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INTRODUCTION

Advances in information and communication settings have greatly influenced the service patterns adopted by present day libraries to a greater extent. Changes in the means and modes of accessing information by the users have posed many challenges to the information professionals in catering user demands for specific information. Libraries and Information centres are adopting the change in order to be relevant and current. They are utilizing the latest technology for delivering different types of services especially Digital Reference Services (DRS). Digital reference refers to the provision of human intermediated service to users over a digital network. Sometimes referred to as virtual reference or e-reference, digital reference has become a topic of interest in the library community; it has even been called the first mature application of the digital library, even though its development has been in large part parallel to digital library research and development (Lankes & Shostack, 2002). According to (Reference and User Services Association [RUSA] Guidelines, 2010) DRS is reference service initiated electronically, often in real-time, where patrons employ computers or other Internet technology to communicate with reference staff, without being physically present. Communication channels used frequently include chat, videoconferencing, Voice over IP, co-browsing, e-mail, and instant messaging. According to Bertot, McClure and Ryan, the term Digital Reference Service refers to a network of expertise, intermediation and resources put at the disposal of a user seeking answers in an online/networked environment (as cited in Kadir & Singh, 2005). While as Wasik, (1999) defines Digital reference as Internet-based question and answer services that connect users with individuals who possess specialized subject or skill expertise.

Although digital reference lacks the face-to-face communication that is an integral part of reference service. It generally comprises four elements: The user of the service, the interface, in the form of an e-mail, a web form, a videoconference, etc., a librarian, or information professional and Information resources, print or electronic (Berube, 2003). The DRS is emerging as a new powerful method of delivering reference and information service to a vast number of clientele distributed globally. It includes seamless access to global resources and the collection of knowledge for reference access, coupled with complementary access to information on the Internet. The Article focuses on the concept of DRS in the light of the richness of the background information available on the topic. It also provides an insight into the modes of providing digital reference in present times. The article further highlights the importance of the concept in modern libraries by presenting various trends and initiatives at global level. The article can be useful for present day reference managers in knowing the fundamentals of DRS, exploring various possibilities of adopting DRS and gaining an insight about various challenges and opportunities associated with the concept.

BACKGROUND

The last few decades witnessed an unprecedented growth in the quantity of information resources and user expectancy of libraries for catering their information needs. As a result, libraries have experienced drastic changes in respect of their holdings, management

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techniques and retrieval of information (Ali, 2004). Prior to the use of the Internet, librarians relied on face-to-face communication, telephones and the fax machines to answer reference queries. With the growth of the Internet, librarians were provided with the opportunity to communicate via another medium that was cheap and available for asynchronous communication. Libraries sought to supplement the traditional services to provide access in an electronic environment (Singh, 2004). The real challenge for the managers of libraries and information centres is to make a fundamental reconsideration of how distance affects the library's relations with the community it serves and to assess whether and how new Information and Communication Technologies could add value to their services. To re-orient existing services and develop new ones to enable the users of their libraries to take full advantage of the new medium requires them to put in place a set of policies and procedures which parallel those that are applied in the management of print-based services. In the networked environment, it is increasingly important that libraries provide an explicit statement of the aims of the reference service that they provide (Johnson, Reid & Newton, 2011). People have become increasingly comfortable using and relying on digital services as part of their life. In the context of librarianship, the users expect the libraries to provide more services online, including access to an on-line catalogue, the ability to place requests on-line, access to electronic resources, and the provision of some type of DRS McClure as cited in (Kadir & Singh, 2010).

As an innovation in information access, DRS is relatively easy to implement, flexible so it can be tailored or modified to suit the needs of individual libraries and/or their clientele, and offers a comparative advantage to reference services within libraries since responding to DRS questions can be shifted to non-peak load times and to the appropriate level of respondent, thus optimizing staff resources (White, 2001). There are three main directions in the research and development of digital reference: searchable Knowledge base, chat (live) software and collaboration projects (Han & Goulding, 2003). Apart from being an electronic pair archive (question and answer), a knowledge base should also contain information regarding how a certain question was answered, including information about research techniques, strategies, sources, etc. Therefore, before building a knowledge base for an online reference service a library is ought to consider identification of target group, determine the goal and purpose of knowledge base, identification of metadata types, creation of suitable documents and constantly check every new idea (Bosancic, 2010). Issues like determining system compatibility in addition to the reference requirements and budgetary constraints imposed on the selection of DRS software, involvement of relevant computing staff in the planning, selection, and purchase decisions and its compatibility with existing library software and infrastructure needs to be chalked out (RUSA, 2010). Collaboration allows libraries to offer their patrons a greater range of services and expertise of course with associated challenges. Collaborators must establish a common vision of the services that the new entity will provide. Develop common guidelines for practice and procedures, build trust between partners and establish accountability. They must think through the issues that may constrain the delivery of shared resources, e.g. copyright law, licensing agreements, liability, national information policies, etc (IFLA, 2008).

IMPORTANCE AND TRENDS

The future of reference services in libraries has been the topic of discussion for many years. Several of the future scenarios envisioned personalized service to customers by learning more about their unique information needs and perspectives. Reference questions becoming more complex, posed the need for librarians to reach the user by adopting new ICT tools and techniques including mobile interfaces, social networking tools, maintaining Frequently Asked Questions(FAQ) databases etc. In response to changing user needs, many libraries have eliminated their reference desks to consolidate service at one main desk (Schulte, 2011). DRS provide many benefits for libraries as: they can potentially operate 24x7 when spread over a number of time zones, provide services to users without regard to location and are available at the point of demand, i.e. the desktop, cost-effective mode of receiving and answering questions and also adds value overall to library service in that it supports social inclusion by extending reference services to physically challenged users who cannot come to the library for one reason or another (Berube, 2003). Radford (as cited in Shachaf & Horowitz, 2008) states that as DRS mature, a rapidly growing body of literature examines the challenges and opportunities they produce. In an attempt to address the challenges 7 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

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