

Provision of digital reference services in academic libraries in Kenya: a review

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Abstract

Rationale of the study - The popularity of internet as an avenue of communication and source of information has led to decreasing numbers of in-person reference transaction in academic libraries. Consequently, academic libraries have embraced digital reference services in order to provide library and information services far and wide, ubiquitously, and in varied modes and formats. The choice of channels to provide digital reference is essential in that it determines the effectiveness and efficient of the service. Thus it was imperative to establish channels used by academic libraries in Kenya to provide digital reference services, by specifically looking at channels used, factors that inform the choice of the channels and effectiveness of the channels.

Methodology - A descriptive research design and survey research methodology was used for the study. A questionnaire was used to collect data from heads of reference services in accredited and fully chartered academic libraries in Kenya. Purposive sampling was used to sample 19 university libraries that were offering digital reference out of 39 university libraries.

Findings - Twitter, ask-a-librarian or email, facebook, and frequently asked questions (FAQS) are most popular channels for digital reference in academic libraries in Kenya. The least used channels are live chat while those never used include: Skype, instant messaging, and library digital reference consortiums. Factors that informed the choice of the digital reference channels were ease of use; availability; cost; popularity and software features. Support was the least considered factor.

Implications - The findings will provide a reference point for other academic libraries considering offering digital reference service.

Originality - This is an original research study.

Keywords:

Digital reference, virtual reference, reference services, information services, academic libraries, Kenya

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1 Introduction

Digital reference is also referred to as an electronic reference service, or virtual reference. Digital reference is an information service that uses electronic communication to connect library patrons with librarians. Communication is done via instant messaging, chat, videoconferencing, Voice over IP, among other electronic communication channels. The popularity of the Internet as a source of information spurred the growth of digital reference. According to Hann and Kibbee (2011) and Bakker (2002) digital reference service or electronic reference service, developed following ubiquitous popularity of the Internet as an avenue of communication; increasing availability of networked digital resources; corresponding need for the service; decreasing numbers of in-person reference transaction; librarians continuing efforts to respond to user preferences; mushrooming of commercial digital reference like *AskJeeves* and *webHelp*; expansion of reference service to reach a wider audience and remote library users; The convenience, immediacy and interactivity made possible by the digital reference.

Interest in digital reference is growing world over. A study by Liu (2008) on digital reference services in German libraries concluded that the service was still at primary phase. A study by Mon *et al.* (2008) on the

status of reference services to users in far-flung areas in the United States indicated that the telephone was the most common medium in use followed by e-mail and chat. In teaching, however, digital remote reference was given more preference than telephone reference in library and information science syllabus. In Israel, a study by Greenberg and Bar-Ilan (2015) showed that librarians preferred face-to-face reference, but the users' penchant and information needs reigned supreme. A study conducted by Barry, Kelli, Groom and Patterson (2010) on digital reference in the United Kingdom (UK) established that the services were not widespread in the UK academic libraries. Chat reference in Iranian libraries was not widely used because of lack of familiarity, competencies that are needed, and covering in LIS curricula (Ghasri, 2009).

A study on libraries in Muslim nations by Bakar and Bakeri (2009) found that none of the public libraries surveyed offered digital reference. Dollah and Singh (2010) investigated the use of digital reference in academic libraries in Malaysia. The study established that the academic libraries had implemented digital reference in e-mail and web forms; and that the majority of users were satisfied with the service. However, the major challenges facing the service included: lack of top management support; dealing with

increased workload; getting trained technical workers; funds; copyright and license issues; and managing the technical difficulties.

Ramos and Abrigo (2012) conducted a study to evaluate the digital reference among selected academic libraries in the Philippines. The results of the study revealed that digital reference services provided accurate information; chat reference led to fruitful working relationships between clients and librarians; and improved reference service. Ola (2010) discusses limitations Kenneth Dike Library encountered in its efforts to install Information Communications Technology (ICT) to its reference services delivery system. The problems included: lack of proper funding, infrastructural deficiencies, retaining qualified computer experts, and internal organizational politics over which department is in charge of ICT equipment found in the library.

Baro, Efe and Oyeniran (2014) investigated the different channels university reference librarians in Nigeria received reference queries. Higher in the rank of channels was face-to-face traditional reference desk, followed by short message service (SMS) and the library Facebook page. Least used channels were e-mail and Instant Messaging (IM). Challenges faced by the librarians were nonexistence of digital reference policies; lack of IT skills; lack of top management support; unreliable Internet connectivity; power

outage; limitations inherent in IM technology; user's instantaneous response expectations; unclear user's requests, and the dearth of up to date reference information resources.

Emojorho (2014) showed that digital reference enhances the provision of information services. However, most libraries in Nigeria were not well equipped, and staff lacked the skills to offer digital reference. Sekyere (2010) studied 79 academic libraries in ten West African countries and found that less than 40% offered digital reference services through phone, email and fax, but few - if any - took advantage of advanced technologies like live chat or text messaging.

Most of published studies on digital reference have emanated from the developed world, Asia and some parts of Africa; there are few if any from Kenya. Wachira (2013) studied the provision of information services to remote users in selected academic libraries in Kenya. The study showed that the academic libraries provided some information services to remote users. Online reference was one of the services. Nevertheless, the study failed to discuss how the service was provided. Kavulya's (2004) research on academic libraries in Kenya indicated that reference service was one of the information services provided by the academic libraries. The study, though, did not focus on digital reference. This study aims at filling this gap by examining

digital reference in academic libraries in Kenya.

2 Rationale of study

Internet pervasiveness has transformed bricks and mortar libraries into libraries without walls. Consequently, libraries have to adopt new methods for delivering library and information services to cyberspace library users. Digital reference service is one of the services used by libraries to provide information services to library users over the Internet. It is important, thus, to establish which channels are commonly used by academic libraries in Kenya to provide digital reference service; factors considered when choosing these channels, and how effective these channels are. This information would help those academic libraries that are considering starting offering digital reference services to make informed decisions as far as the choice of channels for its delivery is concern.

3 Research methodology

Descriptive research design was used for this study. According to Gravetter and Forzano (2015) descriptive research design involves measuring a variable or set of variables as they exist naturally; it is not concerned with relationships between the variables but rather with the descriptions of individual variables. In this case, descriptive research design was used to describe how academic libraries in Kenya offered digital reference services and

its implication on information services. Survey research methodology was used for this study. Grinnell (2005:297) defines survey research as “systematic way of collecting data by obtaining opinions or answers from selected respondents who represent the population of interests, or occasionally, from an entire population”. The survey methodology was used to collect data from a sample of respondents consisting of heads of reference service in order to describe the channels used to provide the service and their implications on the provision of information services in academic libraries in Kenya. The survey methodology was instrumental in gathering standardised information by using the same instruments and questions for all participants.

Survey research methodology has been used to study digital reference. For instance, Graves and Desai (2006) used it to conduct a user satisfaction study on libraries using Instant Messaging to provide library instruction. Tu (2007) also conducted a survey to determine knowledge and skills required to provide health information via digital references. Cummings, Cummings and Frederiksen (2007) carried out a survey to discover students’ perceptions of digital reference. Granfield and Robertson (2008) conducted a survey to establish library users reference service preferences, between face to face and digital reference. A national

survey of digital reference in UK academic libraries was carried out by Barry, Kelli, Groom and Patterson (2010). In West Africa, a similar survey research was done by Sekyere (2010). An online survey on digital reference quality was done by Connaway and Radford (2010).

According to de Leeuw (2008), there are four main data collection methods for survey research: mail, Internet, face-to-face, and telephone. However, a mix-mode may also be used. This study used Internet survey, specifically, email. Nevertheless, telephone reminders were used to encourage responses. The Internet data collection method was favoured since it is less intrusive and more private. It is also economical in terms of cost and time. Moreover, it is fast and attracts greater response rate. Respondents can complete the survey over time; they need not do it all at one sitting. The researcher effects are greatly reduced, and responses in Internet surveys show fewer missing entries than paper-based surveys (Cohen, Manion, and Morrison, 2007; de Leeuw, 2008).

Heads of reference services in accredited and fully chartered academic libraries in Kenya formed the target population for the study. According to Commission for University Education (2015), there are 39 accredited and fully chartered universities registered in Kenya. 22 of these are public universities while 17 are private. The target population for this study was, therefore, the heads of

reference services in the 39 academic libraries in Kenya. Purposive sampling, non-probability technique, was used to sample the target population. According to Patton (1990), the logic and power of purposeful sampling lies in selecting *information-rich cases* for study in depth. Information-rich cases are those from which one can learn a great deal about the issues of central importance to the purpose of the research, thus the term *purposeful* sampling. Purposeful sampling technique was used to sample 19 university libraries that were already offering digital reference out of the 39 university libraries. This was done by analysing the websites of the 39 university libraries forming the target population to establish which academic libraries were offering digital reference. Therefore, the sample consisted of eleven (11) public university libraries and eight (8) private university libraries.

Questionnaire was the instrument used for data collection for the study. Questionnaire provides for collecting structured data; it can be administered without the presence of the researcher; and data collected can easily be analysed (Wilson and McLeam, 1994). The questionnaire was used to gather information on how digital reference was being offered by the sampled academic libraries. The questionnaire specifically centred on channels used to provide the service, factors considered when adopting the channels, and

the implications of digital reference on provision of information services. The questionnaire contained both open-ended and close ended questions. The questionnaire was emailed to 19 heads of reference services of academic libraries sampled. Thirteen (13) questionnaires, representing 68 percent response rate, were received back. This consisted of six (6) from public university libraries and seven (7) from private university libraries.

4 Findings, interpretation and discussions

Channels used for providing digital reference

The most popular digital reference method, as shown in Table 1, was Twitter, at 100%, with 46.2% use in public university libraries and 53.8% use in private university libraries. Ask-a-Librarian followed at 92.3%, with 38.5% use in public university libraries, and 53.8% in private university libraries. In the third position was Facebook used by 84.6% of libraries, 46.2% in public university libraries and 38.5% in private university libraries. Frequently asked questions (FAQS) followed at 76.9% usage, 46.2% in public university libraries and 30.8% in private university libraries. The use of chat was at 23.3%, with 7.7% use in public university libraries and 15.4% in private university libraries. The least used method was Short Message Service at 15.4%, and only in two private university libraries.

Table 1 channels used to provide digital reference

Digital Reference channels	University Libraries		Total
	Public University Libraries	Private University Libraries	
Ask-a-librarian or email	5 38.5%	7 53.8%	12 92.3%
Live chat	1 7.7%	2 15.4%	3 23.1%
Twitter	6 46.2%	7 53.8%	13 100.0%
Facebook	6 46.2%	5 38.5%	11 84.6%
Short Message Service	2 15.4%	0 .0%	2 15.4%
Frequent asked questions (FAQS)	6 46.2%	4 30.8%	10 76.9%
Total	6 46.2%	7 53.8%	13 100.0%

(Source, Researcher 2015)

A slight higher number of Private university libraries provided digital reference service via the email and live chat as compared to public university libraries. Short Message Service was only used by public university libraries, though the use was not far spread.

These responses came from a closed-ended question that gave the respondents a list of 10 channels used to provide digital reference. The respondents were to select all the channels that applied. The question sought to find out the most popular channels the heads of reference services were using to deliver digital reference. The question also wanted to

establish how the channels used compared with the rest of the world. The choice of Twitter, Ask-a-librarian or email, Facebook, and Frequently Asked Questions (FAQs) by the majority of libraries is indicative of the embryonic status of digital reference in Kenya. Live chat, though popular in most countries, is yet to be embraced in Kenya since only a few university libraries are using it for digital reference. None of the libraries surveyed used channels like Skype, Instant Messaging, academic library digital reference consortium, and Second Life.

The use of simple and popular methods to provide digital reference in Kenyan university libraries could imply that the libraries are not sure of the value of digital reference in the provision of information services, and are testing it out to gauge its potential. It could also be postulated that the heads of reference services are ignorant of the channels used to provide digital reference, and the awareness of the digital reference among the librarians and library users is low.

Factors considered when choosing the digital reference channels

Ease of use was the leading factor that informed the head reference services on the choice of digital reference channels. This factor was considered by all respondents from private university libraries, 53.8% and public university libraries, 46.2%. Availability was the second most popular factor considered by

92.3%, public university libraries made a choice of 46.2% and private university libraries were at 46.2%. Cost and popularity tied at 84.6% with public university libraries standing at 38.5% and private university libraries at 46.2%. Software features were considered by 61.5%, of university libraries, public university libraries at 23.1% and private university library at 38.5%. Support was the least considered factor at 15.4% by two public university libraries. Table 2 summarises the factors that informed the choice of the digital reference channels.

Table 2 factors considered in the choice of digital reference channels

Factors	University Libraries		Total
	Public University Libraries	Private University Libraries	
Cost	5 38.5%	6 46.2%	11 84.6%
Ease of use	6 46.2%	7 53.8%	13 100.0%
Functionality	2 15.4%	4 30.8%	6 46.2%
Popularity	5 38.5%	6 46.2%	11 84.6%
Availability	6 46.2%	6 46.2%	12 92.3%
Features	3 23.1%	5 38.5%	8 61.5%
Support	2 15.4%	0 .0%	2 15.4%
Total	6 46.2%	7 53.8%	13 100.0%

Table 2 factors considered in the choice of digital reference channels

Factors	University Libraries		Total
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Popularity	5 38.5%	6 46.2%	11 84.6%
Availability	6 46.2%	6 46.2%	12 92.3%
Features	3 23.1%	5 38.5%	8 61.5%
Support	2 15.4%	0 .0%	2 15.4%
Total	6 46.2%	7 53.8%	13 100.0%

(Source, Researcher 2015)

Functionality and features were more important factor for consideration for selection of channels for digital reference provision for private universities as compared to public university libraries. Some public university libraries considered support as a significant factor in choice of digital reference channels, while none of the private university libraries did. The assumption for this could be that the public university libraries were using proprietary software where vendor support is vital.

This was also a closed-ended question that had seven choices. The respondents were to select all the factors they considered when choosing a digital reference channel. The question wanted to establish the reasons behind the choices of digital reference channels by heads of reference services. The question was also to help the researcher to understand the approach adopted by heads of reference services when choosing and adopting the use of emerging technology to provide information services. By choosing channels that are easy to use, readily available, affordable and popular with the populace, the heads of reference services are experimenting with provision of digital reference service. The heads of reference services were also keen to use as many methods as possible to offer information services so long as the methods are easy to use, affordable, available and popular.

Effects of channels used to provide digital reference on provision of information services
Channels used to provide digital reference had increased the speed of service provision according to all 13 (100%) respondents, 6 (46.2%) from public university library and 7 (53.8%) from private university libraries. The channels have also facilitated better user interaction, and enabled the library to serve diverse groups of users according to the opinions of 12 (92.3%) respondents, five (38.5%) from public university libraries and

seven (53.8%) from the private university libraries. The channels adopted to provide digital reference have increased the accessibility of information services according to 4 (30.8%) respondents, 2 (15.4%) from public university libraries and 2 (15.4%) from private university libraries. Table 3 provides a summary of these findings.

Table 3 Effects Of Digital Reference channels

Effects	University Libraries		Total
	Public University Libraries	Private University Libraries	
Increased speed of service provision	6 46.2%	7 53.8%	13 100.0%
Facilitated User Interaction	5 38.5%	7 53.8%	12 92.3%
Enabled Serving Diverse Group Of Users	5 38.5%	7 53.8%	12 92.3%
Facilitated Accessibility Of Information Services	2 15.4%	2 15.4%	4 30.8%
Total	6 46.2%	7 53.8%	13 100.0%

(Source, Researcher 2015)

Facilitation of user interaction and serving diverse users were considered to be the major impact of digital reference service by more private academic libraries than public academic libraries. This implies that private academic libraries value more interacting with their users and being able to serve all their clients regardless of their mode of student, either on campus or off campus.

The channels used to provide digital references have enabled the libraries to provide information services to different groups of users. Shy users, those with embarrassing questions, those living far away from the library and people with hearing or speaking impairments can all be able to access library services. Some of these methods have enabled the library to offer its information services in real time (Coffman, 2003; Bakker, 2002).

This question was also closed-ended and sought to find out if the heads of reference services had experienced any positive or negative impact on the information service provision. The response of the respondents showed that digital reference has had a positive impact on the provision of information services. Digital reference is basically done via the Internet technology. Stable Internet connection, coupled with adequate bandwidth makes the provision of information services faster. Users and library staff can be able to communicate in real time. Information can be downloaded and sent to a user instantly. Digital reference services enable the library to overcome time, physical, geographical, human, and political barriers in the provision of information services.

5 Implications of findings

The academic libraries in Kenya seem to be testing the digital reference waters. This could be the reason why they have chosen to use

inexpensive, easy to install/use, and widely available software as the platforms for providing digital references. The popularity of these platforms had made the information services more accessible and has enabled the libraries to serve the tech-savvy users who may rarely visit the library.

The channels used by the academic libraries to provide digital reference are so limited in their functionality and features to afford a more interactive and intense reference services. Channels used by the Kenyan academic libraries for instance cannot be used effectively to train on use of electronic databases by use of screen sharing, whereby the trainer and the trainee are able to share the same screen. Collaborative browsing also referred to as co-browsing is not possible, because they don't allow the reference librarian to interact with the library user by using the user's Web browser to show them how to use an electronic database, for instance.

Despite the low uptake of digital reference, the fact that it is being offered has had some implications on the provision of information services. In a nutshell, digital reference has enabled libraries to serve diverse user groups; has improved the image of the libraries; and has enabled the libraries to offer more equitable information services. The quality, efficiency and effectiveness of information services have greatly improved.

As the libraries adopt the use of the digital reference they should invest heavily in promotion, marketing and educating users on how to use the service. The training institutions should also institute training workshops for practising librarians and introduce digital reference course unit in their library and information science syllabus.

6 Conclusion

There were 39 fully fledged accredited universities in Kenya by the time this research was done, and 19 of this universities were offering digital reference services, eleven (11) public university libraries and eight (8) private university libraries. Channels used to provide digital reference service by surveyed academic libraries included Twitter, Ask-a-librarian or email, Facebook, and Frequently Asked Questions (FAQs), and Live chat. None of the libraries surveyed used channels like Skype, Instant Messaging, academic library digital reference consortium, and Second Life. Ease of use, availability, affordability, and popularity were major factors considered in choice of digital reference channel. Digital reference service had a positive impact on provision of information services in terms of speed, interaction, and overcoming time, physical, geographical, human, and political barriers in the provision of information services.

7 References

- Bakar, A., & Bakeri, A. (2009). Virtual Reference Service in the Muslim World: Opportunities and Challenges. *Library Philosophy and Practice (e-journal)*, 287.
- Bakker, T. (2002). Virtual reference services: connecting users with experts and supporting the development of skills. *Liber Quarterly*, 12(2/3), 124-137.
- Baro, E. E., U. Efe, B., & Oyeniran, K. G. (2014). Reference inquiries received through different channels: The challenges reference librarians face in university libraries in Nigeria. *Reference Services Review*, 42 (3), 514-529.
- Barry, E., Kelli Bedoya, J., Groom, C., & Patterson, L. (2010). Virtual reference in UK Academic libraries: The virtual enquiry project 2008-2009. *Library Review*, 59 (1), 40-55.
- Coffman, S. (2003). *Going live: Starting & running a virtual reference service*. Chicago: American Library Association
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education*. London: Routledge
- Commission for University Education. (2015). *Universities authorised to operate in Kenya*. Retrieved May 23, 2015 from www.cue.or.ke
- Connaway, L. S., & Radford, M. L. (2010). Virtual reference service quality: Critical components for adults and the net-generation. *Libri*, 60 (2), 165-180.
- Cummings, J., Cummings, L., & Frederiksen, L. (2007). User preferences in reference services: Virtual reference and academic libraries. *Portal: Libraries and the Academy*, 7(1), 81-96.
- De Leeuw, E.D. (2008). Choosing the method of data collection. In Edith D. de Leeuw, Joop J. Hox, Don A. Dillman (Eds), *International handbook of survey methodology* (pp. 113-135). New York: Lawrence Erlbaum Associates.
- Dollah, W. A., & Singh, D. (2010). Determining the Effectiveness of Digital Reference Services in Malaysian Academic Libraries. *The Reference Librarian*, 51 (4), 329-354.
- Emojorho, D. (2014). An appraisal of digital reference services in Nigerian university libraries. *Information Technologist (The)*, 10 (2), 157-164.
- Ghasri, A. N. (2009). Chat Reference: Training and Competencies for Librarians. *Library Philosophy and Practice (ejournal)*. Paper 256. <http://digitalcommons.unl.edu/libphilprac/256>
- Granfield, D., & Robertson, M. (2008). Preference for reference: new options and choices for academic library users. *Reference & User Services Quarterly*, 44-53.

- Graves, S. J., & Desai, C. M. (2006). Instruction via chat reference: does co-browse help? *Reference Services Review*, 34 (3), 340-357.
- Gravetter, F., & Forzano, L. A. (2015). *Research methods for the behavioural sciences*. Belmont, CA: Cengage Learning.
- Greenberg, R., & Bar-Ilan, J. (2015). "Ask a librarian": Comparing virtual reference services in an Israeli academic library. *Library & Information Science Research*.
- Grinnell, R. M., & Unrau, Y. A. (Eds.). (2005). *Social work research and evaluation: Quantitative and qualitative approaches*. Oxford; New York: Oxford University Press.
- Hann, J., & Kibbe, J.Z. (2011). Organizing and delivering reference service. In Bopp, R. E., & Smith, L. C. (Eds.) *Reference and information services: An introduction* (pp. 323-340). California: ABC-CLIO
- Kavulya, J.M. (2004). University libraries in Kenya: A study of their practices and performance. (Doctoral Dissertation, Institute of Library Science, Humboldt University, Berlin) Retrieved August 6, 2014 from <http://edoc.hu-berlin.de/dissertationen/kavulya-joseph-muema-2004-02-19/PDF/Kavulya.pdf>
- Liu, J. (2008). An overview of the digital reference services in German libraries. *BIBLIOTHEK Forschung und Praxis*, 32(3), 359-371. Liu (2008)
- Mon, L., Abels, E. G., Agosto, D. E., Japzon, A., Most, L., Masnik, M., & Hamann, J. (2008). Remote reference in US public library practice and LIS education. *Journal of Education for Library and Information Science*, 180-194.
- Ola, C. O. (2010). Reference service delivery system in West Africa: limitations and prospects as seen from Kenneth Dike Library, University of Ibadan, Nigeria. *Internet Reference Services Quarterly*, 15 (2), 97-106.
- Ramos, M. S., & Abrigo, C. M. (2012). Reference 2.0 in action: an evaluation of the digital reference services in selected Philippine academic libraries. *Library hi tech news*, 29 (1), 8-20.
- Sekyere, K. (2010). Less Words, More Action: Using On-the-Fly Videos and Screenshots in Your Library's IM/Chat and Email Reference Transactions. *Community & Junior College Libraries*, 16 (3), 157-161.
- Tu, F. (2007). Knowledge and skills required to provide health Information-related virtual reference services: evidence from a survey. *Journal of the Medical Library Association: JMLA*, 95 (4), 458.
- Wachira, M. N. (2013). Support Services for Remote Users in Selected Public University Libraries in Kenya (Masters Dissertation,

University of South Africa) retrieved August
24, 2014 from
http://uir.unisa.ac.za/bitstream/handle/10500/11901/dissertation_wachira_mn.pdf?sequence=1

Wilson, N. and McLean, S. (1994)
*Questionnaire Design: A Practical
Introduction*. Newtown Abbey, Co. Antrim:
University of Ulster Press.