New Paradigm for Taiwan's Public Libraries and National Library in Digital Era

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Preface

Throughout history, libraries have been repositories for the preservation and dissemination of knowledge. The advent of the internet and digital technology has changed the way man interacts with knowledge, affecting both the way knowledge is produced and the way it is obtained. Libraries exist in a technical environment dominated by digital data, the internet, and cloud-computing. It is necessary to make adjustments to management and service policies and practices.

In the light of the change and influence wrought by the digital era, libraries in Taiwan faced serious tests and challenges regarding management and service practices. They are changing to prepare themselves for the digital era and are transforming themselves and investing further to create new learning opportunities.

In the past, the library administration often tackled the problem of how to get people into the library. A wide range of promotional activities and user education programs were devised and carried out by library staff members. In recent years, public libraries in Taiwan have made a turnabout in its management theory and practice in regard to the promotion of reading and the expanded use of library resources. The slogan "We Go to the Library" was, remarkably, reversed to "The Library Comes to Us".

Taiwan public libraries have thus adopted an advanced form of information technology that bypasses traditional management and conventional library services. The electronic management of an intelligent library offer quality services for patrons with limited manpower. This represents a major step in city's efforts to develop advanced technology.

I. Roles and Functions of Libraries in Digital Era

The important missions of libraries in digital era are using Technologies to serve our communities, including:

1. Library staff and volunteers provide assistance and training with the goal of increasing the level of digital literacy in the community.

2. Libraries provide access to relevant digital content and enable community members to create their own digital content.

3. Libraries provide technology to meet community members' job-seeking and entrepreneurial needs.

4. Libraries provide technology to meet community members' demand for government and legal information and services/assistance.

5. Libraries provide technology to meet community members' demand for educational support.

6. Libraries provide technology to meet community members' demand for health and wellness information.

II. Construct Digital Environment

1. Intelligent Collection Management

The Taipei Public Library was the first public library to install the RFID automated checkout service in Taiwan. Besides the Taipei Public Library, the National Taichung Library, the Kaohsiung Public Library, the Xinbei Public Library, and the National Library of Public Information also utilize RFID for their collection management and circulation services.

The RFID system also makes the library management much more effective. Traditional inventory requires manual labor to swipe each book's bar code but the RFID system uses a scanning instrument on a book shelf to catalogue five to six books at a time.

Taipei Public Library makes further efforts to cultivate residents' reading habits and provide a faster and more efficient library service by incorporating the MRT EasyCard into library cards and opening more self-service libraries. The library allows users to enter the library and borrow books by using an RFID-enabled library card or an EasyCard.

2. Digital space outside library

(1) Intelligent Library

The era of staff-less computer-operated libraries has come to Taiwan in 2005. Now, the Taipei Public Library has seven self-service libraries at Carrefour, the MRT's Ximending Station, MRT Zhongxiao Fuxing Station, Taipei International Airport, Taipei Youth Activity Center ,the Youth Park in Wanhua and at Bailing Elementary School.

Using a RFID system, borrowers only need to insert a card, scan the book and take a receipt from the computer before taking the book home. If borrowers try to take the book out without following these procedures, an alarm bell will sound as they leave the library.

Returning the book only involves dropping it off in a library return box. This allows the public to borrow books from a library with the ease, convenience and speed of reading a book at home.

The establishment of an automated intelligent library by the Taipei Public Library extends library services to new areas and offers book and information service to shoppers in the business district and MRT commuters. This is a successful service and marketing mode. The key to the success of an innovative service lies not only in the adoption of advanced information technology, but also in its acceptance by patrons. More specifically, the intelligence and self-discipline of the public are two important factors in making the operation of the intelligent library successful.

(2) Micro Self-service Library

Kaohsiung's Mass Rapid Transit(MRT) Central Park Station was set to establish the nation's first ever unmanned micro library which provides MRT commuters with 1500 books that they can borrow free of charge. A fully automated management system allows users to borrow and return books, as well as search for books by inserting the library cards into a RFID machine and then placing the books on a pad for automatic identification, before printing out a receipt. This system greatly increases reading pleasure for MRT commuters.

To provide the public with an opportunity to read good books during their spare time, the TPL has already installed 4 micro self-service libraries in Taipei Main Station , Taipei City Hall , Tri-Service General Hospital (Neihu Main Facility) and Songshan Station. The name of micro self-service library established by TPL is "FastBook-Automatic Book Stop".

3. Digital spaces in libraries

(1)E-reading Booth

Some libraries in Taiwan created e-reading areas or learning commons areas and provided electronic reading facilities to reduce the digital gap, for example, the National Central Library created an E-reading Booth that officially opened in 2011. It provides various reading devices and diverse content, including e-newspapers, e-books, and e-magazines. The average reader can access over 10,000 Chinese and foreign language e-books via computers in the library. In addition, an effort to reduce the digital gap and assist underprivileged portions of society means that the library also provides e-reading devices for borrowing within the library.

(2) Interactive Digital Space

The NLPI integrates various types of new technology in order to provide large guiding panels, push screens, intelligent bookshelves, and the various types of information kiosks in the library. The library also has also developed various innovative services, thus allowing the library's functions to continue improving and evolving.

(3)Learning commons,

Learning commons also known as information commons or digital commons, are educational spaces, similar to libraries and classrooms that share space for information technology, remote or online education, tutoring, collaboration, content creation, meetings and reading or study. Learning commons are increasingly popular in academic and research libraries, and some public and school libraries have now adopted the model. Architecture, furnishings and physical organization are particularly important, the character of a learning commons, as spaces are often designed to be rearranged by users according to their needs.

The Learning Commons in Taiwan's libraries are an active, comfortable space where users can discover, create, and collaborate with peers, a space that inspires them to be more productive and successful.

4. Virtual digital space

In today's digital information service age, web services are an extension of in-library services. NCL's websites offer different services based on user needs—from basic services to scholarly research to publication services. Content ranges from standard bibliographic information services to actively creating various types of databases. Patrons can also apply for a library card, apply for an ISBN, access dissertations and theses, borrow e-books, and listen to lectures just by visiting libraries' websites. NCL's databases also enjoy high usage rate, with NCL's "National Central Library of Theses and Dissertations in Taiwan" experiencing over one million searches per day and "Index to Taiwan Periodical Literature System" over forty thousands. This shows that NCL's websites are highly influential in scholarly research in Taiwan.

Most public libraries in Taiwan created websites for different languages groups, ex. Chinese, English, Japanese, and for different age groups, ex. kids, teens, senior, new immigrants and the visually impaired.

III. Provide Digital Contents

1. To digitize collections

Starting in 2001, the NCL began taking part in the National Digital Archives Program (NDAP)/National Science and Technology Program for e-Learning (ELNP) and started to digitalize rare library holdings. The aim of national digital archive programs was to make e-learning and digital archives available and accessible to the general public, moving towards the establishment of a knowledge society, with the ultimate goal of strengthening national competitiveness.

Due to the efforts of numerous institutions and organizations throughout the years, TELDAP has accumulated a wealth of digitization experiences and materials. The contents span the entire spectra of humanities and nature. They have been divided into six categories. These digitalized items are all available to the general public through the Union Catalog of Taiwan Digital Archives.

Since 2002, the NCL has been converting important collection resources into digital forms. Publications under digital conversion by the library include rare books, local government documents, local documents and periodicals and newspapers. Other digital content include rubbings of stone inscriptions in Taiwan, news programs, genealogies, and thesis papers. These efforts are making collection materials more readily available to the public both in Taiwan and around the world. The library will continue to expand the scope of its digital collection and create new applications to continue improving digital archives for future generations.

2.To purchase electronic resources

Taiwan libraries have also been work hard to improve information services, cataloguing and arranging Internet resources, purchasing commercial data-bases, acquiring electronic books, and offering electronic services--all to enrich the reading resources available to the public.

3. To link free Electronic Resources

Taiwan libraries provide hyperlinks to free electronic books, periodicals and government publications from media, academic, research and government institutions in Taiwan. Most of the electronic periodicals are offered here at free of charge, while a portion of subscriptions require membership registration or payments upon usage.

IV. Provide Digital Services

1. Taipei Public Library

   (1)E-notice service

TPL has also introduced a Mobile Phone SMS Notification service since August, 2006. This is targeted at patrons whose materials are overdue for over ten days, and have submitted their mobile phone numbers to the Library. With our SMS Notification service, the return rate of the book materials is increased.

(2)Document Delivery Services

If there should be any material that is unavailable at our Library, a request for transfer or photocopying can be made online or via mail to the Library for borrowing materials from other libraries, domestic and abroad.

(3)International inter-library loan

TPL has an inter-library loan agreement with the Shang-hai Library, and it offers electronic services and has set up electronic libraries by using info-technology and the Internet.

(4)Online Reference Services

TPL's Online Reference Service System provides patrons with user-friendly access to librarians, to consult them with any questions concerning the numerous library facilities and the use of library materials.

(5)My Librarian Personalized Information Services

In order to meet the individual needs of patrons, the Taipei Public Library provides an integrated and value-added service to provide patrons the opportunity to submit personalized requests for information in the current Library Collection and all other available resources, with rapid yet accurate retrieval.

My Librarian Personalized Information Service provides several service categories, with different document formats for each service, respectively:

A.New Materials Arrival Notice: includes a new materials arrival service for free, and a Special Topics Information Selection Service and a Newspaper Clipping Service, at charges proportional to the individual needs.

B.Research Materials Notice: includes an Information Services for Research in Library Use, and a Special Topics Information Services for research in media broadcast, market analysis or other special topics of interest.

(6)Electronic Book Digest Services

Based on library's current collection of Electronic Books in Chinese and foreign Languages, and published every Monday.

(7)Book of the Month Electronic Digest：

　　Based on library's Book of the Month selections, and published every Friday

(8)Multimedia Online Audio-Film Program:

A. Live Online Program :

In order to offer better services, the Library has designed the Live Online Program for patrons to watch a variety of the popular or special audio-film programs simultaneously.

B. Non-Real-Time Online Program:

Patrons may view past activities, events, lecture, workshop, story-telling, on-the-job training or performances that the Library had previously held.

2. NCL's Efforts to Archive and Manage Digital Resources in Taiwan

Many of the resources in the NCL collection can be accessed through database and online systems. The NCL has been automating its operations since 1980. Since then, it has established several information systems and databases offering bibliographic, abstract search, and full-text retrieval search services. Topic-specific databases, document delivery services, digital collection systems, e-learning courses, and portal services are also offered. This article will introduce the most important data bases and systems created by the NCL.

V. Provide e-learning Opportunities

1.E-learning Campus

In order to promote lifelong learning, the NCL launched the E-Learning Campus in Dec. 2000. This website provides the general public with free online courses for self-study.

The E-Learning Campus is a collaborative effort by the library associations, the library and information science departments of various universities, a variety of libraries and government agencies in Taiwan. The aim of the Campus is to provide online courses and e-learning resources for library staff and library users.

The features of the E-Learning Campus are as follows:

(1) First online repository of online courses for library professionals in Taiwan.

(2) Over 100 library professionals and professors joining to develop the courses cooperatively

(3) Nearly all of the courses free for librarians, school teachers, students, and the general public.

(4) The courses for preserving cultural heritage newly developed to enhance the knowledge of the value of the national digital archives and of the use of the digital cultural heritage resources

At present, over 480 e-learning courses on this Campus are currently organized under the following major areas: Library & Information Use Series, Library Professional Training Series, Information Technology Applications Series, Global Sinology Seminar, etc.

2. Information Literacy Programs

Taiwan libraries offer a range of classes appropriate for older learners, children, young adults and adults, including beginning classes on using computers, the Internet, email, Microsoft programs, Google, Facebook, database searching and other technologies and social media.

3. Life-long Learning Website

The aim of this website is to provide information of learning courses and activities to life-long learners.

VI. Cooperation and Sharing

1. International cooperation

(1)International Digitization Projects of Rare Books

As rare and ancient Chinese Books are an important world legacy, their preservation has important implications in cultural heritage, research, and civilization. Through digitization collaboration with rare books holder could contribute to library's collection development and also enhance and nurture our Rare Books Search System's digital content, making it more resourceful, valuable and thus sustainable.

The NCL collaborated with Genealogical Society of Utah on digitization project of genealogical records of Taiwanto digitize 794 rolls of microfilm. The NCL also signed a cooperation agreement with the US Library of Congress, the University of Washington East Asian Library and the University of California Berkeley East Asian Library to convert rare Chinese books in their collections to digital format..

(2) International Digital Content Sharing

NCL became a member of Global Memory, World Digital Library and International Dunhuang Project to share human assets, and established Chinese Rare Books Union Catalog to share digital contents from academic libraries in countries.

2.Regional cooperation

The Central Taiwan Public Library Consortium was inaugurated on January 5, 2010. The Consortium uses a unified library collection inquiry system that allows member libraries to function as partners of the consortium to serve the public. As public libraries, the National Library of Public

Information , along with other district libraries under the jurisdiction of Cultural Affairs Bureau, strives to provide convenient circulation services to the public by adopting a one-card policy. Instead of having to apply for library cards at different libraries, the consortium allows the general public to borrow books at any library belonging to the consortium as long as they have a valid library card issued by any of the consortium libraries without having to apply for multiple cards. In principle, all consortium libraries have worked together to unify their circulation policies as much as possible to avoid inconveniencing readers due to inconsistent policies.

Patrons will be able to take advantage of all materials available at different consortium libraries with just one library card. In addition to the access of books and audio-visual materials at the National Library of Public Information, patrons can also check out items and benefit from access to relevant resources including the massive digital resources at the National Taichung Library (with e-books, digital multimedia resources, digital learning materials, digital collections and electronic database).

Improvement of integrated search services to usher in a new era of digital library online services with all data integrated into one platform. Featuring powerful search functions and web2.0, the consortium embodies a new milestone of service at the National Taichung Library.

Conclusion

Libraries exist for the benefit of the public and to encourage the acquisition of knowledge—something no other business entity can fully replace. Computer technology is developing rapidly. Profit-seeking information companies come and go, or get replaced at an alarming rate.

Libraries and their image of public benefit have been around for centuries. They have social responsibilities and a mission to make educational materials available to all. They are trusted by the people.