

Libraries are Critical Institutions for Growth and Development

Ellen R. Tise

IFLA President 2009-2011

Senior Director, Library and Information Services

Stellenbosch University, South Africa

Introduction

The debates on ‘the information society’ and “the knowledge society” have been substantial over the last decades or so. The core of the discussion was and still is the extensive contribution of information and knowledge to the growth and development of society. The levers of development, in the information society, are information processing, that is, efficient and reliable generation, transfer and retrieval of data. Drotner (2005) goes on to say that, in a knowledge society, the levers of development is the creation, circulation and appropriation of knowledge, that is, the non-material processes that in principle may take place anywhere and at any time. The symbiotic relationship between information and knowledge is an essential catalyst for growth and development of a community, a society and a country.

This symbiotic relationship must be viewed against the backdrop of rapidly advancing technology and the changes to the functioning of the library in a digital age. Natarajan (2009) places into context, in a digital age, the relationship between information and knowledge and the library and, development when he says, “the evolution of the “digital age” has prompted profound changes in the library and information service environment, which includes: changes in economy, education and

learning, scholarly exchange, and information technology.

It is the core business of the library (be it a four walled room filled with books or a point where a user has access to organized information) to organize and disseminate information. Therefore, we must accept that librarians have an extensive role to play in the growth and development of a country, especially in developing countries.

As much as there is a symbiotic relationship between information and knowledge and growth and development: there is a symbiotic relationship between growth and development and innovation and change. In fact, innovation underpins growth and development as innovation is the creation of new knowledge. It is this new knowledge (or innovation) that defines the pace of growth and development. The more innovative a country is, the faster is the pace of growth and development. Given the significance of information for growth and development and innovation and change, libraries become critical institutions for the growth and development of a country.

The Library, Knowledge and Innovation

Innovation is generated through the manipulation of knowledge and information. Therefore, it must be accepted that innovation is entirely dependent on knowledge and information. However, innovations are not static and are, as indicated by Deiss (2004), eclipsed and made obsolete by new innovations. Therefore, innovators are dependent on continuous access to new knowledge and information to generate new innovations. The provision of access to new and old knowledge and information is the core business of libraries. Through the process of deduction, libraries must be recognized as the epicenter for innovation and ultimately for growth and development.

These claims are based on the premise that the core business of libraries is to drive access to knowledge and information and in the process contribute to bringing about growth, development and change. Such contributions must be seen against the backdrop of libraries facing unprecedented social and technological change which they have responded through avant-garde services. Creative new services and processes are adopted to contribute to innovation: libraries have evolved to such an extent that “it is everywhere” . The ubiquitous nature of information is such that it keeps the

library open twenty-four hours a day and from any location where there is access to the internet.

The ubiquitous nature of information, the early adoption of relevant technology, the evolving role of the librarian and libraries contribute significantly to making knowledge and information easily accessible which in turns contributes to innovation.

Hao-Ren Ke and Ming-Jiu Hwang (2000) demonstrate how Taiwan has utilised technology in enhancing the role of the library for the growth and development of Taiwan. They indicate that the rapid development of information and telecommunication technologies, especially the emergence of the Internet and WWW, is gradually innovating every facet of human life. They argue that availability of the quality information makes the Internet meaningful and go deeper and deeper into human life. In this internet scenario, they point out that the digital library (DL) plays an important role in the acquisition and dissemination of information.

They go on to assert that the digital libraries are the digital face of traditional libraries which include electronic (digital) as well as print and other (e.g. film, sound) materials. Taiwan has utilised relevant technology to improve access to information and knowledge for the growth and development of the country. The internet has grown the pool of knowledge that Taiwanese people have access to in growing the pool of innovations for the ultimate growth and development of the country.

Broadening the Concept of Innovation

According to a UNESCO report “innovation in isolation is meaningless unless [it] becomes a culture. Innovation is like a completed puzzle and unless all the pieces are put together it is incomplete and will remain as such until the last piece is put into place.” Innovation itself, according to Van de Ven (1986), is the development and implementation of new ideas by people who over time engage in transactions with others in an institutional context. He goes on to say that it is the creation of a new idea, which may be a recombination of old ideas, a scheme that challenges the present order, a formula, or a unique approach which is perceived as new by the individuals involved.

This creation of a new idea is expanded to merge the concept of knowledge

with that of innovation to create 'knowledge innovation'. Natarajan (2009) quotes Amidon as stating that knowledge innovation is the creation, evolution, exchange and application of new ideas into marketable goods and services for the excellence of an enterprise, the vitality of a nation's economy and the advancement of society as a whole. Therefore, it must be accepted that knowledge innovation is the whole process of knowledge generation, creation and use and its subsequent influence on growth and development.

As indicated, innovation is meaningless without a context which must be supported through a culture of innovation to add value to a community – it is a communal process depending on new interactions and new partnerships involving different role players in an "innovation community". Xiaobin and Jing (2009) provide very good context stating that the "innovation community" is a new service mode and idea with "users" as the centre, "innovation" as the main thread and "community" as vehicle and form of manifestation.

Innovation Community

The ubiquitous nature of knowledge must be interpreted as an indispensable part of an innovation community removing geographic barriers and facilitating greater interaction within the community.

In the context of the assertion by Xiaobin and Jing (2009) libraries should pay more attention to users. Attention should be paid to the individuality of the users and their specific situation and environment that they are in. Libraries need to design services and develop systems based on user demands and behaviour. The profound changes referred to by Natarajan include libraries moving away from the passive provision of library and information services.

There is a need for a paradigm shift away from simply providing information, services and physical space, to becoming active participants in the course of knowledge learning and creation. At the same time, libraries need to pay attention to the construction of good relationship and smooth communication mechanism among users and between users and libraries. The improving of access to information via digital libraries and

networked environments (that is, using network socialization tools to carry out management and service functionalities and expand the space offered by libraries) must supersede the reactive supply and demand paradigm.

An innovation community begs greater collaboration among librarians with different specializations and responsibilities. It also demands supporting users' cooperative learning and research ambitions and at the same time encourage users and librarians to jointly carry out construction and sharing of information resources and information environments. Another significant principle supporting an innovation community is that of active growth. Libraries need to develop active innovation and participatory services through enhanced operational mechanisms. There has to be the cultivation of innovation spirits and improvement of comprehensive qualities of librarians and users by the construction of innovation community and community activities. The innovation community also demand that libraries and users promote each other and keep growing and making progress in the course of interaction.

The teasing out of the concept of an innovation community basically indicates that there is a sound intertwined trilogy relationship between the innovators (the scientists), the library and knowledge and information, and innovation. The innovations and innovators are dependent on continued-unhindered access to knowledge and information. Therefore, it must be assumed that access to knowledge and information are the drivers for growth and development as the direct end products of innovations. As a driver for growth and development, libraries must become more proactive and actively contribute to the innovation community. A significant enabler is the technology which ensures that the ubiquitous nature of information enhances access from remote sites and hours that are convenient to the information seeking communities.

Libraries and Creative Services

In proactive mode, libraries must provide creative new services and processes that make a difference to customers because it is these services and processes that underpin the prospects for innovation. As indicated by Deiss (2004) libraries that are uniquely capable of anticipating and meeting customer needs in ways that mirror a changing world are the libraries that are deemed to be successful and, therefore, are able to

attract resources and talent to contribute to innovation and development. Libraries that tap into the creative potential of their staffs, vendors, and customers are successful contributors to the innovation community.

While very much related, creativity and innovation are distinct from one another in that creativity is the act of generating new ideas and new perspectives. Schmidt (2008) points out that creativity is a process of developing and expressing novel ideas that are likely to be useful. Innovation, on the other hand, occurs when creativity is applied and a product or service results. Creativity (including creative thinking skills), then, is certainly critical to the practice of innovation. Thus, creativity is a means and innovation is an end.

In the quest to be creative, libraries have been early adopters of technology. Technology is used, in the main, to acquire, organise and disseminate information. In keeping with the issue of making information available in digital format, libraries have been using web pages to display and disseminate content. In more recent times, libraries are fast mastering the dissemination of web content via mobile devices. Dougherty (2009) boasts the creative tendencies of libraries by providing Internet access to the public long before it was popular in cafés and coffee shops.

Libraries are making major strides in opening access to knowledge and information to the information seeking communities realising the significance of unhindered access to knowledge and information for innovation and subsequent growth and development. The issue of the immediacy of information is becoming a priority for libraries. Technology with all its bells and whistles is being exploited to take the 'library' to the users.

Dougherty (2009) states that if libraries were to combine mobile computing (through wireless access) and the abundance of available devices (from inexpensive "Netbooks" to Apple's iTouch/iPod/iPhone type handhelds), access to the virtualized storage could be further enhanced. Why provide static desktops to access information when it can be accessed from anywhere and whenever there is a need for the information. YongYue, HuiPing and HuoSong (2009) contextualising China's reliance on virtual access to information for growth and development when they state that the "digital library has been widely applied in different organizations, and provides users with a great deal of information resources. Moreover, through the use of various information technology and knowledge network platform, it greatly improves the

standard of the development and utilization of China's information and knowledge, and enhances the user's ability to acquire knowledge, and promotes the knowledge transformation of the whole society and the knowledge innovation."

Katzen (2009) recognises that the internet opens the door to new information sources but finding the right information can be a challenge. As cautioned by Schmidt (2008), access is meaningless if the information seeker does not have the necessary e-skills. The librarians have the skills, training and experience to elevate the e-skills of the public or the information seeking communities. Schmidt goes on to say that "librarians are needed and qualified in the processing of transforming the citizens from not-skilled users of ICT and information" to highly e-skilled users to ensure active participation in an "innovation society". The transformation of libraries from delivering traditional library services to becoming active partners in the innovation community through making e-knowledge and e-information available via sophisticated and interactive websites demands these e-skills competences.

The Librarian in the Changing Environment

The environment in which librarians function is changing in terms of greater access to a range of information, increased speed in acquiring information, greater complexity in locating, analyzing and linking information, constantly changing technology and adaptation, lack of standardization of both hardware and software, continuous learning for users and staff, management of financial investment for technology.

Rao and Babu (2001) point out that the question of the role of a librarian in the new environment of exponentially growing Internet and World Wide Web has been addressed by a number of authors. On one hand, it has been postulated that librarians would play a more dynamic role than at present as guides to the information seekers in an exploding universe of information. Further, the rise of digitized information is an opportunity to elevate the role of librarian and leads to the emergence of a new breed of librarian: "The Cyber Librarian" or "Cybrarian" - a specialist in locating information on the Internet.

On the other hand, there is discussion on possible obsolescence of library professionals in a scenario where the knowledge base is diversified and wide and the developments in the fields like artificial intelligence and neural networks result in powerful, cost effective, user-friendly search strategies and methods. However, Rao and Babu (2001), hold the view that the latter scenario is mere theorising as trends show development to the contrary. It is a given that the quantity of information is increasing exponentially, therefore it becomes even more critical for codification and classification of this information to facilitate easy and effective retrieval and manipulation. Further, the familiarization with new gadgets and methodology of locating information for vast majority of population requires guides and librarians can easily fit into this role with training – e-skilling of the user population will become core areas of responsibility of the cyber librarian.

Deiss (2004) cautions that libraries have succeeded in organizing information largely due to the creation of highly effective standards of practice and methods of managing knowledge and information. It is these standards that can stand in the way of innovation simply by their very existence. Having created a successful “way of doing things,” library organizations may find it is much more difficult to imagine other ways of doing things even when environments change dramatically. To engage in paradigm shifts, there has to be periods of instability. Deiss quotes Gryskiewicz as stating that “to create innovation...an organisation must be able to both respond to, and to self induce, disturbances – even turbulences.” Innovation is born out of new ideas and often these new ideas are seen as a disturbance to the accepted practice, the norm or the tool of the successful past. For the library to be active partner in the innovation community, library management must come to terms with periods of disturbances for the greater good of innovation and development.

It has been argued that the innovation continuum begin with the leadership. Taking into consideration the instability, the temporary loss of direction and reduced personal productivity that innovation brings, library management must foster a culture of innovation. This culture must be supported by training and development, an enabling organisation structure, streamlining of processes and reallocation of resources. To become more innovative, inspired library management need to reposition staff to support innovative projects and programmes – to be an active member of the innovation community, the library itself needs to engage in innovative practices to

conform to its development agenda. ‘Agile development’ is the buss concept.

Conclusion

It is beyond debate that information is critical for innovation and that the core business of libraries is to make information available to the innovators making the library a critical component in the growth of innovation and, ultimately in the growth and development of the country. Librarians need to leave no stone unturned to ensure that there is a continuous supply of information for this growth and development.

It is not beyond the realms of reality to propose the hypothesis that the speed in which a country develops is dependent on access to knowledge and information. The library as a critical contributor to this growth and development is obliged to move away from its comfort zones and contribute to driving access to knowledge and information – for access to knowledge and information is the driver for growth and development.

Works Cited

Deiss, K.J. 2004. Innovation and strategy: risk and choice in shaping user-centered libraries. *Library trends*, Summer. Available at <http://liaisonprograms.pbworks.com/f/deiss.pdf>.

Dougherty, W.C. 2009. Virtualization and libraries: the future is now (or virtualization: whither libraries. *The Journal of academic librarianship*, Vol. 35(3): 274–276.

Drotner, K. 2005. Library innovation for the knowledge society. *Scandinavian public library quarterly*, Vol. 38(2). Available at http://www.splq.info/issues/vol38_2/07.htm.

Hao-Ren Ke and Ming-Jiu Hwang. 2000. The development of digital libraries in Taiwan. *Electronic library*, Vol.18(5) : 336 -346.

Katzen, J. 2009. Technology brings challenges and opportunities for information. **Research information**: February/March. Available at http://www.researchinformation.info/features/feature.php?feature_id=207.

Natarajan, M. 2009. **Exploring knowledge innovation culture: role of library and information centres**. Available at http://www.iatul.org/doclibrary/public/Conf_Proceedings/2009/Natarajan-text.pdf

Rao, K.N. and Babu, K.H. 2001. Role of Librarian in Internet and World Wide Web Environment. **Information sciences**, Vol. 4(1). <http://inform.nu/Articles/Vol4/v4n1p025-034.pdf>.

Schmidt, Anne-Marie. 2008. [**Public libraries, innovation, ICT and adult learning with a broader overview of current trends and experiences from the PuLLS project**]. Available at <http://www.entitlelll.eu/eng/content/download/235/1562/file/AMSchmidt.pdf>.

UNESCO. 2003. **The culture of innovation and the building of knowledge societies**. Available at http://www.unesco.org/dialogue/en/COI_Issue_Paper_080903.pdf.

Van de Ven, A. 1986. Central problems in the management of innovation. **Management science**, Vol. 32(5), 590-607. Available at <http://www.jstor.org/stable/pdfplus/2631848.pdf?acceptTC=true>

Xiaobin, L and Jing, G. 2009. Innovation community: constructing a new service model for education libraries. **Electronic library**, Vol 27(2): 258-270. Available at <http://www.emeraldinsight.com/Insight/ViewContentServlet?contentType=Article&Filename=Published/EmeraldFullTextArticle/2630270205.html>

YongYue, C., HuiPing, Z. and HuoSong, X. 2009. Knowledge acquisition and knowledge innovation based on visualization technology in digital library. **IEEE computer society**. Available at <http://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=04732789>.

國際圖書館協會聯盟會長 Ellen R. Tise 訪臺演講記要

劉藍玉 黃菁華

國家圖書館很榮幸邀請到本屆國際圖書館協會聯盟會長Ms. Ellen Tise來臺訪問6天（2011年4月21日至26日），訪臺期間，於臺灣大學文學院以「圖書館為成長發展的重要機構」（Libraries are Critical Institutions for Growth and Development）為題發表演講，並與國內圖資界師生及對圖書館事業有興趣的民眾，進行交流。以下為Tise會長演講內容記要。

一、圖書館為成長發展的重要機構

過去幾十年來，有關「資訊社會」（the information society）和「知識社會」（the knowledge society）的討論一直未曾稍歇。在資訊社會中，事半功倍的發展工具是資訊處理，也就是快速可靠的產生、轉換及檢索數據；在知識社會中，事半功倍的發展工具則是創造、流通和善用知識，也就是可以隨時隨地進行的虛擬處理過程。由此可知，資訊和知識的共生關係是社區、社會和國家成長發展的重要催化劑，而這種共生關係正是在快速變遷的數位時代中發展出來的，包括經濟、教育和學習、學術交流，以及資訊技術都在快速變遷中。

組織並傳播訊息是圖書館的核心業務，因此圖書館員肩負著國家成長發展的

責任。資訊、知識、成長、發展、創新、變革是交互相關的，事實上，創新的知識決定了成長發展的步伐，因此創新能力越強的國家，成長發展越快速，圖書館因為提供重要訊息，所以是國家成長發展的關鍵機構。

二、圖書館、知識與創新

創新是從知識和資訊的運作中產生，所以創新完全依賴知識和資訊，唯有源源不斷地汲取新知，才能持續創新。既然提供知識和訊息是圖書館的核心業務，圖書館必須被視為創新中心，並且是為社會國家成長發展提供服務的機構。

圖書館透過這樣的核心業務，為社會成長發展做出貢獻。在做出這些貢獻的同時，圖書館正面臨前所未有的社會和技術變革，因此他們也要透過前衛的服務，來對這些變革做出回應，也就是透過網際網路，讓自己無所不在、無時不在。正是因為圖書館員和圖書館因勢利導，利用資訊無所不在的特質，並且率先採用相關新技術，讓知識與訊息唾手可得，間接促進了創新。

臺灣的圖書館已善用科技，讓自己在國家社會發展上扮演重要的角色。資訊和通信技術的快速發展，特別是網際網路的出現，正在逐漸更新人類生活的每個層面，由於臺灣圖書館善於運用科技，因此臺灣人民也能充分利用知識，進而促進了國家的成長發展。

三、擴大創新的概念

聯合國教科文組織的報告表示「除非成爲一種文化，否則創新本身沒有意義。如同拼圖一般，單獨一塊拼圖是沒有意義的，必須用所有單片的拼圖拼成一幅完整的圖案，意義才會浮現。」創新是新概念的實現，這種概念是個人在變動的環境中，與他人互動完成的；它可能是從舊想法重組而來，也可能是挑戰現有秩序、常規的架構，或是諸多個體參與其中的新方法。

新概念的產生可以擴大到與「知識創新」的概念結合，對卓越的企業而言，知識創新可以用來開發新商品和新服務，國家的經濟活力和社會發展，也需要靠知識創新。由此可知，知識創新就是知識衍生與利用的過程，以及其對成長發展的後續影響。

除非放在文化脈絡下，並且可以為社會帶來價值，否則創新是沒有意義的。社會的價值則必須透過新的互動和新的伙伴關係，在「創新社群」中扮演不同的角色，才能突顯出來。「創新社群」是一種新的服務模式和想法，以「使用者」為中心，以「創新」為主軸，「社群」則是運作和表現的形式。

四、創新社群

無所不在的知識必須被視為創新社群的一部份，不但沒有地理障礙，還可以促進成員間的互動。圖書館身處其間，必須更注意使用者在特殊的狀態和環境中的需求，並主動根據使用者的需求和行為設計服務、開發系統，而不應固守被動的角色。

圖書館的典範必須從單純提供訊息、服務以及實質空間，轉變為積極參與知識學習與創造的過程。圖書館因此需要透過數位及網路環境，在使用者之間以及使用者與圖書館間，建立起良好的關係以及通暢的溝通機制。

創新社群尋求與圖書館不同專業間的合作，希望使用者的合作學習和研究需求都能得到支援，同時鼓勵使用者和圖書館員共建共享訊息資源和環境。支持創新社群的另一項重要原則就是積極成長，圖書館需要透過強化經營機制，來發展積極創新和分享服務。另外，創新社群也需要圖書館和使用者互相督促，並在互動過程中不斷成長、進步。

由前所述的創新社群基本概念中，可以看出創新、圖書館和知識與訊息之間交織而成的三部曲關係。創新仰賴無間且無阻的攝取知識和訊息，而知識與訊息的獲取又是為了開發創新的終端產品。身為成長發展的推手，圖書館必須更前瞻、積極主動為創新社群做出貢獻，而資訊技術則保證了訊息無遠弗屆的供應。

五、圖書館和創新服務

圖書館必須提供創新的服務和作業流程，才能讓使用者發現我們的不同，這也是創新的基礎。圖書館能適切反映出社會變遷，符合使用者需求，才能吸引資源和人才為創新和發展做出貢獻。因此，圖書館率先採用新技術，獲取、整理和傳播訊息，除了採用網傳播數位資訊，近年來也利用移動通信設備傳送訊息。圖書館為民衆提供網路資訊檢索的服務，遠遠早於時下流行的網咖服務。

如果圖書館能結合無線網路和各式各樣的設備（像是iTouch/ iPod/ iPhone手機），就能增強虛擬存取的服務，何需再提供不能移動的檢索台。在中國，數位圖書館已廣為不同組織應用，為使用者提供大量訊息，透過不同資訊技術和知識網平台，中國的訊息和知識利用及開發標準，都已經大大的提昇，不但使用者增強了獲取知識的能力，也促進了整個社會的創新能量。

雖然網路打開了攝取知識的方便之門，但如何搜尋正確的資訊卻成了挑戰。圖書館員所擁有的技能、訓練和經驗，正能提昇民衆尋找正確資訊的數位技能，

因此可以將沒有搜尋技巧的「平民百姓」，訓練成創新社群中擁有高度數位搜尋技巧的訊息使用者。由此可知，圖書館已經從傳統的被動服務，轉變為積極參與創新社群的夥伴，透過純熟先進的網站互動，提供數位知識與訊息。

六、變動環境下的圖書館員

圖書館員的功能隨著大環境的變遷，處理的資訊量越來越大、獲得訊息的速度越來越快、需要確認分析連結的資訊越來越複雜，還要適應不斷推陳出新的技術，除了需要瞭解讀者的需求之外，還要注意經費的控管。圖書館員在資訊爆炸的時代中，必須扮演動態指導的角色，並可趁此時機，提高館員的重要性，成為「網路圖書館員」，甚至是網際網路上搜尋資訊的「網路資訊家」。數位時代是不是就不需要圖書館員了？就算人工智慧和網際脈絡發展得再強大，也需要圖書館員編纂和分類訊息的專業技術，並指引使用者如何檢索利用，才能快速獲取需要的訊息。

圖書館之所以能成功的組織訊息，正是因為我們早已建立處理知識和訊息的方法和高效標準。但是一旦「成功且有效的做事方式」被創造出來，即使環境發生重大改變，圖書館似乎也很難採用其他的做事方式。典範轉移一定會經歷不穩定的時期，創新其實就是干擾或觸犯過去成功慣例的新概念，圖書館要投身為創新社群的成員，為了最好的創新和發展，就必須能夠面對干擾。

創新與領導息息相關。創新所帶來的不穩定、暫失方向，以及個人產值的下降，都必須列入考慮，因此圖書館在樹立創新文化時，可以透過訓練開發、改造組織結構、精簡程序和重新分配資源，來成全創新文化。

七、結論

為了確保國家的成長和發展，圖書館責無旁貸，必須盡一切力量，確保知識與訊息的供應暢通無礙。身為成長發展重要的貢獻者，圖書館必須從安逸的角落走出來，為獲取知識和訊息奉獻最大的心力，帶動國家的成長和發展。