Virtual reference service: The provision of Indian university libraries during COVID 19

Amita Roy

Research fellow, UGC- SRF, Department of Library and Information Science,
University of Calcutta, West Bengal, India

royamita2015@gmail.com

ABSTRACT

Purpose: *This article is aimed to design a checklist of reciprocal communication as virtual reference support for library users and then evaluate reciprocal communication provision of academic library websites in Covid -19 pandemic situation in India.*

Design/ methodology/ approach: *The present study is conducted for the evaluation of virtual reference service provision in India. The evaluation criteria have been placed through the library website content which evaluate five criteria of virtual reference service and a criteria for remote access link for availability of library resources. The websites of university libraries of all over the world were visited and all possible checklists were collected based on virtual reference service. The literature available on the topic was consulted for this purpose.*

Findings: *Based on the data collection and analysis the observations, it is found that the website of central universities are the leading position in virtual reference service through social network link and FAQ or ASK service, the state universities have better content awareness than central and deemed universities on e-mail based and subject librarian link based reference service, the website of Indian universities are the unsatisfactory stage to build the provision of chat based reference service.*

Limitations: *Top fifty university libraries in India according to National Institute of Ranking Framework, 2020 were checked and evaluated content awareness of library website on virtual reference support. The top fifty universities are belonging to central, state and deemed universities. The study was formulated between the periods of 1st January to 31st January, 2021.*

Originality/ values: *This article is totally original from all aspects and manuscript have not been submitted anywhere previously.*

KEYWORDS: virtual reference support, reciprocal communication, remote access, consultancy support.

1. INTRODUCTION

World Health Organization declared lockdown for Covid-19 pandemic. In India, 1st stage lockdown was announced on 25th march, 2020 for 21 days. After that various next stages of lockdown was announced. That was badly affected all sectors in India. Till now 'educational institutions throughout the nation have never got any relaxation to start their educational activities' (Jena, 2020) on campus. Educational committee now commit to facilitate their learning process through digital platform.

Library is the backbone of higher education institution. Pandemic situation affected total higher education system as well as library and information centres. The libraries are more attempted to provide their basic services through digital modes. Reference service of library is one of them.

Reference service is the direct person assistance given to the user either to find information, fulfil users' information needs or to answer his query. It may be in direct face to face or in virtual mode. When reference services are occurred through virtual mode, it is renamed as virtual reference service. According to RUSA (Reference and user services association) guidelines approved by RUSA board, "Virtual reference is reference service initiated electronically for which patrons employ technology to communicate with public services staff without being physically present. Communication channels used frequently in virtual reference include chat, videoconferencing, Voice-over-IP, co-browsing, e-mail, instant messaging, and text" (RUSA, 2017).

The rapid development of Information technology and the random use of internet in every aspect of life, libraries are now provided their reference services by reciprocal technologies. 'Reciprocal' means two ways interaction via online interactivity (Murray and Ireland, 2016). Providing IT support such as technical helpdesk support, virtual private network (VPN) support, consultancy support through online interactivity are the pattern of reciprocal communication. Most of the foreign library websites are provided the provision of reciprocal communication as virtual reference support between library and their users. Indian libraries are far behind to communication with users with virtually. The Indian growth towards online service in educational sector has been increased in this pandemic situation. It has resulted that the internet users in India exceeded 500 million marks in 2019 and 829 million will be reached by 2022(Contribution of Smart Phones to Digital Governance in India, 2020).

2. REVIEW OF LITERATURE

Virtual reference service has turned out to be trendy in most academic libraries in new age. Virtual reference service denoted as Competitive information support system. This type of service can reach a wide range of users on a wide range of topics, because 'the internet has broadened the scale and eroded the physical boundaries' (Bakker, 2002).
In the present day, referencing by media expand the extension of reference services. Remote access facility brought a new level. This service can be worked in 24x7 hours. Users can access library e-resources such as e-book, e-journal, and other database anytime anywhere (Choukumath and Koganuramath, 2011). Reference service is committed to the users for full access of their resources, especially for researchers, teaching faculty and physically challenged users (Odede, 2012). Pandemic situation destroy the opportunity to access library resources physically. The remote access facility are broken the gap through virtual private network (VPN) technology.

Virtual reference support occurs for the library users by oral and written communication by subject librarian. Subject librarian's play the training and teaching role based on subject related knowledge and understanding and also fulfill the reference questions of the users. They are responsible for more traditionally library based disciplines find it easier to communicate and establish effective relationship with their department (Hardy and Corrall, 2007). Therefore it is important for virtual reference service to create a link of subject librarian in the every library website.

Traditional reference services are generally categorised as ready reference service and long-range reference service (Ranganathan, 1940).The ready reference service happens when reference librarian do their job instantly in a very short time with the help of reference collection and also instruction based question-answer. The long range reference service takes some times, may be whole day or few days. It includes SDI service, bibliographic service, inter library loan and document delivery, referral service etc. But the information needs of virtual and traditional users are different in nature (Chow *et al.*, 2012). The virtual reference services are identified such as live referencing, online referencing interactivity, e- referencing, response time and so on. It can be broadly distinguished into two groups: Asynchronous and Synchronous. Asynchronous that does not exist or taking place at the same time such as e-mail based referencing, ask-a-services. Providing e-mail reference services are more accurate than telephonic referencing because transcription error can be avoided. Ask- a- services distinguish as ask- a- librarian, ask- a-reference question, frequently asked question (FAQ) and so on. Mon (etal.) (2009) mapped and evaluated the users' activities in approaching and asking the reference questions via 'asked a librarian' portal of library website. They found that majority of users' information needs are based on library collections and also the library rules-regulations-policies of that concerned library. Connoway and Radford(2011) opined that it is not sufficient to place a linkage on ' Ask a librarian' in the library website, rather library need to promote their VRS among library remote users, regular users and the community people through posters in library, library instruction webpage, information literacy program in library. This may be way to create a centre of attention on library among young users.

Synchronous virtual reference services remain as chat based consultancy service and real time live referencing. Now academic libraries are adopted webform technology for asking reference questions. Chat based reference services introduced by some advanced libraries where users are chatting with reference librarians or reference staffs by instant messaging. Chat reference services or InfoChat services can be arising on the web entry page where the patrons can be interact with library professionals. At present 'chatbot' is becoming popular in advance country. It is a computer program basically AI (Artificial Intelligence) which perform with patron via textual or auditory method. Sort of this question –answer queries are same as traditional reference services, but difference is that it occurs through online, not face-to-face. Conversation between users and reference librarians same as reference interview where an interpersonal communication used to determine the patron's information needs (Ezeani and Igwesi, 2012). Matteson, Salamon and Brewster (2011) suggested that library should continue exploring technology that facilitates real time communication. To develop the chat referencing, attempt should be made towards sharpening the interaction skills of the chat provider. So it can be said that library should be developed staff training process that incorporate users query by chatting communication.

Social networking sites such as Face book, YouTube, twitter, LinkedIn, Skype, MySpace, RSS feed are the current trend of used for virtual reference service(Okolo and Eserada, 2019). Librarian can meet the information needs of the users by synchronously or by asynchronously.

Ahsan (2016) conceptualized the digital reference service and formulate specific requirement to implement this. A comparison of currently available free and open source software on Content management system (Drupal, Wordpress, Zoomla), instant messaging software (LibraryH3lp, Mibew, Zopim, LiveZilla) and customer support software (Brimir, OSTicket, HelpDeskZ) has been discussed and choose to determine the best one.

3. OBJECTIVES

According to the review of literature, it has been observed that virtual reference service are provided by the consultancy support of subject librarian, with the help of social networking site and other synchronous and asynchronous online referencing. VPN technology helps to provide library resources and continue virtual learning. As where the physical presence is not possible, library website is the gateway to access library service and facilities. Therefore it is very obvious to find out the provision of virtual reference support and remote access facilities through library website. So the research question is that,

- How far library website provides remote access facilities to access library resources?
- How far library website provides contact link of subject librarian?
- How far library website provides ASK or FAQ link for reciprocal communication?
- How far library website provides reference support by e-mail service?
- How far library website provides reference service or consultancy service by online chat?
- How far library website provides reference service or consultancy service by social networking link?

Thus, the objectives of the study are to:
- Design a checklist of virtual reference support for library users.
- Evaluate virtual reference service provision of academic library websites in Covid -19 pandemic situation in India.

4. METHODOLOGY

The present study is conducted for the evaluation of virtual reference service provision in India. The evaluation criteria have been placed through the library website content which evaluate five criteria of virtual reference service and a criteria for remote access link for availability of library resources. The websites of university libraries of all over the world were visited and all possible checklists were collected based on virtual reference service. The literatures available on the topic were consulted for this purpose.

Checklists:

The following checklists are constructed by the review of literature and the website contents of various universities:
- Library website provides remote access link.
- Library website provides reference support or consultancy support by various contact link of subject librarian.
- Library website provide ASK or FAQ link as reciprocal communication.
- Library website provides reference support or consultancy support by email service.
- Library website provides reference support or consultancy support by online chat.
- Library website provides reference support or consultancy support by social networking site.

Method of evaluation of the checkpoints:

The evaluation criteria have been prepared by biased free two variables 'yes' and 'no'. Every checkpoint have been evaluated by 'yes' or 'no' variable. 'Yes' variable have been chosen and calculated through simple mathematical percentage.

Scope and coverage of the study:

It has been selected top fifty universities in India from university ranking discipline in National Institute Ranking Framework (NIRF), 2020. NIRF ranking is concern to rank the institutions of higher education in India, implemented by Ministry of Education, Government of India. On the basis of the selected parameters mentioned in checklist, selected top fifty university libraries in India according to National Institute Ranking Framework (NIRF), 2020 were checked and evaluated content awareness of library website on virtual reference support. The top fifty universities are belonging to central, state and deemed universities. The study was formulated between the periods of 1st January to 31st January, 2021.

5. DATA COLLECTION

The data collection is based on top fifty universities in India according to National Institute Ranking Framework (NIRF) ranking, 2020. The universities are classified to three categories: central universities, state universities and deem or deemed-to-be universities.

Classification of universities

The selected universities are belonging to three types: central university, state university and deemed university. The central universities in India are those which are established by the Act of Parliament and under the purview of Ministry of Higher education department (Central University, n.d.). State universities in India are incorporated by Provincial Act or by a State Act under the section 12(B) of the UGC Act (State University, n.d.). The deemed university or deemed-to-be-university works at the very high standard in specific area of study and offering research facilities under the section 3 of the UGC Act, 1956 (Deemed –to-be-universities, n.d.).

The classification of top fifty universities under National Institute of Ranking Framework, 2020 are shown below:

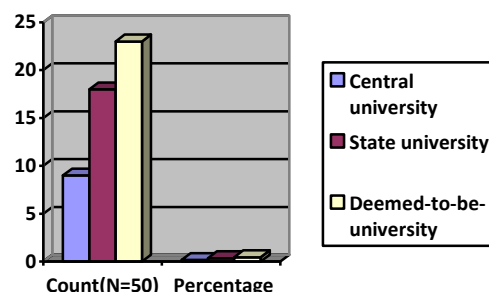| Classification of Universities	Count(N=50)	Percentage
Central university	09	18%
State university	18	36%
Deemed-to-be-university	23	46%
Total	**50**	

Table i. Classification of universities   chart i: Classification of universities

This table shows that majority of universities (46%) are from deemed-to-be universities, are followed by state universities (36%) and central universities (18%) among the selected fifty universities.

Table ii. Interdisciplinary evaluation of remote access link

To meet the needs of diverse users and to attract the new generation of academics, libraries offer web-based services and sources (Connaway and Radford, 2007). VPN is an essential tool for remote access.

Attributes	Disciplines	Count
Remote access	Central universities	8 (89%)
	State universities	11 (61%)
	Deemed to be universities	14 (61%)

Table shows that 89% central universities have remote access link in their library website, followed by the universities from state (61%) and deemed-to-be universities (61%).

Table iii. Interdisciplinary evaluation of the contact of subject librarian link

Virtual reference services also go through the help links of the contact of subject librarian link given by library portal of an institution. The subject librarian require greater breadth and depth of skills, knowledge and understanding to provide learning and research support at more specialised level (Corrall, 2015).

Attributes	Disciplines	Count
Link of contact	Central universities	6 (67%)
	State universities	15 (83%)
	Deemed to be universities	13 (56%)

Table shows that 83% state universities provide contact link of the subject librarian in their library website, followed by central universities (67%) and deemed-to-be universities (56%).

Table iv. Interdisciplinary evaluation of the link of FAQs or ASK

Frequently ask questions (FAQs), Ask services are the part of user assistance.

Attributes	Disciplines	Count
FAQ or ASK	Central universities	5 (56%)
	State universities	6 (33%)
	Deemed to be universities	6 (26%)

This table shows that 56% central universities are provide FAQ or ASK service through library website, followed by state universities (33%) and deemed universities (26%).

Table v. Interdisciplinary evaluation of email service

Virtual reference service woks with human intermediaries evaluate incoming questions via e-mail, instant messaging or web forms, and then decide on an appropriate course of action based on the questions content (Ahsan, 2016).

Attributes	Disciplines	Count
Email service	Central universities	7 (78%)
	State universities	15 (83%)
	Deemed to be universities	13 (57%)

This table shows that most of the state university (83%) provides email service link in their website, followed by central universities (78%) and deemed universities (57%).

Table vi. Interdisciplinary evaluation of chat or chatbot service

The provision of chat or chatbot service for human assistant is most recent development of synchronous digital references.

Attributes	Disciplines	Count
Chat or chatbot	Central universities	1 (11%)
	State universities	0
	Deemed to be universities	2 (9%)

This table shows that among the fifty universities in India, only one central university and two deemed universities are provided chat based reference services.

Table vii. Interdisciplinary evaluation of social network link

Social networking site is perceived as a platform for interconnectivity and interactivity between users and reference librarian both inner and outer of the library.

Attributes	Disciplines	Count
Social network link	Central universities	7 (78%)
	State universities	9 (50%)
	Deemed to be universities	17 (74%)

This table shows that most of the central universities (78%) provide social networking links in their website, followed by deemed universities (50%) and state universities (50%).

DISCUSSION AND CONCLUSION

Based on the data collection and analysis the observations, it is found that most of the central universities (78%) provide social networking links, followed by deemed universities (50%) and state universities (50%). 56% central universities are provided FAQ or ASK service link, followed by state universities (33%) and deemed universities (26%). Thus, the website of central universities are the leading position in virtual reference service through social network link and FAQ or ASK service.

Most of the state university (83%) provides email services, followed by central universities (78%) and deemed universities (57%). 83% state universities provide contact link of the subject librarian, followed by central universities (67%) and deemed-to-be universities (56%). So the state universities have better content awareness than central and deemed universities on e-mail based and subject librarian link based reference service.

Among the fifty universities in India, only one central university and two deemed universities are provided chat based reference services. Therefore it can be said that, the website of Indian universities are the unsatisfactory stage to build the provision of chat based reference service.

In this pandemic situation, Virtual Private Network (VPN) becomes a great path for academicians who want to study from home. This is not directly grouped in virtual reference service, but this facility provide the flavour of 24x7 virtual learning for individual person where need an individual ID and password, that protect data from hackers. In this area the central universities are presented the leading position (89%), followed by the universities from state (61%) and deemed-to-be universities (61%).

According to the overall analysis, it can be said that most of the Indian universities according to NIRF ranking Indian libraries need more content awareness based on virtual reference applications like the commercial sector, so that they can meet the users' information needs by reciprocal technology and provide the web based reference services to their stakeholders in anytime anywhere.

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