CHANGING ROLES OF LIBRARIANS AND INFORMATION PROFESSIONALS IN A KNOWLEDGE-BASED SOCIETY

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Abstract

In a digital and knowledge based environment, library professionals have to change from one that is traditionally as just an information provider to that of knowledge provider. In information provision, the library professional provides "explicit" knowledge in the form of books, journals, reports, etc. In knowledge provision, the library professionals provide intellectual output that involves analysis and evaluation of the information provided. New technologies also provide new opportunities and ways in which library professionals can deliver their services. This paper discusses the challenges of the global digital environment and the shift in the roles of the library professionals.

Keywords: Librarians' roles; Technology; National Library of Singapore; Competencies

INTRODUCTION

New developments in technology and the connectivity of the internet have resulted in an exponential growth in information.Technology has also revolutionised the way information is stored, delivered and accessed. The IFLA Trend Report (2014) highlights the following five key trends that will change our information environment.

TREND 1: NEW TECHNOLOGIES WILL BOTH EXPAND AND LIMIT WHO HAS ACCESS TO INFORMATION
An ever-expanding digital universe will bring a higher value to information literacy skills such as basic reading and competence with digital tools. People who lack these skills will face barriers to inclusion in a growing range of areas. The nature of new online business models will heavily influence who can successfully own, profit from, share or access information in the future.

TREND 2: ONLINE EDUCATION WILL DEMOCRATISE AND DISRUPT GLOBAL LEARNING
The rapid global expansion in online education resources will make learning 0pportunities more abundant, cheaper and more accessible. There will be increased value on lifelong learning and more recognition of non-formal and informal learning.

TREND 3: THE BOUNDARIES OF PRIVACY AND DATA PROTECTION WILL BE REDEFINED
Expanding data sets held by governments and companies will support the advanced profiling of individuals, while sophisticated methods of monitoring and filteringcommunications data will make tracking those individuals cheaper and easier. Serious consequences for individual privacy and trust in the online worldcould be experienced.

TREND 4: HYPER-CONNECTED SOCIETIES WILL LISTEN TO AND EMPOWER NEW VOICES AND GROUPS

More opportunities for collective action are realised inhyper-connected societies – enabling the rise of new voices and promoting the growth of single-issue movements at the expense of traditional political parties. Open government initiatives and access to public sector data will lead to more transparency and citizen-focused public services.

TREND 5: THE GLOBAL INFORMATION ECONOMY WILL BE TRANSFORMED BY NEW TECHNOLOGIES
Proliferation of hyper-connected mobile devices, networked sensors in appliances and infrastructure, 3D printing and language-translation technologies will transform the global information economy. Existing business models across many industries will experience creative disruption spurred by innovative devices that help people remain economically active later in life from any location.

All these trends will impact the way content and services are provided and in turn impact the role of librarians and information professionals. Library professionals have to change from one that is traditionally as just an information provider to that of knowledge provider. This results in a shift in the roles of library professionals that includes the way library instruction or information literacy programmes are delivered, improving discovery of content, curation of the content and preserving the digital content.

Library customers often approach the librarians for content that they cannot easily find online. Library professional from public libraries to academic libraries are expected to have the necessary knowledge and research skills to support the users in their search for relevant content and knowledge. Library professionals are expected to be resourceful and format-agnostic information experts, able to provide access to both physical and digital content available within the library and online.
This paper discusses the challenges of the global digital environment and the shift in the roles of the library professionals.

ROLES IN INSTRUCTION
Every day, we are confronted with new information and knowledge in our work as well as social lives. The rise of the digital and social media has also posed many challenges to the library users. The greatest challenge is how do we make sense of the information and knowledge and be able to discern whether we are getting the right and authentic information.

Library professionals have a key role to play in advocating good information literacy skills. Increasingly, more digital content is being made available in open access repositories. Besides helping students and users to find relevant resources and cite correctly, there is a need for librarians to better educate them on the implications of different access in the open net and creates awareness on issues relating to publishing, copyright, author rights and open access. Thus librarians have to have a good understanding of copyright and fair use, authors' rights, publishing options, digital preservation and managing digital repository.

In the public and school libraries, cyber literacy, media literacy and information literacy are critical areas that librarians need to advocate. With huge amount of content being made available online, there is a role for the librarian to play in helping library users learn the proper way to search for information, evaluate and discern the authenticity of the information.

THE ROLE OF LIBRARIAN IN IMPROVING THE DISCOVERY OF CONTENT BY THE LIBRARY PATRONS
Library users normally turn to search engines to find the information they need. In order for library content to be easily discovered by these users, librarians needs to have a good understanding of search

engine optimisation techniques, the importance of keywords, the need for digital object identifier (DOI) and proper bibliographic citations. For years, a specialised group of librarians known as cataloguers have conscientiously followed cataloguing rules and classification systems and MARC schemas for bibliographic databases. In recent years, such work is slowly undergoing transformation. Libraries are increasingly working on knowledge organisation systems and linked data.

"Linked data is simply about using the Web to create typed links between data from different sources. These may be as diverse as databases maintained by two organisations in different geographical locations, or simply heterogeneous systems within one organisation that, historically, have not easily interoperated at the data level. Technically, Linked Data refers to data published on the Web in such a way that it is machine-readable, its meaning defined, it is linked to other external data sets, and can in turn be kinked to from external data sets" (Bizer, Health and Berners-Lee, 2009).

Application of linked data in the libraries include the transformation of bibliographic records into linked data so that they can be used by machines in connecting information, enabling links between related resources to be created dynamically. The transformed data are in the form of a basic sentence structure comprising a subject, predicate and object (called triples). The predicate provide the relationship that can be used by machines to intelligently link between data sources. Linked data allows the users to discover knowledge serendipitously. For example, the British Library has published the British National Bibliography as linked data which allows it to be linked to external sources. OCLC has released 197 million open bibliographic work which over time will be joined by other key entities.

DISSEMINATING KNOWLEDGE THROUGH SOCIAL MEDIA AND MOBILE CHANNELS

Social media channels are becoming default channels where many people use it to obtain information and share knowledge. Librarians need to be cognizant of the social media environment in order to deliver content and services through these channels. It is essential to know the tools and resources of the social networks and take part in them to disseminate and create a presence in them in order to reach the target audience of the libraries. Many libraries have explored using Facebook and Twitter as platforms to deliver content and services as well as engage their users. For example, the National Library of Australia's The Trove Twitter account provides followers with topical links to related historical newspaper and other content. Libraries use Pinterest to promote library collections, digital archives and special collections. Youtube is used to stream film collections and instructional videos to teach information literacy skills and use of library services and resources.

"A more integrated future is imagined, with library services and collections becoming more deeply embedded with external sites. Some librarians see their role becoming one of helping users find paths through complex content, and directing them towards making useful connections as efficiently as possible – potentially by merging smart applications and human crowdsourcing, with the smart component drawing on the human element by using social sources to retrieve information that is personalized and relevant to a specific user" (Taylor and Francis, 2014).

CREATION OF CONTENT

Information is everywhere and the average user will have difficulty in sieving out the right information from the massive information available in the online world. In this context, the librarian has an advantageous role in producing content that meets the needs of the target audience. Library professionals have move beyond provision of information resources to content curation, bringing together useful content to enhance the learning of the library patrons. "Content curation is the gathering, organizing and online presentation of content related to a particular theme or topic"

(WhatIs.com, 2012).Librarians will need to package content so as to highlight relevant and significant nuggets of content to the users. This requires the librarians to have more in-depth knowledge of subject areas. Content curation could take the form of creation of articles, research output for exhibitions, reviews of publications, etc. For example, the National Library of Singapore curates content for their HistorySG and Infopedia Websites. These portals provide the users with Singapore content, carefully curated by the librarians and are often consulted as sources on the history of Singapore.

Figure 1: Singapore Infopedia website of the National Library Board of Singapore
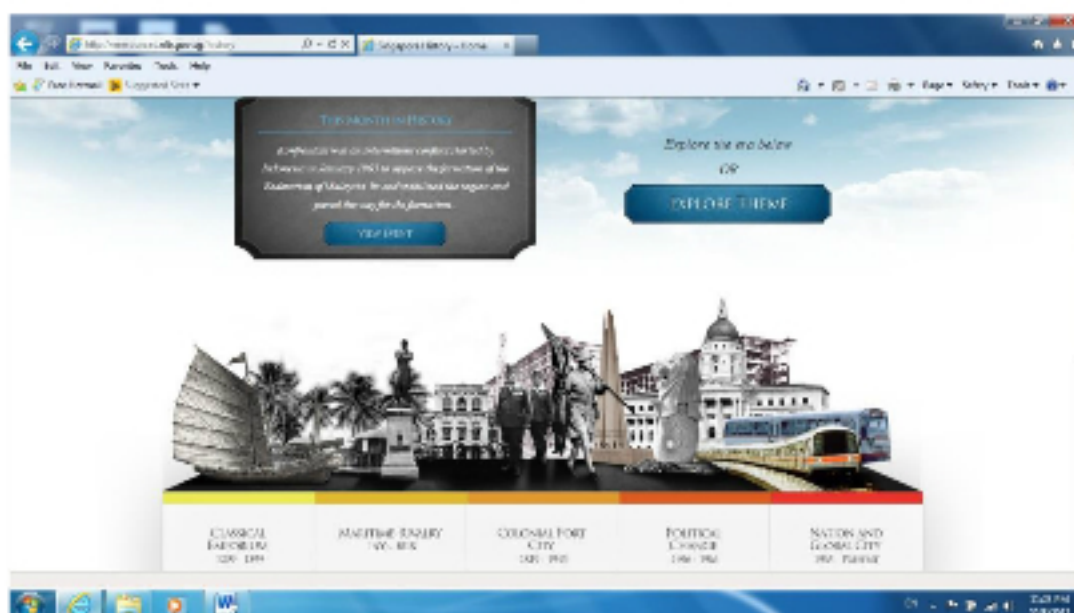

Figure 2:.HistorySG website on digital preservation of the National Library Board of Singapore

Many organisations are creating content in the digital format. These could be born–digital or content converted through digitisation programmes. Libraries around the world are facing the challenge to archive and preserve the nation's cultural heritage for posterity.There is a need to ensure that they can be accessed for as long as they are needed.

Managed digital preservation is defined as the establishment of management policies and activities that will ensure the endurance of content over the very long term). To successfully perform managed digital

preservation, as defined here, an organization must have the following (Kirchoff, Morrissey and Wittenberg, 2015):

i. A preservation mission that provides an environment conducive to the specialized planning and infrastructure needed to support digital preservation
ii. A sustainable economic model to support the preservation activities over the required time period
iii. Clear legal rights to preserve the content
iv. A relationship with the content provider and/or copyright owner
v. Relationships with the users of the content, to ensure that their needs are met
vi. A preservation strategy and policies consistent with best practices, and a technological infrastructure that is able to support the selected preservation strategy
vii. Transparency with regard to its preservation services, strategies, customers, and content

Libraries may choose to develop their expertise in-house or work with vendors on the preservation of their content. It is important that library professionals understand the principals and key challenges of digital preservation. They need to identify what is at stake and adopt appropriate measures for an effective preservation plan.

SKILLS NEEDED

The digital and knowledge-based environment has significant impact on the role of library professions.There is a shift from:

i. Developing collections locally to accessing collections globally
ii. Managing a storehouse of books to managing online and digital content
iii. Serving users onsite to users on the digital space
iv. Cataloguing and classifying physical formats to cataloguing and classifying digital formats
v. Access to bibliographic records to a web of data and web of things.
vi. Preserving not only physical formats but also digital formats

With these shifts, library professionals need to constantly adapt, upgrade or acquire new skills to meet the needs of the library users they serve.The following are some of the critical skills needed:

i. Information literacy skills
ii. Skills in selecting quality content all types of formats – physical as well as digital. Library professionals need to be knowledgeable of a vast array of content of scholarly or publicly available content. They need to keep abreast of the trends and advancement in the publishing, media and technology in order for them to develop and design useful programmes and services to their customers.
iii. Skills in managing digital content – whether born digital or digitised content
iv. Skills in creating metadata– knowledge of various metadata standards and schemas. Able to harmonise data for search purposes
v. ICT skills – ability to adopt new technologies and use appropriate IT to acquire, organize and disseminate information
vi. Digital archiving and preservation
vii. Skills to disseminate information and services through the social media and mobile technologies
viii. Networking and partnership skills
ix. Communication skills

CONCLUSION

With change as a constant, library professionals would need to keep abreast of the latest developments in the information world, have a deeper understanding of the knowledge seeking behaviour of the library customers,have the propensity to adapt to change and develop new services to meet the customers' need. There is also a need to be more IT savvy to adopt the latest technologies not only in the managing of content but also in the delivery of the content.

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