the percentage of missing URLs and age ($r = .763, p = .017$) which is consistent with the findings of other previous studies (Rumsey, 2002; Dimitrova and Bugeja, 2007; Sampath Kumar and Manoj Kumar, 2012; Sampath Kumar and Vinay Kumar, 2013).

Missing URLs cross tabulated by conference proceedings

Table 5 depicts the percentage of missing URLs in articles published in the selected conference proceedings. It was found that this percentage varied among the different conference proceedings. The percentage of missing URLs cited in ILA conference proceedings was 55.14 percent whereas in NACLIN conference proceedings it was 52.38 percent and in CALIBER conference proceedings only 45.24 percent.

HTTP Errors associated with missing URLs

The HTTP status codes of missing URLs are presented in Table 6. As reported above, as many as 2,854 (50.09 percent) cited URLs were found to be missing and the searches had resulted in different types of HTTP error message. As shown in Table 6, the HTTP error 404 – ‘file not found’ – error message accounted for more than half (53.29 percent) of all error messages. This result is comparable to those of Spinellis (2003) and Goh and Ng (2007), who found in their studies that 60 percent of all URL failures were due to HTTP 404 error. Goh and Ng (2007) stated that the reasons for obtaining this response are

Table 7. Domains associated with active and missing URLs.

Domains	Total no. of URLs	Percentage	No. of active URLs	Percentage of active URLs	No. of missing URLs	Percentage of missing URLs
.org	1799	31.57	932	51.81	867	48.19
.com	1474	25.87	881	59.77	593	40.23
.edu	717	12.58	233	32.50	484	67.50
.ac	560	9.83	247	44.11	313	55.89
.gov	279	4.90	114	40.86	165	59.14
.net	160	2.81	79	49.38	81	50.63
.ernet	64	1.12	37	57.81	27	42.19
Others*	645	11.32	321	49.77	324	50.23
Total	5698	100	2844	49.91	2854	50.09

*Others: .nic, .info, .geo domains, etc.,

varied. The problem could be due to an unreachable web server as a result of an unresolved host name or a failure to contact the target web server after a successful DNS name resolution. This error is due to changes in the URL brought about by file/directory name changes, removal of files or relocation of files. Unfortunately this HTTP code does not specify the exact nature of the problem.

The second most common error message found was HTTP 500 – ‘Internet server error’ – that accounted for 31.89 percent of all the missing URLs. Another significant HTTP error message was HTTP 403 – ‘Forbidden’ – that accounted for 12.37 percent. The other nine types of HTTP error message encountered in this study are negligible because collectively they accounted for just 2.45 percent of the missing URLs.

Domains associated with active and missing URLs

During the last decade many studies were conducted by considering domain names of URLs as a major characteristic feature to understand the relationship between the accessibility of web citations and the domain parts: portal, domain, directory and file.

In this study, eight different types of top-level domain were identified among the URLs. They were: .org, .com, .edu, .ac, .gov, .net, .ernet and ‘others’. Table 7 reveals that, of the 5,698 URLs, more than 50 percent were in just two domains – .org and .com – which accounted for 1,799 (31.57 percent) and 1,474 (25.87 percent) of all URLs respectively. Other domains were .edu (12.58 percent), .ac (9.83 percent), .gov (4.90 percent), .net (2.81 percent) and .ernet (1.12 percent) respectively. Table 7 also records the active and missing URLs within each domain type.

File formats associated with active and missing URLs

Similar to previous studies by McCown, et al., (2005), Maharana, et al., (2006) and Saberi and Abedi (2012),

the URLs in this study have been categorized into different file formats and presented in Table 8 for further analysis.

According to the data given in Table 8 the highest percentage of cited web resources belonged to HTML files. Out of 5,698 URLs, 3,903 (68.50 percent) were of HTML files followed by 505 .PDF files (8.86 percent) URLs in second place and 232 files ending with numbers, (4.07 percent) URLs occupied the third place. The remaining file types had negligible numbers of URLs. These findings are consistent with those of the earlier studies noted above, which also reported that most of the cited web resources consisted of HTML files.

As reflected in Table 8, the highest percentage of missing URLs (URLs) were found among the URLs of file formats .TXT (100 percent), followed by .PDF (90.10 percent). The .DOC and .PPT file formats each had 77.78 percent of missing URLs. As noted by McCown et al., (2005) the .txt file extension is typically used for temporary textual data which may have been converted into a webpage later or simply disregarded as it became stale.

Path depth and corrosion of URLs

The path depths of the URLs and corresponding active and missing URLs are displayed in Table 9. The URL’s path depth could be associated with link failure due to increasing complexity as the length of a URL increases (Goh and Ng, 2007). In this study we called this link failure ‘URL corrosion’. One of the objectives of this study was to verify whether there is any relation between the path depth and URL corrosion. To determine how URL path depth influences URL corrosion rates, the researcher calculated the file path depth for each active and missing URL as per the method followed by Spinellis (2003) and McCown, et al., (2005). In order to calculate path

Table 8. File formats associated with active and missing URLs.

File types	Total no. of URLs	Percentage	No. of active URLs	Percentage of active URLs	No. of missing URLs	Percentage of missing URLs
html files	3903	68.50	2156	55.24	1747	44.76
.pdf	505	8.86	50	9.90	455	90.10
Ends only with number	232	4.07	105	45.26	127	54.74
.asp	76	1.33	24	31.58	52	68.42
.shtml	62	1.09	30	48.39	32	51.61
.php	45	0.79	11	24.44	34	75.56
.doc	36	0.63	8	22.22	28	77.78
.ppt	27	0.47	6	22.22	21	77.78
.txt	13	0.23	0	0	13	100
Others*	799	14.02	454	56.82	345	43.18
Total	5698	100	2844	49.91	2854	50.09

*Others: .cfm, .nsf, .pl, .cgi, etc.,

Table 9. Path depth and corrosion of URLs.

Path depth (PD)	Total no. of URLs	Percentage	No. of active URLs	Percentage of active URLs	No. of missing URLs	Percentage of missing URLs
PD=0	1415	24.83	1055	74.56	360	25.44
PD=1	761	13.36	332	43.63	429	56.37
PD=2	1368	24.01	625	45.69	743	54.31
PD=3	1073	18.83	433	40.35	640	59.65
PD=4	681	11.95	253	37.15	428	62.85
PD=5	226	3.97	81	35.84	145	64.16
PD \geq 6	174	3.05	65	37.36	109	62.64
Total	5698	100	2844	49.91	2854	50.09

depth, the researcher added one to the depth for every directory or file after a domain name. For example, <http://tumkuruniversity.in/> has a path depth of 0, <http://tumkuruniversity.in/dept> has a depth of 1, tumkuruniversity.in/dept/lis has a depth of 2, etc. Likewise the URL path depth could increase to levels 3, 4, 5, etc.

In this study each of the 5,698 URLs was verified for their path depth and classified and grouped according to path depth level for path depths of 0, 1, 2, 3, 4, 5 and 6. Any URLs having path depth level 6 and above were grouped into path depth level 6. The resultant data is presented in Table 9.

The purpose of classifying the extracted URLs into their respective path depth categories was to assess the association between URL path depth and the level of URL corrosion. The analysis of data presented in Table 9 brings home the fact that there was a strong association between URL path depth and corrosion i.e. the greater the path depth, the higher the proportion of missing URLs.

This is substantiated with the fact that, during the test that was carried out in the above mention period, the

URLs with '0' level path depth (PD = 0) were the least to miss (25.44 percent), followed by PD = 1 (56.37 percent), PD = 2 (54.31 percent), PD = 3 (59.65 percent), PD \geq 6 (62.64 percent) and PD = 4 (62.85 percent) respectively in an ascending order among the URLs of the respective groups. And the URLs with path depth 5 were the highest to miss (64.16 percent) (Figure 4).

We performed the correlation analysis to know the correlation between the path depth and the web corrosion. Not surprisingly the correlation analysis indicates that there is significant association between the path depth and web corrosion, i.e. the longer the path depth, the higher the level of web corrosion ($r = .773$, $p = .042$).

Half-life of URLs

The half-life of URLs is the time required for half of all online citations (URLs) in articles to disintegrate. In order to estimate the half-life of the URL citations examined in this study, the researcher adopted the procedure used by Koehler (1999); Tyler and McNeil (2003); Dimitrova and Bugeja (2007);

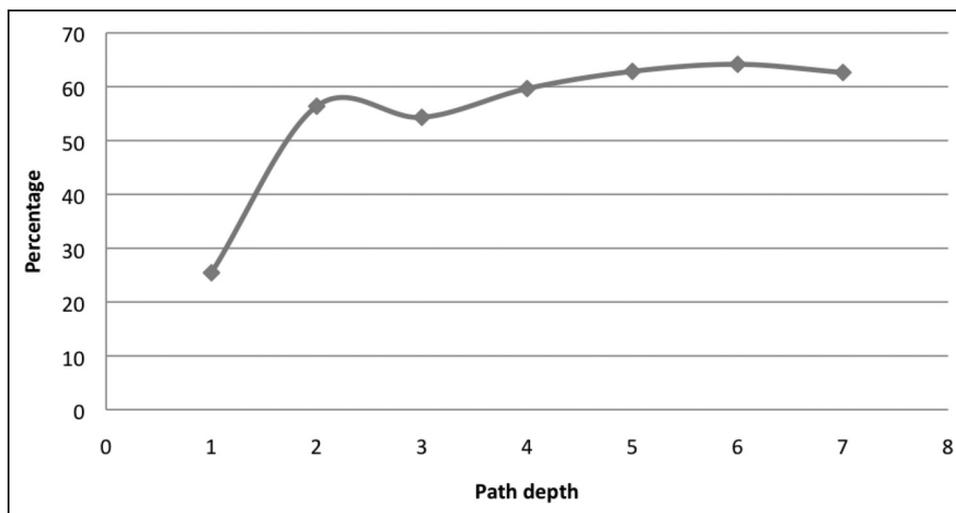


Figure 4. Path depth and corrosion of URLs.

Table 10. Half-life of URLs.

Publication year of the conference proceedings	Time (t)	Total no. of URLs (W ₀)	No. of active URLs (W _t)	* Half-life (T _h)
2001	10	311	123	7.47241
2002	9	387	178	8.032442
2003	8	449	199	6.814618
2004	7	537	201	4.937482
2005	6	558	250	5.17984
2006	5	882	454	5.218736
2007	4	775	422	4.561246
2008	3	804	443	3.488823
2009	2	860	504	2.594327
2010	1	135	70	1.055373
All years		5698	2844	** 4.93553

$$*Half\ life [t_{(h)}] = \frac{t \ln(0.5)}{\ln w_{(t)} - \ln W_{(0)}}$$

** Average half-life.

Mardani and Sangari (2013). The following formula was used to calculate the half-life of URLs for each conference year:

$$Half\ life [t_{(h)}] = \frac{t \ln (0.5)}{\ln w_{(t)} - \ln W_{(0)}}$$

where $W_{(0)}$ is the number of working URLs at the time of publication, $W_{(t)}$ is the number of working URL citations at some later time t .

Using this formula the half-life has been calculated using MS-Excel and the data is presented in Table 10. As can be observed in the table, the average half-life for the missing URLs was estimated to be 4.93 years. This means that it will take about 4.93 (approximately 5 years) years for half of the URL citations to vanish.

Testing of hypotheses

The formulated hypotheses were tested with the data using the statistical program SPSS (19.0 version) for Windows. The Pearson's Correlation and Chi-Square test were carried out to check the significance level. A $p < .05$ level of significance was used to test the hypotheses. The hypothesis, corresponding table number, test applied, p value and the result are presented in Table 11.

Discussion and conclusion

The researcher examined the corrosion of URLs cited in three Indian LIS conference proceedings. It was found the average number of URLs per article ranged from a low of 1.99 in 2001 to a high of 5.63 in 2010.

Table 11. Testing of hypotheses.

Sl. No	Hypotheses	Test	P value and result
1	There is an increase in the number of URLs during 2001 to 2010 in selected Indian LIS scholarly communications (Table 2).	Pearson's correlation	$p = .014$ Hypothesis Accepted
2	Corrosion of URLs will increase as their age increases (Table 2).	Pearson's correlation	$p = .017$ Hypothesis Accepted
3	There is significant association between the corrosion of URLs and top-level domains (Table 7)	Chi-Square	$p = .000$ Hypothesis Accepted
4	The path depth and corrosion URLs are positively correlated (Table 9).	Pearson's correlation	$p = .042$ Hypothesis Accepted

The average number of URLs per article was 3.35 across all the 1,700 conference articles. Further, the years 2006 and 2010 witnessed the highest percentage of URLs, with 47.24 percent and 44.85 percent respectively, which were comparatively higher than the decadal percentage of URLs (36.19 percent). The percentage of URLs had increased from the year 2001 (26.70 percent) to 2010 (44.85 percent). This clearly indicates that the use of URLs as citations increased during the last 10 years. Many of the citations to URLs examined in this study contained partial bibliographical details (56.83 percent) and 33.15 percent contained only URLs. Editorial staff should inform the authors of their journals to provide full bibliographical details along with URLs. Full bibliographical details should include the name of the author(s), title, URL address and date of access. This will help the future researcher to retrieve the information if the URL is not accessible. Casserly and Bird (2003) suggested that the creator/author(s) of web sources should include contact information. Further they suggested that editorial staff should require authors to adhere to citation policies, style manuals and formats established by their journals. Editors should also review the citation guidelines frequently and modify them as needed.

The study has also provided evidence of the impermanent nature (corrosion) of URLs. In our dataset we found that 50.09 percent of URLs cited in articles of conference proceedings were missing. From Sellitto's (2005) perspective the loss of a large number of URLs cited in scholarly articles has important implications for the authors and the academic community. The disappearance of previously cited URLs challenges the reader's traditional assumption of reference availability and access. Furthermore, missing references tend to stymie the ability of a reader to further investigate interesting or significant aspects of an article. Indeed the loss of cited sources tends to weaken an article's theoretical foundation – one of the fundamental objectives associated with scholarly literature.

From the above discussion it can be concluded that the corrosion of URLs in scholarly publications will have an impact on electronic publications. Corrosion of URLs cited in scholarly communication has important implications for authors, publishers, future researchers and also academic community. Hence the list of URLs cited in an article should be always accessible to the readers.

To avoid possible corrosion of URLs, the authors, editors and publishers should check the accessibility of a URL before it is used in the article. In case it is not accessible, they should try to recover the missing URL using search engines or Internet archives. Authors should adhere to the guidelines of the publishers while citing URLs in the article. Publishers need to review their reference guidelines frequently and modify them, as needed. Both authors and publishers need to archive the web content cited in the articles they publish. This will help the future researchers to contact the authors or publishers of the web document when it not accessible to them.

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Information culture in three municipalities and its impact on information management amidst e-government development

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Abstract

This article presents research conducted in three municipalities in Sweden and Belgium. The municipalities were involved in e-Government development. The article focuses on information culture, which constitutes the attitudes and norms embraced by the municipal employees towards public information management and use. E-Government is meant to improve efficiency through the use of information technology and information. This, however, requires effective information management regimes if information is to be leveraged in a manner that will enable the municipalities to attain their ultimate goal of high quality service delivery. Despite investments in information systems this research has proved that the information culture embraced by these will have to change if the ultimate goal of delivering high quality services to the citizens and the effective use and re-use of information is to be achieved. Information culture researchers argue that there is a correlation between business success and information culture. Therefore, the attitudes, norms and how the employees value organizational information, impacts its efficient use and management. This article therefore highlights some of the challenges that are caused by the attitudes of the municipal employees like lack of information management skills, collaboration and insufficient information management systems and satisfactory information management architecture. Even though huge investments are currently being made in the development of e-services, there are soft issues that need to be seriously addressed.

Keywords

e-government, information management, information culture, municipalities

Introduction and background

The objective of this study was to examine the type of information culture that existed in three municipalities and the impact it had on information management. The management of information amidst e-Government development has become a complex issue, since it is still a challenge to manage its entire continuum. The three municipalities that were subjects of this research were still grappling with the management of a hybrid system of electronic and paper records. Information management is central to e-Government development and the delivery of high quality services to the citizens. Scholl (2006) posited that some scholars see e-Government as a redefinition of information management in government, with a strong institutional impact. Melin and Axelsson (2009) identified information and data

management as one of the critical factors concerning e-Government development. Investments are being made in information systems to facilitate the management of information. However, the people issues are not receiving as much attention (McLeod et al. 2011). Based on my own work experience and research, I have noticed a belief that people no longer need to be trained in information management since we are all records creators and managers. Creating a full understanding of information management issues, especially in the current networked environment, requires training. It is through training that

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organizational employees can develop a full understanding of today's information landscape.

Organizations are investing in information systems to effectively deal with information management challenges. However, authors like Davenport (Davenport 1997) argued that a lot of focus has been put on information technology and yet, better computers and communication networks do not necessarily lead to better information environments. He proposed the term 'information ecology', which puts a narrow focus on technology but addresses the way people create, distribute, understand, and use information. He argued that information ecology required new management frameworks, incentives and attitudes toward organization hierarchy, complexity and division of resources (Davenport 1997). He defined information ecology as "holistic management of information" or "human-centred information management" (Davenport 1997). He was of the view that this kind of thinking put humans at the center of the information world and technology on the periphery.

Information is looked upon as a resource that gives organizations a competitive edge if well leveraged. In public institutions, beyond business success it also serves as an instrument through which the citizens can exercise control and understand the decision-making processes of such institutions. Therefore, the way the municipal employees create, manage, use and value information is crucial to its effective management. Earlier studies on information culture have tried to make a link between positive information culture and business success. In 1993, Ginman wondered how access and utilization of information could be improved to lead to successful business. She argued that the answer could be found in identifying the characteristics of positive information cultures and implementing them according to the needs of the organization. In 1995, Grimshaw confirmed that it is the human information activities which give organizations a competitive edge. She posited that the quality and value of information, its sources, management and communication were critical to the success of an organization.

Information culture constitutes the attitudes, norms and the way the organizational employees value information (Choo et al. 2006, Douglas 2010). Douglas (2010) defined information culture as: "An emerging complex system of values, attitudes and behaviours that influence how information is used in an organization. It exists in the context of, and is influenced by, an organizational culture and the wider environment" (Douglas 2010: 388), (McLeod et al. 2011). Mukred, Singh and Safie (2013: 128) defined it as "the process in the context of which different knowledge, abilities

and skills are created to allow the information consumer to find ways in the information space." They argued that information culture is becoming an important criterion of general personality culture. Choo (2013) developed a typology of information culture which included:

- A result-oriented culture, where the goal of information management is to enable the organization to compete and succeed in its market or section;
- A rule-following culture where information is managed to enable the organization to control internal operations and to reinforce rules and policies;
- A relationship-based culture, where information management aims to encourage communication, participation and a sense of identify; and
- A risk-taking culture, where it is managed to encourage innovation, creativity, and exploration of new ideas.

He concluded that identifying an organization's culture would facilitate cultural change and hence a systematic implementation of change. The importance of understanding the impact information culture has on information is further pursued by Curry and Moore (2003), who discussed the need for a tool to measure and develop an information culture. They argued that it was difficult to quantify and qualify culture and information. They further confirmed that despite the frequent use of the concept information culture, there was no agreed definition. They defined information culture as "the value and utility of information in achieving operational and strategic success is recognized, where ICT is readily exploited as an enabler for effective information systems." They contended that a well developed organizational culture is required in order for information culture to be nurtured. Organizational culture has common attributes with information culture in form of values, assumptions and beliefs. They also, like Davenport, (Davenport 1997) concluded that the adoption of IT is not sufficient to deliver effective information management, but that it has to be complemented with a good information culture. The linkage between organizational culture and information culture is further pursued by Oliver (2004, 2008), who carried out comparative case studies and investigated information management in three universities in Australia, Hong Kong and Germany. She aimed to enhance an understanding of the interactions of organizational culture with information and its management. Her research perspective was grounded in the fact that the values

accorded to information and the attitudes towards it demonstrate information culture. Her goal was to enhance an understanding of the interactions of organizational culture with information and its management. Her perspective was that information cultures exist in all organizations.

The impact of information culture on business performance was also the subject of Widén-Wulff (2000), who conducted a qualitative study that reviewed information cultures in 15 Finnish insurance companies. She was concerned with the internal information flow and how a rich information culture and functioning knowledge creation were connected to successful business performance. She posited that information culture is part of the whole organization's culture because the values and attitudes attached to information depend on the organizational situation (Widén-Wulff 2000). She concluded that information culture is about information systems, common knowledge, and individual information systems in the form of attitudes and information ethics. Choo et al. (2006) argued that in order for organizations to achieve superior business performance, they must have the following capabilities:

- Information technology practices: the capability to effectively manage IT applications and infrastructure to support operations, business processes, innovation and managerial decision making.
- Information management practices: the capacity to manage information effectively over the life cycle of information use, including sensing, collecting, organizing, processing and maintaining information.
- Information behaviours and values: the capability to instill and promote behaviours and values in people for effective use of information.

Choo et al. (2008) explored the link between information culture and use in three organizations. Their aim was to establish whether there was a systematic way to identify the information behaviours and values that characterize an organization's information culture. Their research settings included a public health agency, a national law firm and an engineering company. They concluded that the information culture of an organization is determined by a number of things such as mission, history, leadership, employee traits, industry and national culture. They further confirmed that the concept of information culture has not been explored in current research, (Choo et al. 2008).

Douglas (2010) carried out a qualitative study and explored the values, attitudes, beliefs and behaviours

that government departments in Western Australia had towards information. She contended that even though information is pervasive in all government departments, how these departments relate to it, the value they ascribe to it, their attitudes and behavior towards it are not well understood. Her study revealed that information culture is complex, systemic and reflexive. She identified the intricate relationships between information culture and organization culture, information management and information use. Douglas further established that although the concept 'information culture' is frequently used, there is no agreed upon definition. She highlighted the fact that there is paucity of research into information culture. She contended that information culture is an important aspect that gives organizations a competitive advantage if well aligned with business strategies (Ginman 1993, Douglas 2010).

According to the literature reviewed above, there seems to be a link between good/positive information culture information and successful business performance. The information culture of an organization consists of attitudes and values of the employees towards information. This determines the management of information for accountability and transparency and for the execution of business processes. An organization has a mature information culture when it accesses and uses information in its everyday activities (Douglas 2010, Oliver 2010). Organizations are populated by people with attitudes and behaviours that shape the success or failure of records and information management programs (Oliver, 2010). This paper presents an introduction and background, a research problem, the methodology, research findings and a discussion and conclusion.

The Research Problem

This study investigates the type of information culture that was being espoused by each of the public administrations studied and how it affected the management of public information. A lot of investments are currently being made in information systems to assist with the creation, effective capture, organization, management and use of information in the three municipalities that are subjects of this research. The three municipalities are engaging in the development of electronic services. These municipalities have therefore undertaken measures to improve their information management environment. However, the people issues that constitute the norms, attitudes and how information is valued in these organizations are still an obstacle to the achievement of their ultimate goal of effective information management, hence compromising the municipalities'

ultimate goal of high quality service delivery and effective use of information as a common resource.

Method

The article builds on a study of information culture in two Swedish municipalities and a Belgian municipality. I used case studies because of the nature of the issues I was trying to address. Examining information culture and information management challenges in the three cases studies required me to engage with the research subjects. Creswell (2007) postulated that when an inquirer seeks to provide an in-depth understanding of the phenomena being studied, then case studies are the most suitable approach. This is because they offer a variety of evidence through interviews, documents, artifacts and observations (Yin 2009). It is through the data collection that a researcher is able to give a detailed description of the case being studied. Through analysis of the data, an understanding of the complexity of the cases emerges. Information management has become a complex issue and since it involves organizational, cultural and technical issues, in order to understand the employees' attitudes I needed to interact with them by conducting interviews.

Patton (2002) argued that researchers interview people because we cannot observe everything. Things like feelings, thoughts and intentions are hard to observe. Observing how people have organized the world and the meanings they attach to what goes on in the world is hard. Interviews therefore allow us to enter into other people's worlds. I therefore conducted the interviews in November, 2012 and February 2013 respectively, which facilitated my understanding of the type of information culture that exists in the organization. I therefore designed an interview guide with semi-structured questions that were based on the framework for the analysis of information culture that was conceptualized by Oliver (2011). This framework has three levels: the first level deals with the fundamental layer of an organization's culture and among many it includes, respect for information as evidence, respect for information as knowledge, willingness to share information and trust in information; the second level addresses employee skills, knowledge and experience related to information management and the third level is about information governance and trust in organization information systems. A total of 55 interviews were conducted, transcribed and analyzed. I interviewed 17 people in municipalities A and B respectively and 21 in municipality C. The categories of people interviewed included heads of departments, heads of units, architects, environmental officers, GIS managers, secretaries, building permits granting

officers, an archivist, IT personnel, social workers, 2 top management members and a legal advisor. My interaction with the interviewees enabled me to observe and access their attitudes, norms and to understand how they valued the public records they generated or received.

The Research Findings

The section below presents a brief description of the municipalities and the findings on information culture using Oliver's information culture assessment framework. The findings are presented according to the three layers of the framework and the municipalities are referred to as A, B (the Swedish municipalities) and C (Belgian municipality).

The municipalities

Municipalities are institutions which exist to enhance the social welfare of citizens. As such, they follow established rules and regulations in executing their obligations. They do have stakeholders that provide them with the resources and these are the citizens and the government (Larsson and Bäck 2008). Since they fulfill an indispensable function in society, they cannot choose to re-engineer their business operations outside the regulations that govern them (Sundberg 2006). The legal framework that governs their activities includes the effective management of information. Unlike national government bodies, municipalities undertake different businesses or responsibilities like childcare, education, social services, health and environmental protection, water and sewerage and emergency services. One of the areas that attract attention is the way the municipalities are managing their information assets as they engage in e-Government developments. Public access to information is of great importance for democratic developments.

The Swedish Municipalities. The Swedish public sector consists of three levels, namely central government which has 240 agencies, regional government with 21 authorities or county councils, and local government which has 290 authorities or municipalities. The regional and local government administrations are independent from central government (Ostberg 2010). To a certain extent, municipalities are also independent authorities. However, they are legally bound to the central government in so far as they are subject to the rules of local self-government instituted by the constitutional law in the Instrument of Government, known in Sweden as Regeringsformen, RF. It is the most important of the fundamental laws in Sweden. It sets out the basic political principles and defines rights and freedoms in

Sweden. According to the Local Government Act of 1991 every municipality should have an elected council, which appoints an executive committee and other committees to fulfill the responsibilities and obligations of the municipality. The executive committee heads and co-ordinates the municipal administration, supervises the activities of the specialized committees, drafts the municipal budget and prepares and implements council decisions. The executive committee is presided over by a chair who is the highest political representative of the municipality. The specialized committees are responsible for assisting the municipal executive committee in the preparation and implementation of decisions made by the municipal assembly. Each committee is an independent agency with its own decision-making powers. Within their territories the municipalities have certain legal responsibilities such as the power to levy and collect taxes and to create some laws or ordinances. They can also enact certain local political decisions within the limits of legislation (Häggroth et al. 1996, Larsson and Bäck 2008). The municipalities can also own limited companies.

The Belgian Municipality. Belgium is quite different from Sweden because it is a federal state and constitutes communities and regions. The powers of the state are with three political elements: the federal state, (the Kingdom of Belgium), the regions (Flanders, Wallonia and Brussels–capital) and three communities; (the French community, the Flemish community and the Germany community) (Mareno 2012). The organization of the three constituent political elements is regulated in the constitution or by statutes adopted with a special parliamentary majority. The regions regulate all matters that concern the municipalities. The regulatory powers of the regions towards the municipalities include:

- a. The municipalities' composition, organization, competences and functioning.
- b. The change or the rectification of their territorial limits.
- c. The composition, organization, competences and functioning of the institutions of the agglomerations and federations of cities.
- d. The election of the provincial, municipal and intra-municipal organs and
- e. The disciplinary regime of the majors.

There are 589 municipalities in Belgium; the Flemish region has 308 municipalities, the Walloon region has 262 while the Brussels capital has 19. The municipalities are run by a council that holds the local legislative powers and the executive organ which is

referred to as the collegiate body of the mayor and the aldermen. The competences of the collegiate body are exhibited in the running and management of the local administration. The collegiate of the mayor and aldermen is the most powerful of both organs because it can take the initiative on local rules that it presents to the city council. The power of the city council to present its own initiatives is very limited. The fact that the central legislative or executive powers do not decide the organization and legal regime of the municipalities, but the regions, created a situation where there is no homogeneous regulation of local government in the country. As a result, the municipalities are organized and regulated differently in their respective regions. According to the current constitutional arrangement, there are legal rules known as the new municipal laws. The legal force of these laws is said to be limited since they can only settle certain aspects of the management of the municipalities. Some of the aspects are regulated by the federal law. The municipalities have a right to adopt regulations except in the domains where the federal, regional and provinces have already taken measures. The rule making powers, however, can only be exercised in the domain of the management of municipal interest. They can also adopt administrative decisions concerning staff, assets and goods of the municipality and impose sanctions on individuals or firms. They have to execute legislation made by the federal and regional parliament. The laws of both parliaments have equal powers (Mareno 2012).

Respect for Information as Evidence, Knowledge, Willingness to share Information and Trust in Information

The Swedish municipalities had a registry function which captured most of the records that came in and those sent out of the two organizations. The registration of public records is an important part of the open governance structure of Swedish public administrations. It facilitates the traceability of the records and hence promotes public access (Gränström et al. 2000, Bohlin 2010). The employees of the Swedish municipalities were very much aware of the fact that the information they were creating and receiving was public, and had to be handled according to the laws governing it. The majority of those interviewed confirmed that information management was well integrated in their business processes. However there was a small number of the interviewees who thought information management was not being given the priority it deserved. Some of those interviewed confirmed that they were sure that a lot of emails, for example, remained unmanaged and that was a problem. They were, however, aware that if

an email qualified as a public record, it had to be forwarded to the registry and so had the response to it. The people working at the registries of the two organizations were trained registrars and were also expected to know the Public Access and Secrecy Acts well.

In municipality C the situation was different. The municipality had a registry function which only captured one part of the flow of the information that is, the information it received. Received records were distributed to the officers concerned but the responses of the officers were not captured in the registry. Most of those interviewed knew they had to handle information well in order to be able to do their work properly but there was less focus on the public's right to public information. Those interviewed confirmed that information management was not well integrated in their business processes and that information was generally poorly managed due to lack of guidelines. Emails were, for example, not considered as records by many of the interviewed officers despite the fact that the municipality had an email policy. Lack of an information management policy meant that vital information was not captured, for example from the individual officers who generated it and it therefore remained out of the managed environment.

In the Swedish municipalities, the records were effectively captured and managed and knowledge management was facilitated since information was readily available. Every employee knew where to turn in case of a need to refer to earlier records, and this was the registry. There was also willingness to share information, and the registry as a common place to find information/records meant that the interviewees showed high trust in the records. Though information sharing took place, the methods used were still underdeveloped. Information sharing was, for example, done via email or electronic folder structures. There was no systematic way of sharing information. In municipality C, lack of a fully developed registry function meant that ready access to records was problematic and therefore managing information as knowledge was a challenge. There was no willingness to share information and one of the interviewees argued that people were doing the same work, as a result of lack of information sharing. Some interviewees expressed fear of not knowing if they were accessing the right version of a record or superseded information. There was hence lack of trust in information/records.

Employee Skills, Knowledge and Experience related to Information Management

In municipalities A and B the majority of those interviewed were very confident about their information

management skills. They confirmed that the management of public information is part of their responsibilities and highlighted the importance of managing information/records according to the guidelines in place. The majority of the interviewees in municipalities A and B argued that their bosses expected them to know how to handle public information. Training in information management was not offered to all officers but the focus was on people who dealt with the registration of public records in the various units or departments. A good number of the Swedish interviewees made reference to the Public Access and the Privacy Act as the laws that govern their information management practices. They also made reference to other specific laws that governed the different activities that the municipalities were engaged in. Some of the Swedish interviewees confirmed that they would appreciate training in information management, especially given the complexity that is emerging in the digital environment. They expressed fear regarding the different channels through which the citizens can communicate with the municipality, and at times this made it difficult to know whether a text message or a voicemail was an official record.

In municipality C most of the interviewees confirmed that their information/records management skills were not good and they were therefore less confident. They had never been offered any training in information management. The training that the interviewees got was often in connection with the implementation of electronic information management systems. It had nothing to do with the facilitation of their understanding of the role public information plays in public administrations. Even though a good majority conceded that information management was part of their responsibilities, they hated doing it and considered it time consuming. Like in the Swedish cases, most of the people interviewed knew about the Public Access and Secrecy Act. There were, however, a few interviewees who knew nothing about the laws.

In all the three case studies, in business areas that were highly regulated like the granting of building permits or documentation of health welfare issues, the interviewees put a lot of emphasis on the specific laws governing documentation and the legal implications of not maintaining proper records. The archival law that regulates how public records should be handled was not known the majority of the interviewees. It was the registrars, the archivists and the archives assistants who mentioned it and understood its content.

All the three municipalities still had a paper mindset and this could perhaps be explained by lack of an electronic archive and a solution to long-term preservation of information/records. A lot of information

was still being printed out on paper in order to guarantee its safety and longevity. The printing of electronic information on paper is counterproductive because valuable time has to be invested in the management of both the paper and electronic information. One of the interviewees in Municipality A argued that business processes had become more ineffective due to the way information is currently being handled. In municipality C, there was complexity in understanding the laws governing the different areas of work. The archivist argued that it was the individual officers who were supposed to find out what records the laws governing their respective areas of work required them to maintain for administrative purposes. The officers expected the archivist to give them guidelines as regards what records to appraise or maintain for administrative purposes. The Swedish municipalities were quite different in this respect because they had a document plan which assisted officers in knowing what information should be kept and what should be appraised.

Information governance and trust in organization information systems

All the three municipalities invested in information systems in order to manage their information resources. In municipalities A and B, because of the well functioning registry system, most officers had trust in the electronic and document management systems and were obliged to forward public records to the registry. There were also clear guidelines regarding the management of the different records. The registry was used by all the employees and hence there were no personalized systems. All those interviewed knew that if they could not find information in their own systems, the registry was a place to seek help. The Swedish interviewees therefore had more trust in the common system put in place to manage information. Municipality C had put in place an electronic information management system to manage incoming and outgoing documents but it was not user friendly and therefore most employees avoided using it. The retrieval of information was also problematic and those interviewed complained about it. These frustrations prompted the employees of municipality C to create their own systems in order to have ready access to their documents. Personalized systems were a common phenomenon in municipality C even when it came to the management of physical records, because people lacked trust in the common information systems like, for example, the archives. The people with personalized systems had confidence in their own systems

but they were also aware that they personalized organizational knowledge and that was not good for the organization. Some of the participants claimed they had very nice systems that could only be understood by them but they also confirmed that should they fall sick or leave the municipality, very few people would be able to understand what is going on in their particular areas of work. Some of these personalized systems became insufficient as the volume of records grew, and without search functions, the retrieval of records became very time consuming. One of the interviewees confirmed that she had to go through all the electronic or physical folders to find the record she needed to consult.

Collaboration further promotes information sharing but the interviewees revealed that at times it was not put into consideration when strategic information management decisions were made. This was the case in all the three case studies. The acquisition of electronic information systems did not follow the agreed procedures. Lack of consultation with the IT personnel, who surely had the knowledge on how the new system would fit into the IT infrastructure, or the archivist, who could give a holistic view on how the information in the newly acquired system should be managed for the long term, created an IT environment with disparate systems, information silos and long-term preservation challenges. This also meant that most systems were not integrated even though integration is of crucial importance to ready access to information.

In municipality A, despite efforts to invest in an expensive system to create a common repository that would facilitate information/records management and hence foster knowledge and information sharing, some of the employees expressed frustration about the system. The intent was to integrate most of the information systems in the municipality, but this was not feasible. The system was also to handle as many as possible of the municipal processes, but only facilitated one process. There were hopes to further develop the system but the municipality and the system suppliers were blaming each other for the inefficiencies of the electronic system. The suppliers claimed that municipality A was not clear in their specifications while the municipality argued the suppliers did not deliver what they promised. Municipality B had an integration problem which was causing them double work and frustration of employees. The system suppliers were also not being helpful. In municipality C there were problems of integration. Lack of standardized procurement procedures of new systems and applications meant that information silos continued to develop.

Discussion

The objective of this study was to examine the type of information culture that existed in the three municipalities and the impact it had on information management. The study further highlighted the challenges of information management that the three municipalities are still grappling with. E-Government developments will require robust information management regimes. Sundberg and Wallin (2005) argued that without accessible, secure and trustworthy digital information, e-services will be hard to maintain or develop. Information therefore has to be well managed because it sustains business. It is a core strategic asset and has to be managed in a manner that maintains the open governance structures of these municipalities (Queensland 2009). Information is however managed by people and their attitudes and norms and the value they attach to it affect management. This is referred to as information culture, which is the norms, attitudes and manner in which the employees value information (Choo et al. 2006, Douglas 2010, Oliver 2011). Oliver argued that information culture was intertwined with organizational culture. This is because the attitudes and norms that constitute information culture are developed within an organization. Based on the literature reviewed, a good/positive information culture encourages good information management and the development of good information practices. This determines the management of information for accountability and transparency and for the execution of business processes. An organization has a mature information culture when it accesses and uses information in its everyday activities (Douglas 2010, Oliver 2010).

The study applied Oliver's (2010) framework for assessing information culture in an organization. The framework has three levels:

1. The first level deals with the fundamental layer of an organization's culture and includes, respect for information as evidence, respect for information as knowledge, willingness to share information and trust in information;
2. The second level addresses employee skills, knowledge and experience related to information management and;
3. The third level is about information governance and trust in organization information systems.

The Swedish municipalities were much more sensitive to the management of public records and they exhibited respect for public information. From the receptionist up to top management there was awareness of the necessity to register public records. The

majority of the officers interviewed knew the laws governing public access to government records and the specific laws governing their respective areas of work. The fact that the Swedish municipalities had a well developed registry also meant that there was systematic management of public information. This however did not mean that there were no challenges since email correspondence management was still problematic and it was expressed that some officers had problems in determining what emails constituted a public record. Email correspondence is not different from ordinary correspondence and hence should be managed in a similar manner as traditional correspondence (Gränström et al. 2000). Since the municipalities are getting deeply involved in e-Government development, the issue of email management needs to be resolved. Electronic information management systems that can facilitate their capture and management must be instituted if public information is to be handled according to the legal framework governing them. In the Swedish municipalities, the registrars were more involved in the active management of current records and had constant contact with their fellow employees.

In the Belgian case, respect shown towards the management of public records depended on how highly regulated a department was. This is a conclusion that I drew since participants from, for example, the building permit unit were very emphatic about letting me know that they cannot not afford to make mistakes and that there were series of records that the law required them to maintain on file. This meant that lack of proper documentation would have legal repercussions. Lack of a fully developed registration function, however, also compromised the effective management of public records and made their traceability difficult. This further resulted in loss of time since the majority of the employees spent most of their precious time looking for records. Earlier studies have confirmed a correlation between information culture and business success (Ginman 1993, Grimshaw 1995). Grimshaw argued that it is the human information activities that give organizations a competitive edge (Grimshaw 1995). Widén-Wulff's research also confirmed that a rich information culture enhances business success (Widén-Wulff 2000). It was therefore evident that a lot of precious time was lost since the municipality did not have full control over its records. Governments are embracing e-Government development and so is the Belgian municipality. However, the officers' email boxes were, according to the law, private and hence beyond the information management function that took care of the organization's information. Most people communicate using

email but the interviewees told me that it is the analogue record that was still considered official. Hopefully this will change with the further development of electronic services.

Municipality C had people who registered incoming records but they were not trained registrars. The majority of the interviewees instituted their own ways of managing the records and the fact that there was no information/records management policy worsened the situation. The interviewees expressed frustration over the fact that they did not know what to do with the records. Lack of an overall information management policy made it hard to capture, organize and to manage the generated records. Due to lack of guidelines regarding the appraisal of records, public records, especially email correspondence, were destroyed without consultation with an archivist. This kind of environment promoted poor information behavior where members of staff did not have respect for records. Involvement in e-Government development is going to prove hard if robust information/records management regimes are not established and if the organization fails to uproot the existing information culture.

Information management is supposed to facilitate the capture of the actions taken by the municipalities. However where there are poor records management regimes this is likely to be compromised (McKemmish 1997). Records play a crucial role in public administrations because they enhance accountability and transparency. They also enable the organization to make informed decisions. When organizations lack the culture to manage records well, inefficiency and violation of the laws governing public information like the Public Access and Privacy Acts are likely. The archival law which details how government institutions should manage their records was, however, only known to the registrars and archives assistants that acted as a link between the officers and the central archives. This might mean that the archivists need to play a more active role, especially where the management of the entire information/records management continuum is concerned. The archivists need to position themselves at the beginning of the continuum if proper information management is to be achieved.

Managing information for knowledge and information sharing was not fully developed in any of the three cases. The Swedish cases were a little better as far as managing information for knowledge was concerned because they had a registry where most of the information could be accessed. In municipality C it was argued by one of the interviewees that there was no culture to share information. However, in all three cases, a folder structure was used to

share information on the Intranet or email systems. Information sharing is of crucial importance to efficiency and competitiveness of organizations. Information sharing also prevents organizations from re-inventing the wheel whenever a new process has to be undertaken.

The management of information systems is crucial to business operations, whereby access to accurate and timely information hinges on how well aligned they are with business operations. Information systems intended to facilitate knowledge management and information sharing posed integration challenges and instead created information islands. Lack of integration of the systems makes timely access to information difficult. Themistocleous et al. (2004) contended that the real value of information systems is from the integration of disparate applications so that they can support business processes. In municipality A, despite efforts to invest in an expensive system to create a common repository that would facilitate information/records management and hence foster knowledge and information sharing, some of the employees expressed frustration about the system. Municipality B had an integration problem which was causing them double work and frustration of employees. This indicates that agreements made with the system suppliers have to be well formulated to include such unexpected challenges. Johansson and Lahtinen (2013) argue that the ability to specify requirements is crucial to the procurement process of IT. Therefore, there is a need for robust procurement policies to govern the purchase of new applications and systems. When the IT environment is populated with different systems or applications that cannot be integrated with the existing IT infrastructure, it makes the efficient management of information/data/records difficult. The acquisition of new systems should be preceded by consultations with the IT personnel and the Information Manager/Archivist because new systems that are acquired always have an impact on the existing information environment. A holistic view of information management has to be put into consideration. Collaboration therefore needs to be emphasized in order to achieve better information planning that will mitigate the challenges of managing electronic records.

At a certain point in time, the municipalities will have to abandon the paper mindset and completely embrace the digital era they operate in. However this is proving difficult without an electronic archive. The ineffective management of information keeps the information systems busy managing information that is at times of ephemeral value. The majority of the interviewed officers in municipality C, for example, kept everything. This kind of behavior also creates

an information overload which makes it difficult to readily access important information. The printing out of information is not at all environmental friendly and is counterproductive.

Based on the literature reviewed on information culture, it is clear that human activities impact the management of public information/records in either a positive or negative way. In the Swedish environment where people were aware of how public information should be handled the interviewees had a more positive attitude towards its management and the municipalities had a better information/records governance infrastructure. This also promoted knowledge and information sharing. However, despite these positive aspects, need for training in information/records management was expressed. The Swedish municipalities therefore were, according to all the three layers of Oliver's framework, doing very well at the first and third layers and had room for improvement when it came to the second layer. Employees need training in order to have a full understanding of information/records management issues and this was not being offered to all officers. The Swedish municipalities therefore had a positive information culture. Municipality C was quite weak at all the three layers of the information culture assessment framework. The environment was quite anarchistic since the employees felt less confident in the management of information/records and were more negative towards the management of public records. As a result, they instituted personalized systems which in turn inhibited efforts made to create a common repository that would enhance knowledge management and information sharing. Even though the majority of the interviewees in Municipality C were negative towards information/records management, there were a few exceptions that belonged to the highly regulated business processes and that had no choice but to engage in information/records management. Training would be essential in all the three case studies in order to create a deeper understanding of the role of robust information management regimes in the municipalities and the challenges of the current information landscape. At the moment the interviewed officers were managing information as a matter of routine. The interviewees of municipality C portrayed a poorer understanding of the role of public information and hence negative information culture.

Conclusion

E-Government developments are meant to lead to the delivery of high quality services, enhance transparency

and accountability and improve local government administrations. However, with the current information management challenges, e-Government services are likely to fail if solutions to address these challenges are not found. Investments in information management systems alone will not resolve information management challenges. The information culture of organizations needs to be improved since research demonstrates that there is a correlation between positive information culture and business success. Despite the fact that we are all information/records creators, there is still a need to train organizational employees in information/records management given the changing records management landscape and the challenges it poses. Co-ordinated efforts to find user-friendly tools and standardized procurement procedures would make it harder for the employees to develop personalized systems and would facilitate an integrated IT environment. The municipalities also need to invest in electronic archives in order to make information management more effective. Despite accumulated knowledge/research on the management of information, the people issues continue to present a challenge which if addressed could at least mitigate the current challenges.

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Abstracts

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قتطفات

ثورة حية تنتفس: كيف يُمكن للمكتبات استخدام "الأرشيف الحي"؛
لدعم ومشاركة وتوثيق الحركات الاجتماعية:

Tamara Rhodes

العدد 40 (2014) من مجلة الإفلا المُتخصصة، رقم 1، ص: 11-5

كيف وأين يجب أن يكون مُستقبل المكتبات؟، ما التالي؟ يُعد معرض
searchunderoccupy# بمركز Sheila C. Johnson
للتصميم بنيويورك "أرشيفًا حيًا" يعرض في صورة بصرية ردود
الأفعال الهامة والمُبتكرة لمُجتمع طلاب المدارس الجديد حول حركة
Occupy Wall Street. لا يضم المعرض عناصر مثل أفلام
الفيديو والصور والتسجيلات الصوتية ومشروعات العروض؛ بل أيضًا
أعمال نصية مثل المُلصقات والمدونات. وبطبيعة الحال، فإن المكان
يعمل في موقع قوى للتغيير الاجتماعي، وباستخدام هذا المعرض
كمثال، فالمكتبات يُمكن أن تعرض حياة مُجتمعاتها بعرض ردود
الأفعال؛ لدعم الانخراط في الحركات الاجتماعية؛ ومُشاركة الآخرين
فيها، وتوثيقها من أجل المُستقبل. هناك العديد من النماذج للأرشيف
الحي في المكتبات، مثل: رقمنة المواد السمعية بصرية أو السماح للناس
بمشاركة ذكرياتهم ومعارفهم وصورهم وأراءهم في مساحة افتراضية.
ويُعد تسجيل أنشطة وحوارات المُصمم William McDonough
لمكتبات جامعة ستانفورد. وعلى خلاف مع هذه المشروعات، فنسمح
طريقة المدرسة الجديدة بقدر أكبر من التعبير عن النفس من خلال
الوسائط البصرية وتكنولوجيا اليوم. وكانت وسائل التواصل الاجتماعي
هي ما ساعد في نشر حركات الأجيال الحالية الاجتماعية ويُمثل هذا
النموذج من الأرشيف الحي بطبيعته المُتغيرة، المكتبة المُستقبلية المليئة
بإمكانيات لا تُنتاهية.

أرشفة الثورة المصرية: "مشروع الجامعة في الميدان"، يوثق 25
يناير 2011 وما وراءه:

Stephen Urgola

العدد 40 (2014) من مجلة الإفلا المُتخصصة، رقم 1، ص: 16-12

اجتمعت مجموعة من الموثقين والإداريين والطلبة في الجامعة
الأمريكية بالقاهرة، خلال الثمانية عشر يومًا في بدايات عام 2011؛
ليُجاد طرق لتوثيق تلك الأحداث التاريخية، وتناول المشروع الناتج
عن هذا الاجتماع "الجامعة في الميدان: توثق ثورة مصر في القرن
الحادي والعشرين" تحدي جمع مواد وبقايا ملموسة من المظاهرات
كالبافطات والأعلام وفوارغ الغاز المُسيل للدموع والصور وتسجيلات
الفيديو العديدة التي التقطها المُراقبون والمُشاركون في الثورة. كما بدأ

المشروع أيضًا جهودًا في توثيق التاريخ الشفاهي؛ لتسجيل تجارب
نطاق واسع من المُشاركين في هذه الثورة وما تبعها من تظاهرات
ونشاط سياسي في مصر. وقد لعبت المشاركة المُجتمعية دورًا هامًا في
أنشطة هذه المُبادرة، ويف هذا البحث الأساليب التي اتبعتها المشروع
وما جمعه وما واجهه أيضًا من تحديات، كما سيتم عرض مشروعات
أخرى لتوثيق الثورة المصرية ومقارنة أهدافها بمجهودات الجامعة
الأمريكية في القاهرة.

موقع مكتبة ألمانيا الوطنية للعلوم والتكنولوجيا للوسائط السمع
بصرية: طرق جديدة لفهرسة واسترجاع البيانات:

Margret Plank و Janna Neumann

العدد 40 (2014) من مجلة الإفلا المُتخصصة، رقم 1، ص: 23-17

تعمل مكتبة ألمانيا الوطنية للعلوم والتكنولوجيا (TIB) على تطوير
مصدر قائم على الويب للوسائط السمع بصرية. يسمح هذا الموقع القادم
بالحد الأقصى من إمكانية الوصول إلى أفلام الفيديو العلمية وأفلام
الكمبيوتر المُتحركة وتسجيلات المُحاضرات والمؤتمرات، يُقدم هذا
المؤتمر سبلاً جديدة للبحث عن أفلام الفيديو عبر نظام تلقائي لتحليل
تسجيلات الفيديو وفقًا للمشاهد والحوار والنص والصورة. تتصل نتائج
البحث بالمعارف الجديدة دلاليًا. يهدف هذا البحث للوسائط السمع
بصرية والمُتعددة إلى وصف تكنولوجيات استرجاع البيانات وما
تُضيفه من قيمة للمكتبات ومُستخدميها.

من سيقوم على خدمة الأطفال: تعيين وتعليم مكتبيي أطفال المُستقبل

Virginia A. Walter

العدد 40 (2014) من مجلة الإفلا المُتخصصة، رقم 1، ص: 29-24

تُحدد الورقة البحثية بعض الخصال المُستحب تواجدها في مكتبيي
الأطفال، وتُقدم إستراتيجيات؛ لتعيين أعضاء جُدد في هذه المهنة.
ويُناقش البحث منهج المكتبة المدرسية وعلاقته بالأهداف التعليمية
القائمة على دليل "مهارات المكتبيين القائمين على خدمة الأطفال في
المكتبات العامة" الذي وضعته جمعية الخدمات المكتبية للأطفال،
ويوضح ما يُحد قدرات خريج علوم المكتبات والمعلومات حاليًا في
الولايات المُتحدة ويضرب البحث أمثلة بفرص التنمية المهنية المُتاحة
لمكتبيي الأطفال، وفي النهاية يُقدم البحث مُقترحات لما يُمكن أن يقوم به
قسم الإفلا لمكتبات الطفل؛ لتطوير تعليم وتدريب مكتبيي الأطفال.

الإدارة الذكية: إستراتيجيات النجاح في أوقات التغيير السريع: من منظور مكتبة جامعية أسترالية:

Andrew Wells

العدد 40 (2014) من مجلة الإفلا المُتخصصة، رقم 1، ص: 30-34

يستكشف هذا البحث مبدأ الإدارة الذكية والكشف عن معانٍ مُتعددة لهذا المُصطلح. تعكس المُبتكرات والتطورات الملحوظة في مكتبات الجامعة الأسترالية التطبيق الواعي لتقنيات الإدارة الذكية. كما يستعرض البحث دراسة حالة على التغييرات في جامعة نيو ساوث ويلز، في ضوء مبادئ الإدارة الذكية.

روابط المواقع البالية: توابع النشر الإلكتروني:

B.T. Sampath Kumar و K.R. Prithviraj

العدد 40 (2014) من مجلة الإفلا المُتخصصة، رقم 1، ص: 35-47

تهدف هذه الدراسة إلى تحليل إمكانية الوصول إلى الروابط التي قد تتلف من المواقع الإلكترونية المُستشهد بها في مقالات مؤتمر علوم المكتبات والمعلومات المنشورة في الفترة بين 2001 و2010، وتم فحص 5698 رابط من 1700 مقال. وزادت نسبة الروابط من 10،39 بالمائة في 2001 إلى 73،47 بالمائة في 2009. وتوصلت الدراسة أنه لا يمكن الوصول إلى 50،09 بالمائة من الروابط، بينما يمكن الوصول إلى 49،91 بالمائة منها. كانت "HTTP 404 error" و"file not found" أكثر الرسائل التي واجهت المُستخدمين ومثلت 59،29 بالمائة من رسائل HTTP. لوحظ أيضًا أثناء عمل هذه الدراسة أن العمر النصفي للروابط المفقودة يُقدر بـ4،94 سنوات. وبالرغم من وجود أدوات مُختلفة؛ لاسترجاع البيانات؛ لاستعادة الروابط التي اختفت، لازنا في حاجة إلى تطوير مثل هذه الأدوات.

ثقافة المعلومات في ثلاثة مدن وأثرها على إدارة المعلومات في ظل تطوير الإدارة الإلكترونية:

Proscovia Svärd

العدد 40 (2014) من مجلة الإفلا المُتخصصة، رقم 1، ص: 48-59

يُقدم هذا المقال بحثًا أُجري في ثلاث مدن سويدية وبلجيكية، وهي مدن مُتضمنة في عملية تطوير الإدارة الإلكترونية، ويُرکز المقال على ثقافة المعلومات التي تشمل السلوكيات والمعايير التي يتبناها موظفو المدينة في إدارة واستخدام المعلومات. تعنى الإدارة الإلكترونية برفع كفاءة من خلال استخدام المعلومات وتكنولوجياتها. ولكن هذا يتطلب أنظمة فعالة؛ لإدارة المعلومات، إذا كنا نود التأثير على المعلومات بصورة تمكن المدن من الوصول إلى هدفها النهائي بتقديم خدمات عالية الجودة، وبغض النظر عن الاستثمارات في نُظم المعلومات فقد أثبت هذا البحث الحاجة إلى تغيير ثقافة المعلومات الراسخة في هذه المدن، إذا أردنا الوصول إلى تقديم خدمات عالية الجودة للمواطنين، وفعالية استخدام المعلومات وإعادة استخدامها. يوضح باحثو ثقافة المعلومات أن هناك علاقة تلازم بين نجاح الأعمال وثقافة المعلومات. إذن، تؤثر سلوكيات ومعايير الموظفين وكيفية تقييمهم للمعلومات المؤسسية على مدى كفاءة استخدام هذه المعلومات وإدارتها. يُلقي هذا المقال الضوء على بعض التحديات التي تنتج عن سلوكيات الموظفين، مثل: نقص مهارات الإدارة وعدم التعاون والنظم غير الكافية لإدارة المعلومات وعدم وجود معمار مُلائم يُلبى احتياجات إدارة المعلومات، ورغم الجهود الكبيرة المبذولة؛ لتطوير الخدمات الإلكترونية هناك العديد من الأمور الفردية التي يجب أخذها على محمل الجد.

摘要

A living, breathing revolution: how libraries can use 'living archives' to support, engage, and document social movements

— 一场活生生的革命：利用图书馆“活档案”支持、参与和记录社会运动

Tamara Rhodes

IFLA Journal 40 (2014) No. 1, 5-11

图书馆的未来会在哪里？应该在哪里？昔日由混凝土、砖块和玻璃构成的建筑已变成集社区、艺术和文化于一体的第三场所。下一场所将会是什么呢？位于纽约市的希拉约翰逊中心 (Sheila C. Johnson Design Center) 的 #searchunderoccupy 展览是一

个“活档案”，从视觉上展示了新学院 (the New School) 的学生群体对“占领华尔街运动” (Occupy Wall Street movement) 的创造性和批判性回应。展览不仅包括视频、照片、音频和演出项目等元素，还包括基于文本的作品，如即时动态的标签云、海报和博客。就其本质而言，图书馆旨在成为社会变革的力量。以这场展览为例，图书馆通过展示社区的回应来支持社会运动、呼吁他人加入并为未来存档，从而展现社区生活的风貌。图书馆活档案有许多迭代，例如视听资料的数字化，让人们通过虚拟空间分享他们的记忆、知识、照片和观点。最接近 #searchunderoccupy 展览这个例子的是为斯坦福大学图书馆捕获设计师威廉·麦克唐纳 (William McDonough) 活动与谈话的项目。与此类项目不同的是，新学院的方法允许通过视觉媒介更

大范围地自我表达，并且可以解释当今的技术。社交媒体已成为这个时代宣传社会运动的媒介，由于其不断变化的本质，这一活档案呈现了一个充满无限可能性的未来图书馆。

Archiving Egypt's revolution: The 'University on the Square Project', documenting January 25, 2011 and beyond

存档埃及革命：“开罗美国大学项目”，记录2011年1月25日及之后的日子

Stephen Urgola

IFLA Journal 40 (2014) No. 1, 12-16

在2011年年年初的18天里，即后来被称为埃及“1.25”革命期间，美国大学开罗校区的一群档案保管员、教师、行政人员和学生们会面，商讨如何将那些历史事件记录下来。由此产生了“开罗美国大学：记录21世纪里埃及的革命”项目，该项目解决了收集横幅和催泪弹等抗议行动的有形遗存，以及观察员和参与者拍摄的电子照片和视频的难题。此外，其在口述历史方面也做出了努力，记录了在埃及起义及随后的抗议和政治活动中的大量参与者的经历。社区自发的参与在整个项目的活动过程中也发挥了重大作用。本文不仅介绍了该方法、成果及其所面临的挑战，而且还讨论了其它记录埃及革命的项目，并对不同项目的目标进行了比较。

TIB's Portal for audiovisual media: New ways of indexing and retrieval

TIB视听媒介门户：标引与检索的新方式

Janna Neumann and Margret Plank

IFLA Journal 40 (2014) No. 1, 17-23

德国国家科技图书馆(TIB)正在开发视听媒介的网络平台。这个即将投入使用的视听门户优化了对科学视频的检索，如计算机动画、讲座和会议录像。通过情景、声音、文本和图像识别的自动视频分析，TIB视听门户提供了视频内容检索的新方法。检索结果通过数据语义关联与新知识相联。本文旨在介绍TIB的视听媒介门户、多媒体检索技术以及对图书馆和图书馆用户的附加价值。

Who will serve the children: recruiting and educating future children's librarians

谁将为孩子服务：招募、培训未来儿童图书馆馆员

Virginia A. Walter

IFLA Journal 40 (2014) No. 1, 24-29

本文揭示儿童图书馆馆员的一些理想特质，并指出招募职业馆员的策略。基于儿童图书馆服务协会提出的《公共图书馆儿童图书馆馆员能力标准》，本文运用学习产出这一概念探讨了图书馆学校的课程设置。文章指出美国当前研究生图书馆教育的局限，给出了儿童图书馆馆员职业发展机会的例子。最后，笔者就推进儿童图书馆馆员教育和持续培训的可行性措施提出建议，这些建议有可能被国际图联儿童与青少年图书馆专业组采纳。

Agile management: strategies for success in rapidly changing times – an Australian University Library perspective

敏捷管理：瞬息万变的时代中成功的策略——基于澳大利亚高校图书馆的视角

Andrew Wells

IFLA Journal 40 (2014) No. 1, 30-34

本文探讨敏捷管理的概念，以揭示该术语的多重含义。澳大利亚高校图书馆的显著创新与发展反映出对敏捷管理技术的有意(或可能无意)应用。基于敏捷管理的概念，本文对新南威尔士大学图书馆的变化做个案研究。

Corrosion of URLs: implications for electronic publishing

网址消失：对电子出版的启示

K.R. Prithviraj and B.T. Sampath Kumar

IFLA Journal 40 (2014) No. 1, 35-47

本研究旨在分析2001年至2010年间印度图书馆与信息科学(LIS)会议论文集发表文章中引用网址的可访问性、消失性和半衰期。研究对象为1700篇文章中所引用网址，共计5698个。网址引用的比

例从2001年的39.10%上升到2009年的73.47%。研究发现在测试时刻50.09%的网址不可访问，其余49.91%可访问。HTTP 404错误消息、“文件未找到”是遇到最多的消息，占HTTP消息的53.92%。本研究还发现，消失的网址的平均半衰期为4.94年。即使有各种用以恢复消失网址的检索工具，但仍然有必要改进这些工具。

Information culture in three municipalities and its impact on information management amidst e-government development

三个城市的信息文化及其对电子政务发展中信息管理的影响

Proscovia Svärd

IFLA Journal 40 (2014) No. 1, 48-59

本文介绍了在瑞典和比利时三个城市开展的研究。这三个城市均参与了电子政务发展。本文侧重于信息文化，该信息文化构成了市政雇员对公共信息管理及利用的态度和规范。电子政务即通过信息技术和信息提高工作效率。然而，若想通过信息杠杆来达到实现优质服务的终极目标，市政府需要有效的信息管理。尽管信息系统上有投资，但本研究证明要想实现向公民兑现优质服务、有效的利用且再利用信息这一终极目标，现有信息系统中的信息文化仍需改变。信息文化研究人员声称商业的成败与信息文化相关。所以，态度、规范以及雇员如何评价组织信息影响其有效利用和管理。因此，本文着重介绍了一些由市政雇员的态度带来的挑战，诸如缺乏信息管理技能，缺少协作，信息管理系统不足，缺乏令人满意的信息管理架构。尽管目前在电子服务发展上有巨额投资，仍有一些软性问题亟待解决。

Sommaires

A living, breathing revolution: how libraries can use ‘living archives’ to support, engage, and document social movements

[Une révolution vivante et passionnante : la façon dont les bibliothèques peuvent utiliser les « archives vivantes » pour soutenir, engager et documenter des mouvements sociaux]

Tamara Rhodes

IFLA Journal 40 (2014) No. 1, 5-11

Où se situe et doit se situer l’avenir des bibliothèques ? Ce qui était autrefois une structure de béton, de briques et de verre est devenu depuis un lieu mixte abritant communauté, art et culture. Que va-t-il se passer ensuite ? L’exposition #searchunderoccupy présentée au Sheila C. Johnson Design Center à New York est une « archive vivante » qui présente visuellement les réactions créatives et critiques de la communauté estudiantine de l’institut New School au mouvement « Occupy Wall Street ». Elle est composée non seulement de divers projets sous forme de vidéos, photos, documents sonores et représentations scéniques, mais aussi de travaux basés sur des textes, tels que nuages de mots-clés alimentés en direct, affiches et blogs. Par leur nature même, les bibliothèques sont appelées à devenir des instruments du changement social et, en prenant cette exposition comme exemple, les

bibliothèques elles-mêmes peuvent montrer la vie de leurs communautés en affichant leurs réactions, pour soutenir leur engagement dans des mouvements sociaux, en engager d’autres et les documenter pour l’avenir. Il y a de nombreuses reproductions du concept d’archives vivantes dans les bibliothèques, par exemple la numérisation de matériel audiovisuel ou le fait de permettre au gens de partager leurs souvenirs, connaissances, photos et opinions par le biais d’un espace virtuel. L’initiative qui a consisté à saisir les activités et les conversations du designer William McDonough pour les bibliothèques de l’Université de Stanford constitue l’exemple le plus proche de l’exposition #searchunderoccupy. Contrairement à ces projets, la méthode de la New School offre un plus vaste éventail de possibilités d’expression individuelle grâce à des moyens visuels, et est représentative des technologies d’aujourd’hui. Les médias sociaux ont contribué à la diffusion des mouvements sociaux de la génération actuelle et, grâce à sa nature en constante évolution, cette version d’une archive vivante présente une future bibliothèque offrant des possibilités infinies.

Archiving Egypt’s revolution: The ‘University on the Square Project’, documenting January 25, 2011 and beyond

[Archivage de la révolution égyptienne : projet « L’Université sur la place » documentant le 25 janvier 2011 et les jours suivants]

Stephen Urgola

IFLA Journal 40 (2014) No. 1, 12-16

Au cours des dix-huit jours du début 2011, qui sont entrés dans l'histoire sous le nom de Révolution égyptienne du 25 janvier, un groupe composé d'archivistes, de professeurs, d'administrateurs et d'étudiants de l'Université américaine du Caire s'est réuni pour évoquer les moyens de documenter ces événements historiques. Le projet qui en a résulté, intitulé « L'Université sur la place : documenter la révolution égyptienne du 21^e siècle », a relevé le défi consistant à recueillir les restes tangibles des protestations, par exemple banderoles et grenades de gaz lacrymogène ainsi que les nombreuses photos et vidéos numériques prises par les observateurs et les participants. Il a également lancé une initiative orale historique pour enregistrer les témoignages d'un grand nombre de participants à la révolte ainsi que les protestations et activités politiques consécutives en Égypte. Tout au long des activités du groupe, l'engagement de la communauté a joué un rôle important dans cette initiative. Cet article décrit les méthodes du projet et ce qu'il a rassemblé, ainsi que les défis rencontrés. D'autres projets visant à documenter la révolution égyptienne ainsi qu'une comparaison de leurs objectifs avec ceux de l'initiative de l'Université américaine du Caire, sont également abordés.

TIB's Portal for audiovisual media: New ways of indexing and retrieval

[Portail TIB pour les médias audiovisuels : de nouvelles méthodes d'indexation et d'extraction]

Janna Neumann and Margret Plank

IFLA Journal 40 (2014) No. 1, 17-23

La Bibliothèque Nationale allemande des Sciences et Technologies (TIB) développe une plateforme basée sur la toile pour les médias audiovisuels. Ce futur portail audiovisuel optimise l'accès aux vidéos scientifiques telles que films d'animation par ordinateur ainsi qu'enregistrements d'exposés et de conférences. Le portail audiovisuel de la TIB offre de nouvelles méthodes de recherche parmi les vidéos, rendues possible par une analyse automatisée des vidéos avec un dispositif de reconnaissance des scènes, discours, textes et images. Les résultats des recherches sont connectés à de nouvelles connaissances en reliant les données de façon sémantique. Cet article décrit le portail de la TIB pour les médias audiovisuels et les technologies d'extraction multimédias, ainsi que la valeur ajoutée pour les bibliothèques et leurs utilisateurs.

Who will serve the children: recruiting and educating future children's librarians

[Qui va s'occuper des enfants : recruter et former les futurs bibliothécaires pour enfants]

Virginia A. Walter

IFLA Journal 40 (2014) No. 1, 24-29

L'article identifie certains traits dont il serait souhaitable que les bibliothécaires pour enfants disposent et présente des stratégies pour recruter des personnes pour cette profession. Le programme d'études bibliothécaires est discuté en termes de résultats d'apprentissage basés sur les « Compétences des bibliothécaires à proposer des services aux enfants dans les bibliothèques publiques » développées par l'Association pour des services bibliothécaires aux enfants. Les limites des formations supérieures actuelles de bibliothécaires aux États-Unis sont identifiées et des exemples de possibilités de développement professionnel pour les bibliothécaires pour enfants sont fournis. Enfin, certaines suggestions sont faites concernant des actions que pourrait entreprendre la section de l'IFLA chargée des bibliothèques pour enfants et jeunes adultes pour faire progresser l'éducation et la formation permanente des bibliothécaires.

Agile management: strategies for success in rapidly changing times – an Australian University Library perspective

[Gestion agile : des stratégies pour réussir à une époque de changements rapides – la perspective des bibliothèques universitaires australiennes]

Andrew Wells

IFLA Journal 40 (2014) No. 1, 30-34

Cet article explore le concept de gestion agile, révélant les multiples significations de ce terme. Les innovations et progrès notables réalisés dans des bibliothèques universitaires australiennes reflètent les applications conscientes (ou peut-être inconscientes) des techniques de gestion agile. Dans le cadre d'une étude de cas, les changements survenus à la bibliothèque de l'Université de Nouvelle-Galles du Sud sont examinés à la lumière des concepts de gestion agile.

Corrosion of URLs: implications for electronic publishing

[La corrosion des URL : les implications pour la publication électronique]

K.R. Prithviraj and B.T. Sampath Kumar
IFLA Journal 40 (2014) No. 1, 35-47

Cette étude a pour objectif d'analyser l'accessibilité, la corrosion et la demi-vie des URL cités dans les articles des procédures de la conférence indienne sur les Sciences de l'Information et des Bibliothèques publiés entre 2001 et 2010. Au total, ce sont 5698 URL cités dans les 1700 articles qui ont été examinés. Le pourcentage d'URL a augmenté de 39,10% en 2001 à 73,47% en 2009. L'étude a conclu que 50,09% des URL n'étaient pas accessibles au moment du test et que les 49,91% des URL restants étaient accessibles. Le message d'erreur HTTP 404 « file not found » (fichier non trouvé) était de loin le principal message rencontré et représentait 53,29% de tous les messages HTTP. L'étude a aussi noté que la demi-vie moyenne des URL d'URL manquants était estimée à 4,94 ans. Même s'il existe divers outils pour récupérer des URL ayant disparu, il est tout de même nécessaire d'améliorer ce type d'outils.

Information culture in three municipalities and its impact on information management amidst e-government development

[Culture de l'information dans trois municipalités et son impact sur la gestion des informations dans le cadre du développement de l'e-gouvernement]

Proscovia Svärd
IFLA Journal 40 (2014) No. 1, 48-59

Cet article présente la recherche menée dans trois municipalités en Suède et Belgique. Ces municipalités

étaient impliquées dans le développement de l'e-gouvernement. L'article met l'accent sur la culture de l'information, qui détermine les attitudes et normes adoptées par les employés municipaux à l'égard de la gestion et de l'utilisation des informations publiques. L'e-gouvernement a pour objectif d'améliorer l'efficacité en mettant à profit les technologies de l'information. Cela exige cependant des régimes efficaces de gestion des informations si les informations sont utilisées de façon à permettre aux municipalités d'atteindre leur objectif ultime : proposer des services d'excellente qualité. Malgré les investissements dans des systèmes d'information, cette recherche a démontré que la culture de l'information concernée par ces systèmes devra changer si l'objectif ultime est de fournir des services d'excellente qualité aux citoyens et si l'on veut parvenir à une utilisation et une réutilisation efficaces des informations. Les chercheurs spécialisés en culture de l'information affirment qu'il y a une corrélation entre le succès des entreprises et la culture de l'information. Par conséquent, les attitudes, les normes et la façon dont les employés apprécient les informations sur l'entreprise, ont un impact sur leur usage et leur gestion efficace. Cet article met donc en lumière certains des défis qui découlent des attitudes des employés municipaux, tels que le manque d'aptitudes en gestion des informations, de collaboration, de systèmes appropriés de gestion des informations et d'une structure satisfaisante de gestion des informations. Bien que des investissements considérables soient actuellement faits pour développer les services électroniques, il existe des questions autres que techniques auxquelles il faut sérieusement s'attaquer.

Zusammenfassungen

A living, breathing revolution: how libraries can use 'living archives' to support, engage, and document social movements

[Eine lebendige Revolution im Wandel: wie Bibliotheken als Betreiber „lebendiger Archive“ die sozialen Bewegungen unterstützen, tragen und dokumentieren können]

Tamara Rhodes
IFLA Journal 40 (2014) No. 1, 5-11

Wie kann und sollte die Zukunft der Bibliotheken aussehen? Aus starren, abgeschlossenen Räumen aus Beton, Backstein und Glas ist inzwischen ein Ort entstanden, der dem Gemeinwesen sowie der Kunst und

Kultur dient. Wie wird es weitergehen? Die #searchunderoccupy - Ausstellung im Sheila C. Johnson Design Center in New York City ist ein „lebendiges Archiv“, das die kreativen und kritischen Reaktionen der New School-Studenten auf die Wall Street - Besetzer visuell darstellt. Es beinhaltet nicht nur Elemente wie Videoaufzeichnungen, Fotos und Audio- und Performance-Projekte, sondern auch textbasierte Arbeiten, wie beispielsweise Live Feed Tag Clouds, Poster und Blogs. Die Bibliotheken sind von Natur aus dazu prädestiniert, den gesellschaftlichen Wandel voranzutreiben. Nach diesem Beispiel können die Bibliotheken selbst das Leben in ihren Gemeinschaften wiedergeben, entsprechend Stellung beziehen und damit ihre Auseinandersetzung mit den sozialen Bewegungen intensivieren, andere dafür engagieren und dies alles für die Zukunft dokumentieren. Es gibt viele Beispiele

für lebendige Archive in Bibliotheken, wie beispielsweise die Digitalisierung der audiovisuellen Materialien oder auch die Möglichkeit, dass die Menschen ihre Erinnerungen, ihre Kenntnisse und ihre Fotos in einem virtuellen Raum festhalten, ihre Meinungen dazu kundtun und über diesen Raum auch mit anderen teilen können. Das Beispiel, das dem #searchunderoccupy-Projekt am meisten ähnelt, ist die Digitalisierung der Tätigkeiten und Konversationen des Designers William McDonough im Auftrag der Bibliotheken der Universität Stanford. Im Gegensatz zu diesen Projekten erlaubt die New School-Methode ein sehr viel breiteres Spektrum der Selbstdarstellung mithilfe visueller Medien und nutzt dazu die Technologie der heutigen Zeit. Auch Social-Media-Aktivitäten haben dazu beigetragen, die sozialen Bewegungen der heutigen Generation zu dokumentieren und zu verbreiten; in ihrer Veränderlichkeit stellt diese Version des lebendigen Archivs eine Bibliothek der Zukunft dar, die unbegrenzte Möglichkeiten bietet.

Archiving Egypt's revolution: The 'University on the Square Project', documenting January 25, 2011 and beyond

[Die Archivierung der Revolution in Ägypten: Das "University on the Square Project", Dokumentation des 25. Januar 2011 und der Zeit danach]

Stephen Urgola

IFLA Journal 40 (2014) No. 1, 12-16

In dem Zeitraum von 18 Tagen Anfang 2011, der später als die Revolution in Ägypten am 25. Januar bekannt wurde, traf sich eine Gruppe von Archivaren, Mitgliedern des Lehrkörpers, Verwaltungsbeamten und Studenten an der American University in Kairo, um Wege zur Dokumentierung dieser historischen Ereignisse zu finden. Das daraus entstandene Projekt mit der Bezeichnung "University on the Square: Documenting Egypt's 21st Century Revolution" hat die Herausforderung der Sammlung greifbarer Erinnerungsstücke an die Proteste bewältigt, wie beispielsweise Banner und Tränengaskanister sowie die vielen digitalen Fotos und Videos, die von den Beobachtern und Teilnehmern aufgenommen wurden. Zudem wurde im Rahmen dieses Projekts auch viel Wert auf die mündliche Geschichte gelegt und es wurden die Erfahrungen sehr vieler unterschiedlicher Teilnehmer während des Aufstands und der darauf folgenden Proteste sowie der politischen Aktivitäten in Ägypten aufgezeichnet. Im Zusammenhang mit diesen Tätigkeiten hat die Mitwirkung der Gemeinschaft eine wichtige Rolle bei der Initiative gespielt. Der vorliegende Beitrag beschreibt die bei diesem Projekt verwendeten Methoden und die Inhalte der

Sammlungen sowie die damit verbundenen Herausforderungen. Zudem werden aber auch andere Projekte zur Dokumentation der Revolution in Ägypten vorgestellt und ihre Ziele mit denen der Bestrebungen der AUC verglichen.

TIB's Portal for audiovisual media: New ways of indexing and retrieval

[Das TIB-Portal für audiovisuelle Medien: Neue Möglichkeiten zur Indexierung und Abfrage]

Janna Neumann und Margret Plank

IFLA Journal 40 (2014) No. 1, 17-23

Die Technische Informationsbibliothek (TIB) in Deutschland entwickelt zurzeit eine Internetplattform für audiovisuelle Medien. Mit dem geplanten audiovisuellen Portal soll der Zugriff auf wissenschaftliche Videos, wie beispielweise Computer-Animationen sowie Vortragsaufzeichnungen und Konferenzaufnahmen, optimiert werden. Das AV-Portal der TIB eröffnet neue Verfahren für die Suche innerhalb von Videos mithilfe der automatischen Videoanalyse mit Motiverkennung und Spracherkennung sowie Text- und Bilderkennung. Dabei werden die Suchergebnisse durch die semantische Datenverknüpfung mit neuen Wissensquellen verbunden. Der vorliegende Beitrag beschreibt das TIB-Portal für audiovisuelle Medien und Multimedia-Suchtechnologien und streicht auch den Mehrwert heraus, der sich daraus für die Bibliotheken und ihre Nutzer ergibt.

Who will serve the children: recruiting and educating future children's librarians

[Wer kümmert sich um die Kinder: die Rekrutierung und Ausbildung der zukünftigen Kinderbibliothekare]

Virginia A. Walter

IFLA Journal 40 (2014) No. 1, 24-29

Dieser Artikel beschreibt einige wünschenswerte Eigenschaften von Kinderbibliothekaren und entwirft auch Strategien zur Rekrutierung geeigneter Bewerber für dieses Amt. Zudem wird der Lehrplan der Bibliotheksausbildung besprochen, wobei die Lernergebnisse auf Basis der von der Association for Library Service to Children entwickelten „Competencies for Librarians Serving Children in Public Libraries“ im Vordergrund stehen. Zudem werden die Grenzen des heutigen Graduiertenstudiums im Bibliothekswesen in den Vereinigten Staaten ausgelotet und es werden

Beispiele für professionelle Entwicklungsmöglichkeiten für Bibliothekare angeführt, die mit Kindern arbeiten. Schließlich werden auch Vorschläge für mögliche Maßnahmen der IFLA-Sektion für Kinder- und Jugendbibliotheken zur Förderung der Ausbildung und der ständigen Weiterbildung von Bibliothekaren für Kinder unterbreitet.

Agile management: strategies für success in rapidly changing times – an Australian University Library perspective

[Agile Managementmethoden: Erfolgsstrategien in Zeiten schnellen Wandels – aus der Perspektive einer australischen Universitätsbibliothek]

Andrew Wells

IFLA Journal 40 (2014) No. 1, 30-34

Dieser Beitrag befasst sich mit dem Konzept der agilen Managementmethoden und beleuchtet dabei auch die unterschiedlichen Bedeutungen dieses Begriffs. Beachtliche Innovationen und Entwicklungen in australischen Universitätsbibliotheken reflektieren die bewusste (oder vielleicht auch unbewusste) Anwendung agiler Managementmethoden. Dabei werden Veränderungen in der Bibliothek der University of New South Wales als Fallstudie herangezogen und auf dem Hintergrund agiler Managementkonzepte beleuchtet.

Corrosion of URLs: implications für electronic publishing

[Korruption von URLs: Auswirkungen auf elektronische Veröffentlichungen]

K.R. Prithviraj und B.T. Sampath Kumar

IFLA Journal 40 (2014) No. 1, 35-47

Ziel dieser Studie war die Analyse der Zugänglichkeit, Verfälschung und Halbwertzeit der in den zwischen 2001 und 2010 publizierten Artikeln der indischen LIS-Konferenzberichte zitierten URLs. Dabei wurden insgesamt 5698 der in diesen 1700 Artikeln genannten URLs überprüft. In diesem Zeitraum stieg der prozentuale Anteil der URLs von 39,10 Prozent im Jahr 2001 auf 73,47 Prozent im Jahr 2009. Gemäß der vorliegenden Studie waren 50,09 Prozent aller URLs zum Prüfzeitpunkt nicht zugänglich, die verbleibenden 49,91 Prozent der URLs jedoch erreichbar. Die HTTP 404-Fehlermeldung – „file not found“ war mit 53,29 Prozent aller HTTP-Meldungen die am häufigsten erscheinende Meldung. Zudem wurde im Rahmen

dieser Studie festgestellt, dass die mittlere Halbwertzeit der URLs fehlender URLs schätzungsweise 4,94 Jahre betrug. Obwohl es eine Reihe von Retrieval Tools für die Suche nach verschwundenen URLs gibt, bedürfen diese Tools noch der Verbesserung.

Information culture in three municipalities and its impact on information management amidst e-government development

[Die Informationskultur in drei Kommunen und ihre Auswirkungen auf das Informationsmanagement im Rahmen der Entwicklung des E-Government]

Proscovia Svärd

IFLA Journal 40 (2014) No. 1, 48-59

Dieser Artikel präsentiert die Forschungsergebnisse von Studien, die in drei Kommunen in Schweden und Belgien durchgeführt wurden. Die fraglichen Kommunen hatten mit der Entwicklung des e-Government zu tun. Dabei konzentriert sich der Beitrag schwerpunktmäßig auf die Informationskultur, die die Einstellungen, Werte und Normen der Angestellten der Gemeindebehörden in Bezug auf das öffentliche Informationsmanagement und die Informationsnutzung begründet. Das E-Government soll die Effizienz durch die Nutzung der Informationstechnologie und der entsprechenden Informationen verbessern. Dies erfordert jedoch effektive Informationsmanagementsysteme, wenn Informationen in einer Weise genutzt werden sollen, die es den Kommunen erlaubt, ihr Endziel zu erreichen, das darin besteht, einen qualitativ hochwertigen Service zu erbringen. Trotz entsprechender Investitionen in die Informationssysteme hat dieses Forschungsprojekt gezeigt, dass sich ihre Informationskultur ändern muss, wenn das Endziel der qualitativ hochwertigen Serviceangebote für die Bürger sowie der effektiven Nutzung und Wiederverwendung der Informationen erreicht werden soll. Forscher im Bereich der Informationskultur argumentieren, dass Geschäftserfolge und Informationskultur ursächlich miteinander verbunden sind. Daher beeinflussen die Einstellungen und Normen und auch der Wert, den die Angestellten den organisationstechnischen Informationen, deren effizienter Nutzung und ihrem effizienten Management beimessen. Aus diesem Grund befasst sich der vorliegende Artikel schwerpunktmäßig mit einigen der Herausforderungen, die aus den Einstellungen der Angestellten der Gemeindebehörden erwachsen, wie beispielsweise fehlende Kompetenzen im Zusammenhang mit dem Informationsmanagement, mangelnde Zusammenarbeit und

unzureichende Informationsmanagementsysteme sowie eine fehlende adäquate Informationsmanagement-Architektur. Trotz der aktuell gewaltigen Investitionen

in die Entwicklung von E-Services gibt es noch eine Reihe von „weiche Themen“, die ernsthaft angesprochen werden sollten.

Рефераты статей

A living, breathing revolution: how libraries can use ‘living archives’ to support, engage, and document social movements

[Живая, дышащая революция: как библиотеки могут использовать “живые архивы” для поддержки, привлечения и документирования социальных движений]

Тамара Родес

IFLA Journal 40 (2014) No. 1, 5-11

Где находится будущее библиотек, и где ему следует быть? То, что некогда было конструкциями из бетона, кирпича и стекла, превратилось со временем в третьесортное место обитания сообщества, искусства и культуры. Что дальше? Экспонат под названием “#searchunderoccupy” в Центре дизайна Шейлы С. Джонсон в Нью-Йорке представляет собой “живой архив”, который наглядно демонстрирует творческие и критические отзывы студенческого сообщества университета Нью Скул о движении “Захвати Уолл-стрит”. Он состоит не только из таких элементов, как видео-, фото-, аудиоматериалы и постановочные проекты, но также включает в себя текстовые работы, такие, как пополняемые в реальном времени облака ключевых слов, постеры и блоги. Библиотеки по самой своей природе готовы стать силой для совершения социальных перемен, и, используя данный экспонат в качестве примера, библиотеки сами могут демонстрировать жизнь своего сообщества, выставляя на всеобщее обозрение отзывы его членов, чтобы тем самым поддерживать свое участие в социальных движениях, вовлекать других и документально фиксировать события для будущего. Существует много воплощений живого архива в библиотеках, таких, как оцифровывание аудиовизуальных материалов или использование цифрового пространства в качестве площадки, на которой люди могут делиться воспоминаниями, знаниями, фотографиями и мнениями. Наиболее близким к проекту “#searchunderoccupy” примером является запись деятельности и бесед дизайнера Уильяма Макдонаха для Стэнфордского университета. В отличие от этих проектов, метод университета

Нью Скул предусматривает более широкое поле для самовыражения посредством визуальных средств и основывается на современных технологиях. Социальные сетевые сервисы - вот что помогло распространить социальное движение сегодняшнего поколения, и данная версия живого архива, с ее непрерывно изменяющейся природой, представляет нам библиотеку будущего, полную неограниченных возможностей.

Archiving Egypt’s revolution: The ‘University on the Square Project’, documenting January 25, 2011 and beyond

[Составление архива революции в Египте: проект «УниверситетзнаменитойПлощади», документальноосвещающий события 25 января 2011 г. и их дальнейшее развитие]

Stephen Urgola [Стивен Ургола]

IFLA Journal 40 (2014) No. 1, 12-16

На протяжении 18 дней в начале 2011 г., запомнившихся как Египетская революция 25 января, в Американском университете в Каире проходили собрания архивариусов, профессорско-преподавательского состава, руководства и студентов. Цель данных мероприятий состояла в разработке способов документального освещения тех исторических событий. Результатом стал проект «Университет на знаменитой Площади: Документальное освещение событий Египетской революции 21 века», который затронул проблему сбора предметов, оставшихся после протестов, таких, как баннеров и ёмкостей со слезоточивым газом, а также большого количества цифровых фотографий и видеозаписей, сделанных наблюдателями и участниками событий. Он также положил начало становлению устной истории путём записи впечатлений большого числа участников восстания, последующего протеста и политической деятельности в Египте. Участие общества выполняло важную роль на протяжении всего проекта. В данной работе описываются методы проекта, собранный материал, а также сложности, с которыми пришлось столкнуться. Также будут отражены другие проекты, направленные на документальное освещение

событий революции в Египте. Будет сделано и сравнение их целей с целями Американского университета в Каире.

TIB's Portal for audiovisual media: New ways of indexing and retrieval

[Портал для аудиовизуальных средств Немецкой национальной библиотеки науки и техники: Новые способы индексации и получения информации]

Янна Нойманн и Маргрет Планк
IFLA Journal 40 (2014) No. 1, 17-23

Немецкая национальная библиотека науки и техники (ТИБ) разрабатывает на базе интернет-технологий платформу для аудиовизуальных средств. Будущий аудиовизуальный портал оптимизирует доступ к научным видеофайлам, таким как компьютерная анимация, записи лекций и конференций. Аудио-видео портал ТИБ предлагает новые методы поиска среди видеоматериалов, используемый благодаря автоматизированному анализу видеофайлов с распознаванием эпизодов, речи, текста и изображений. Результаты поиска соединяются с новыми данными путем семантического “привязывания” данных. Цель настоящей работы заключается в описании портала ТИБ для аудиовизуальных материалов и технологий поиска мультимедийной информации, а также дополнительных преимуществ для библиотек и их пользователей.

Who will serve the children: recruiting and educating future children's librarians

[Кто будет работать для детей: прием на работу и обучение будущих детских библиотекарей]

Вирджиния А. Уолтер
IFLA Journal 40 (2014) No. 1, 24-29

В данной работе определены некоторые желательные черты детских библиотекарей и представлены концепции приема на эту работу. Программа обучения в заведении по подготовке библиотекарей обсуждается с точки зрения результатов обучения на основании документа “Профессиональные качества библиотекарей, обслуживающих детей в публичных библиотеках”, разработанного Ассоциацией библиотечного обслуживания детей. Констатируются ограничения современного послевузовского образования

в сфере библиотечного дела в Соединенных Штатах, а также приводятся примеры возможностей профессионального развития детских библиотекарей. В завершение высказываются предположения относительно возможных действий, направленных на совершенствование образования и непрерывного обучения детских библиотекарей, которые может предпринять Секция библиотек для детей и молодежи IFLA.

Agile management: strategies for success in rapidly changing times – an Australian University Library perspective

[Гибкий менеджмент: стратегии успеха в быстро меняющиеся времена; взгляд на библиотеку австралийского университета]

Эндрю Уэллс
IFLA Journal 40 (2014) No. 1, 30-34

В данной работе исследуется понятие гибкого менеджмента и открывается многозначность данного понятия. Ощутимые нововведения и развитие библиотек университетов Австралии отражают осознанное (а возможно и нет) использование приемов гибкого менеджмента. В качестве конкретного примера для исследования были взяты изменения в библиотеке Университета Нового Южного Уэльса в свете понятий гибкого менеджмента.

Corrosion of URLs: implications for electronic publishing

[Поврежденность адресов URL: значение для электронных средств публикации]

К.Р. Притвирай и Б.Т. Сампат Кумар
IFLA Journal 40 (2014) No. 1, 35-47

Целью настоящего исследования является анализ доступности, поврежденности и “половины продолжительности жизни” адресов URL, указанных в статьях материалов Индийской конференции по библиотечному делу и информатике, опубликованных за период с 2001 по 2010 годы. Всего было проверено 5 698 адресов URL, указанных в 1700 статьях. Доля адресов URL выросла с 39,10 процента в 2001 до 73,47 процента в 2009. В результате исследования было обнаружено, что 50,09 процента адресов URL были недоступны в момент проведения проверки, а остальные 49,91 процента адресов URL были доступны. Наиболее часто встречающимся сообщением об ошибке было сообщение HTTP 404 – “file not

found”, на долю которого в общем количестве сообщений HTTP пришлось 53,29 процента. Исследование также показало, что средняя “половина продолжительности жизни” отсутствующих адресов URL составила приблизительно 4,94 года. Несмотря на использование разнообразных инструментов для восстановления пропавших адресов URL, по-прежнему существует необходимость в их совершенствовании.

Information culture in three municipalities and its impact on information management amidst e-government development

[Информационная культура в трех муниципалитетах и ее влияние на управление информацией в условиях разработки электронного правительства]

Просковия Сверд
IFLA Journal 40 (2014) No. 1, 48-59

В настоящей статье представлено исследование, проведенное в трех муниципалитетах Швеции и Бельгии. Данные муниципалитеты участвовали в разработке электронного правительства. Основное внимание в статье сфокусировано на информационной культуре, которая определяет подходы и нормы, применяемые работниками муниципалитета в отношении управления и использования общедоступной информации. Цель электронного правительства заключается в увеличении

эффективности за счет использования информации и информационных технологий. Для этого, однако, требуются действенные методы управления информацией, когда информацию необходимо эффективно применять таким способом, который позволит муниципалитетам достичь своей конечной цели, заключающейся в оказании высококачественных услуг. Несмотря на инвестиции в информационные системы, настоящее исследование подтвердило, что охваченная ими информационная культура должна будет измениться, если необходимо достичь высшей цели: оказания гражданам высококачественных услуг, а также эффективного использования и повторного использования информации. Исследователи информационной культуры спорят о том, что существует взаимосвязь между успешным бизнесом и информационной культурой. Следовательно, отношение, нормы, а также оценка сотрудниками организационной информации оказывают влияние на ее эффективное использование и управление. В силу вышесказанного настоящая статья привлекает внимание к некоторым серьезным задачам, причина которых кроется в отношении муниципальных служащих, таким, как недостаточные навыки управления информацией, недостаточный уровень сотрудничества, неэффективные системы управления информацией и удовлетворительная архитектура управления информацией. Несмотря на то, что в развитие электронных услуг в настоящее время инвестируются огромные средства, существуют щекотливые вопросы, требующие серьезного внимания.

Resumenes

A living, breathing revolution: how libraries can use ‘living archives’ to support, engage, and document social movements

[Una revolución viva en plena forma: cómo pueden las bibliotecas utilizar los ‘archivos vivos’ para sostener, promover y documentar los movimientos sociales]

Tamara Rhodes
IFLA Journal 40 (2014) No. 1, 5-11

¿Hacia dónde apunta el futuro de las bibliotecas, y hacia dónde debería? Lo que otrora fueron estructuras de ladrillo, hormigón y cristal se han convertido en un tercer lugar en el que residen la comunidad, las artes y la cultura. ¿Y qué nos depara el futuro? La exposición #searchunderoccupy en el Sheila C. Johnson Design

Center de la ciudad de Nueva York es un ‘archivo viviente’ que muestra visualmente las respuestas creativas y críticas de la comunidad de estudiantes de la urbe al movimiento Ocupa Wall Street. Está compuesta no solamente por elementos tales como proyectos de vídeo, fotografía, audio y representaciones, sino también por obras basadas en texto, como nubes de paneles interactivos, pósteres y blogs. Por su propia naturaleza, las bibliotecas están orientadas a convertirse en motores del cambio social. Utilizando esta exposición como ejemplo, las bibliotecas pueden reflejar la vida de sus comunidades, mostrando sus reacciones para sustentar su participación en movimientos sociales, para atraer a otros y para documentarlo todo para el futuro. En las bibliotecas existen numerosas iteraciones de los archivos vivos, como la digitalización de materiales audiovisuales o el permitir a la gente compartir sus recuerdos, conocimientos, imágenes y opiniones

a través de un espacio virtual. Lo más próximo al ejemplo de la exposición #searchunderoccupy consiste en plasmar las actividades y conversaciones del diseñador William McDonough para las bibliotecas de la Universidad de Stanford. A diferencia de estos proyectos, el método de la Nueva Escuela posibilita un margen más amplio de expresión a través de medios visuales, y refleja la tecnología del presente. Las redes sociales son las que han contribuido a la expansión de los movimientos sociales de la generación actual. Con su continuamente cambiante naturaleza, esta versión de los archivos vivientes presenta una biblioteca del futuro plétórica de infinitas posibilidades.

Archiving Egypt's revolution: The 'University on the Square Project', documenting January 25, 2011 and beyond

[Archivo de la revolución egipcia: el proyecto "University on the Square" ("La universidad en la plaza"): documentación de los acontecimientos sucedidos desde el 25 de enero de 2011 en adelante]

Stephen Urgola

IFLA Journal 40 (2014) No. 1, 12-16

Durante los 18 días transcurridos a principios de enero de 2011, que posteriormente se terminarían conociendo como la "revolución egipcia del 25 de enero", un grupo compuesto por activistas, profesores, gestores y estudiantes de la Universidad Americana de El Cairo (AUC, por sus siglas en inglés) se reunió con el fin de idear una manera de documentar aquellos acontecimientos históricos. A raíz de dicha experiencia, surgió el proyecto "University on the Square: Documenting Egypt's 21st Century Revolution" ("La universidad en la plaza: documentación de la revolución egipcia del siglo XXI"), que afrontó el desafío de recopilar los vestigios palpables de las protestas, como pancartas y botes de gas lacrimógeno, así como numerosas fotografías digitales y vídeos tomados por observadores y participantes. Asimismo, dicho proyecto puso en marcha una iniciativa de documentación oral de historias mediante la grabación de testimonios de gran número de participantes en la revuelta y en las posteriores protestas y acciones políticas que tuvieron lugar en Egipto. Durante la realización de dichas actividades, la implicación de la comunidad desempeñó un importante papel dentro de la iniciativa. Este documento describe los métodos utilizados en el proyecto y el material recopilado, así como los problemas encontrados. Asimismo, se abordan en él otros proyectos emprendidos para documentar la revolución

egipcia y se establece una comparación entre sus objetivos y los de la iniciativa de la AUC.

TIB's Portal for audiovisual media: New ways of indexing and retrieval

[Portal de TIB para soportes audiovisuales: nuevos métodos de indización y recuperación]

Janna Neumann y Margret Plank

IFLA Journal 40 (2014) No. 1, 17-23

La Biblioteca Nacional Alemana de Ciencia y Tecnología (TIB) está desarrollando una plataforma basada en web para soportes audiovisuales. El portal, de inminente inauguración, optimiza el acceso a vídeos científicos, como animaciones informáticas y grabaciones de clases, ponencias y conferencias. El Portal AV de la TIB ofrece nuevos métodos para realizar búsquedas en vídeos, posibilitadas por herramientas de análisis equipadas con reconocimiento de escenas, voz, texto e imágenes. Los resultados de las búsquedas se conectan a nuevos conocimientos enlazando los datos semánticamente. Este artículo describe los soportes audiovisuales y las tecnologías de recuperación multimedia del portal de la TIB, así como el valor añadido que suponen para las bibliotecas y sus usuarios.

Who will serve the children: recruiting and educating future children's librarians

[Quién servirá a los niños: captación y capacitación de los futuros bibliotecarios de los niños]

Virginia A. Walter

IFLA Journal 40 (2014) No. 1, 24-29

Este artículo identifica algunas características deseables de bibliotecarios para niños y presenta estrategias para captar nuevos profesionales. Se analizan los planes de estudio de los bibliotecarios escolares en términos de resultados del aprendizaje, sobre la base de las "Competencias de bibliotecarios que prestan servicios a los niños en bibliotecas públicas", elaborado por la Association for Library Service to Children. Se analizan las limitaciones de la actual formación de bibliotecarios en EE.UU. y se presentan ejemplos de oportunidades de desarrollo profesional para bibliotecarios de niños. Por último, se sugieren posibles iniciativas para mejorar la formación y la capacitación continua de estos bibliotecarios que podría adoptar la sección de la IFLA dedicada a bibliotecas para niños y jóvenes.

Agile management: strategies for success in rapidly changing times – an Australian University Library perspective

[Agilización de la gestión: estrategias para el éxito en tiempos rápidamente cambiantes: la perspectiva de las bibliotecas universitarias australianas]

Andrew Wells

IFLA Journal 40 (2014) No. 1, 30-34

Este artículo analiza el concepto de la agilidad de la gestión, y revela múltiples significados del mismo. Las notables innovaciones y progresos de las bibliotecas universitarias australianas reflejan la aplicación consciente (o quizá no tanto) de técnicas de gestión ágil. Como ejemplo se analizan los cambios experimentados por la Biblioteca de la Universidad de Nueva Gales del Sur a la luz de los conceptos de agilización de la gestión.

Corrosion of URLs: implications for electronic publishing

[Corrosión de las direcciones URL: sus implicaciones para la publicación electrónica]

K.R. Prithviraj y B.T. Sampath Kumar

IFLA Journal 40 (2014) No. 1, 35-47

El objetivo de este estudio es analizar la accesibilidad, corrosión y vida media de las direcciones URL citadas en los artículos de la conferencia de la LIS de India publicados entre 2001 y 2010. Se examinaron 5.698 direcciones URL citadas en los 1.700 artículos. El porcentaje de direcciones URL se incrementó desde el 39,10% de 2001 al 73,47% en 2009. El estudio reveló que, en el momento de la comprobación, no era posible acceder al 50,09% de las direcciones, en tanto que el 49,91% restante sí eran accesibles. El consabido mensaje de error de HTTP 404, "archivo no encontrado" fue el texto abrumadoramente mayoritario, y representó el 53,29% del total de mensajes de HTTP. Por otra parte, el estudio señaló que la vida útil media de las direcciones URL que faltaban se estimaba en 4,94 años. A pesar de las diversas herramientas de recuperación empleadas para rescatar las direcciones URL desaparecidas, todavía existe necesidad de mejorarlas.

Information culture in three municipalities and its impact on information management amidst e-government development

[La cultura informática en tres municipalidades y sus repercusiones para la gestión de la información en el marco del desarrollo del gobierno electrónico]

Proscovia Svärd

IFLA Journal 40 (2014) No. 1, 48-59

Este artículo presenta el estudio realizado en tres municipalidades de Suecia y Bélgica. Los organismos locales iniciaron proyectos de desarrollo de gobierno electrónico. El artículo se centra en la cultura de la información; es decir, las actitudes y normas de los empleados municipales en cuanto a la gestión y uso de la información pública. El gobierno electrónico tiene como objetivo mejorar la eficiencia mediante el uso de tecnología informática e información. Sin embargo, para ello se requieren regímenes eficientes de gestión de la información para utilizar los datos de una manera que permita a los organismos públicos alcanzar su objetivo último: la prestación de servicios de alta calidad. Este estudio demuestra que, a pesar de las inversiones en sistemas informáticos, la cultura de la información de los involucrados tendrá que cambiar para alcanzar tanto este objetivo como el de uso y reutilización eficientes de la información. Los investigadores afirman que existe una correlación entre el éxito empresarial y la cultura de la información. Por consiguiente, las actitudes y normas de los empleados, así como la manera en que valoran la información organizativa, repercuten en la eficacia de su uso y gestión. Este artículo destaca algunos de los problemas provocados por la actitud de los empleados municipales, como la falta de aptitudes para la gestión de la información, la poca predisposición a colaborar y la insuficiencia de sistemas de gestión de la información y de arquitecturas satisfactorias para ello. A pesar de las enormes inversiones que se están realizando en este momento en el desarrollo de servicios electrónicos, existen algunos problemas de software que deben abordarse seriamente.