

## DIGITAL REFERENCE SERVICES (DRS) AMONG THE PUBLIC & PRIVATE SECTOR UNIVERSITIES LIBRARIES IN KARACHI: A COMPARATIVE STUDY

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### ABSTRACT

*Digital Reference Service is emerging trends of reference services in recent years. Users are frequently accessing to online digital reference sources provide strong evidence to digital reference services. Most modern technology (live chat, video conferencing, ask librarian, Mobile reference and documentary delivery) facilitate users from off campus due to this movement of physics transit reduce in academic library. Parallel online query rapidly increase of librarian desk.*

*There are huge gap between private and public sector university libraries in Pakistan like (infrastructure, collection services, space budget and etc.) HEC has minimized this gap through frequently visits, inspection, instructions and standards protocols. This paper is focuses only on the reform reference services and section of the university libraries of Karachi.*

**Keywords:** Digital Reference Services, HEC Universities, Academic Libraries

### INTRODUCTION

Campbell (2000) Studied that old methods of Reference services was slowly and continuously decreasing in University Libraries. As Digital Reference Model were being mostly recognized by students. This research is an over of an important library service which is known as DRS. The idea is connected with study of service a comparative picture of reference services of two sectors of Higher Education and professional approaches of Librarian. DRS is spontaneously took place and response as well as save, restore; right question-answer sets reused; and also authorized features data from the transactions to be accessible to evaluate users need, librarian skills and other facility requirement (Foley 2002; Breeding 2001; Gray 2000).

### REVIEW OF LITERATURE

Digital Reference Service is very vital because it helps learning innovation and academic activities at higher education (Wasik 1999). Furthermore, these records assist scholars' too discreet overview user's conversations with librarian to know there topics, query and pervious discussion. Hence, it might be likely to advantage of Digital Reference Users from their conversation, performance and spirits as reflected in the live chat reference texts. Review of such patron experiences, conferring to a reasonable fellow research fellow, offer awareness of users' opinion and understanding when they approach services such as Digital Reference (Hodges, R. A. (2006). Similar interest Users profiles also build up and librarian can entertain more users at a time. Thus, it is also possible that such information about users will allow knowing the research trends, and usage of reference material e-resources, In future orientated digital reference service with value add features.

Xi & Yan (2003) determine comparative study traditional reference vs Network reference services in details. Brophy & Bawden (2005) study about the internet search engine and online academic library sources and how is it useful for librarian and library users including Technology, Librarian Skills, Users Awareness and Management Pattern. Chowdhary (2002), discussed digital libraries and reference services from existing traditional reference with future forecast of various online reference services.

Lopes (1992) discussed in details about the reference services in developing countries about the issues and related problem on various structure. Robinson (2008) described that the present generation of undergraduate and graduate students are digital literate enjoy the study in paper less content. These digital literate have move their studies in digital environment encircled by fastest progressive smart technologies. Presently, university library users keen about technology and information differently than past generations, and require instant access to information and online source. Naylor, Stoffel and Van Der Laan (2008) university students first choice for research and project to use online sources access from their door step and Kelley and Orr (2003) also suggested that students have keep interest to usage web-based in digital format their residence without boundary of time frame. Ali, 2015 described online usage of reader trends towards the different Information services with respective to specific users.

The University Students have multiple choices of due to digital reference services. The services involved in this review are email reference, chat reference, Web 2.0, library websites, online resource access, desktop sharing utility, embedded librarianship and the creation of online modules. These services can be retrieved by users from outside the library either residence and or any remote computer. Live Chat reference is a synchronous service that delivers a way for students to ask reference query in an instantaneous, online environment with instant response. Granfield and Roberston's (2008) conduct survey academic library user top priorities for virtual reference services found that VR satisfactory function for students, likely those who prefer to library support from outside campus. Their survey also evaluate the significance of virtual reference choices to users, and set up that it is perceived as a vital service option for those who use it with good IT capabilities. Nowadays, Academic library are presenting a variety of human-intermediated reference services via the World Wide Web which rapidly increase day by day and web 2.0 tools become important (Ali, 2014).

## **RESEARCH QUESTION**

To carry out this research study we develop following research questions.

- Q.1 What are the major difference between public and private sector library services?
- Q.2 Does Pakistani university libraries aware about modern challenges of Digital reference?
- Q.3 What is the role of Digital reference services in higher education?

## **METHODOLOGY**

Affiliated Public and Private Sector Universities in Karachi (N=36) recognized by Higher Education Commission (HEC) were identified as targeted population. Universities list was arranged from HEC website on 30 September 2015.

Two university data did not collect due to their library is under construction status. So the investigator was received questionnaires filled from 36 universities out of 38 and the response rate was 94.73%. None probability/purposive Sampling are designed to conduct this

study and try to approach all population. The collected data were examined by Statistical Package for Social Sciences (SPSS) Version 21.

### Data Analysis & Discussion

Analysis the data from various Descriptive statistics (Percentage, Mean, SD, Rank & etc.) and other test apply through SPSS Version 21. A Questionnaire designed and used as research tool.

#### University Status

In this study there are 36 university and degree awarding institution participated 10, 27.78% belongs to public sector and 26 (72.22%) related to private sector.

**Table No. 1**

<i>S#</i>	<i>University Status</i>	<i>Frequency</i>	<i>Percentage</i>
a.	Public Sector	10	27.78%
b.	Private sector	26	72.22%

#### Gender

In demographic information first we ask gender of the respondents Gender of the respondents 18 (50%) male & 18(50%) female are respondents from private and public sector universities and degree awarding institutions shown in table No. 2.

**Table No. 2**

<i>S#</i>	<i>Gender</i>	<i>Public (a)</i>	<i>Private (b)</i>	<i>(a + b) Frequency</i>	<i>Percentage</i>
a.	Male	01	17	18	50%
b.	Female	09	09	18	50%
	N	10	26	36	100%

#### Designations

In Demographical information second part designation of respondent Designation of respondents shown in Table No. 3

**Table No. 3**

<i>S#</i>	<i>Designation</i>	<i>Private (a)</i>	<i>Public (b)</i>	<i>Frequency (a+b)</i>	<i>Percentage</i>
a.	Assistant Librarian	01	02	03	8.33%
b.	Associate Librarian	02	-	02	05.55%
c.	Deputy Librarian	-	02	02	05.55%
d.	Librarian	19	05	24	66.67%
f.	Chief Librarian	04	-	04	11.11%
g.	Library Officer	-	01	01	02.78%
	N	26	10	36	100%

Respondents were belongs to 7 different job cadre 06 (16.66%) belongs to Assistant librarian category, 02 respondents related to Associate librarian cadre, 03 Respondents (08.33%) belongs to Deputy library position, 19 (52.78%) respondents related to librarian job title. 03 (08.33%) reply received from Library In-charge, 02 (05.55%) belongs to Chief librarian position and 1 (02.78%) respondent belong to Library officer rank. Shown above in Table 3. Result of respondents reflects that all the top position professional librarian are working and they choose to fill out this technical questionnaire

**Professional Experience**

**Table No. 4**

S#	Experiences	Private (a)	Public (b)	Frequency (a+b)	%
a.	0-3 Year	04	01	05	13.89%
b.	4-6 Year	05	01	06	16.66%
c.	7-10 Year	04	04	08	22.22%
d.	11-13 Year	03	-	03	08.33%
e.	14-16 Year	02	-	02	05.55%
f.	17-20 Year	03	-	03	08.33%
h.	20 Plus Year	05	04	09	25.00%
	N	26	10	36	100%

Working experiences of the respondents is very vital in providing services of DRS. 04 (11.11%) respondents have experience between (0-3) Years. In (4-6) year experience range 09 (25%) respondents lie. 01 (02.78%) respondents in range of 11-13 year of experience. 03(08.33%) respondents in experience slots of 17-20 year of experience. 06 (16.66%) belongs to 20 plus year experiences.

**Establishment of University**

Establishment of the year shown in Table No. 6 in slabs of 10 years. Initially first decades only 03 university established with 08.33% in second and third decades no university established in the region 0.0%. Fourth decades three university setup with 08.33%, fifth decades 09 university established 25.00%. Six decades period 08 university established. In last seventh decades 09 years 13 years university and degree awarding university established in Karachi.

**Table No. 5**

S#	Year range	Private (a)	Public (b)	Frequency(a+b)	Percentage
a.	1947 to 1956	-	02	02	05.55%
b.	1957 to 1966	-	-	00	00.00%
c.	1967 to 1976	-	-	00	00.00%
d.	1977 to 1986	02	01	03	08.33%
e.	1987 to 1996	10	-	10	27.78%
f.	1997 to 2006	08	04	12	33.33%
h.	2007 to 2015	06	03	09	25.00%
	N	26	10	36	100%

**IT infrastructure**

**Hardware Status**

Number of Hardware Devices like computers, scanners, Printers, Laptop & Smart phones available for library users & staff member to facilities to users.

**Computer**

Computers status were asked from respondents how many computers they have in their libraries 06 University libraries have (01-5) range of computers with Percentage of (16.67%). In 6-10 range 08 University with 22.22%. 33.33% we have 12 universities. 16-20 range 4 universities. 21-30 universities 04 with 11.11%. 31-50 range only 01 university with (02.78%) and 50 plus and more (02.78%).

**Server Machine**

26 (72.22%) institutions have separate server machine to store library database while 10 (27.78%) institutions don't have any server machine to store library data.

**Scanners**

Respondent were asked about the available scanner in respective main library of the university 15 (41.67%) universities does not have any scanner, 18 (50.00) libraries have 1 scanner, 2 (5.56%) have two scanner in library and 1 (02.78%) has 3 scanner in library.

**Printers**

3 (08.33%) main libraries are functioning without printer facilities. 25 (69.44%) libraries have 1 printer facility. In 06 libraries with (16.67%) have two printer facility. 02 (05.56%) library has 3 printers

**Laptops**

In 36-University libraries 6-libraries have official laptop. 05 libraries (13.89%) have only 1 official lap top. 01 (02.78%) 6 laptop in their libraries. Rest of 30 libraries did not occupy any official laptop in their main library.

**Internet Services**

Internet is most valuable tools for the usage of DRS and allied information related services. Library respondents reply that No library is using Dial up Network connection in the libraries. However, DSL services is usage in libraries (Mean=1.92 & SD=0.28), Wireless Broadband service is used as (Mean=1.78, SD=0.42), Broadband cables is used with (Mean=1.56, SD=0.50). Satellite Wi-Fi is minimum usage in the library with (Mean=1.44, SD=0.42)

**Table No. 06**

<i>Rank</i>	<i>Internet Mode</i>	<i>Mean</i>	<i>SD</i>
3	PERN	1.61	0.49
1	DSL	1.92	0.28
4	Broadband Cable	1.56	0.50
5	Satellite Wi-Fi	1.44	0.50
2	Wireless/Broadband	1.78	0.42

## Operating System

Types of Operating System usage of operating system in various university levels

**Table No. 08**

<i>S.#</i>	<i>Operating System</i>	<i>Yes</i>	<i>No</i>	<i>%</i>	<i>Mean</i>	<i>SD</i>
a.	Windows XP	06	30	16.7	1.83	0.38
b.	Windows 7	26	10	72.2	1.28	0.45
c.	Windows 8	12	24	33.3	1.67	4.79
d.	Linux	01	35	2.8	1.97	0.17
e.	Unix	01	35	2.8	1.97	0.17
f.	Apple Mac	00	36	00	0.0	0.0

## Types of Web Browsers

To know the usage of internet browser ask different Internet browsers of library Google chrome is the most usage browser of the Librarian with (Mean=1.14, SD=.035) Mozilla Firefox is the second usage browser of the users with (Mean=1.47, SD=.51), Internet explorer is the third browser which is usage by the library professional with (Mean=1.64, SD=0.49). Opera is the little bit usage in library with (Mean=1.87, SD=0.35). Finally lynx is used in library with (Mean=1.97, SD=.17).

**Table No. 09**

<i>Rank</i>	<i>Internet Browser</i>	<i>Yes</i>	<i>No</i>	<i>Yes%</i>	<i>No%</i>	<i>Mean</i>	<i>S.D.</i>
3	Internet Explore	13	23	36.11	63.89	1.64	0.49
2	Mozilla Firefox	19	17	52.78	47.22	1.47	0.51
1	Google Chrome	31	05	86.11	13.89	1.14	0.35
4	Opera	05	31	13.89	86.11	1.87	0.35
5	Lynx	01	35	02.78	97.22	1.97	0.17
6	Apple	0.0	0.0	0.0	0.0	0.0	0.0

## Digital Resources

When respondents ask about different digital format access like HEC, Full text Database & e-Research Journals & e-books. All affiliated and HEC recognized university has access library with (100% Yes, Mean=1, SD=0.0), Respondents reply about the full text database 25 (69.44%) library has database, 23 (63.89%) library has e-research journals and 22 (61.11%) libraries have e-books.

**Table No. 10**

<i>Collection</i>	<i>Yes</i>	<i>No</i>	<i>Yes%</i>	<i>No%</i>	<i>Mean</i>	<i>SD</i>
HEC Digital Library	100	00	100	0.0	1.00	0.00
Database(Full Text)	25	11	69.44	30.56	1.31	0.47
e-Research Journals	23	13	63.89	36.11	1.36	0.49
e-Books	22	14	61.11	38.89	1.39	0.49

**Digital Reference Services**

Digital Reference (Asynchronous + Synchronous) Services different mode ask Librarian service is available at 13 (36.11%) usage with (Mean=1.64, SD=0.49), Instant Messenger service existing in 08 (22.22%) with (Mean =1.78, SD=0.82), E-mail services 36 (100%) with (Mean=1.00 & SD=0.0), Mobile services obtain for service in 17 library (47.22%) (Mean=1.53, SD=0.51). Live chat service does not existing in any library. Social Media Network use for reference in 08 library with (22.22%) and (Mean=1.78 & SD=0.42)

**Table No. 11**

<i>S.#</i>	<i>DR Services</i>	<i>Mean</i>	<i>SD</i>
a.	Ask Librarian	1.41	0.89
b.	Instant Messenger (yahoo, msn etc.)	1.78	0.82
d.	e-mail services	1.89	1.21
e.	Mobile Reference	1.53	0.51
f.	Live Chat Services	0.00	0.00
h.	Social Media Network	1.78	0.42
g.	VoIP (Skype Google talk etc.)	1.81	0.40
i.	Video Conference	1.69	0.58

**Ask librarian**

Ask Librarian service is available at 13 Universities user. Librarian received 03 query range b/w (01-05) 08.33%, 05 University received query between (06-10) 13.89%, 02 university received query range b/w (11-15) 08.33% and only one university received query b/w (16-20) 02.78%.

**Instant Messengers**

Instant messenger are used by 07 (19.44%) received query range (01 to 05), 01 (02.78%) received query 06 to 10 per day. Instant messengers availability with (Mean=0.25 & SD=0.50).

### **E-mail services**

It is the best influential medium of DRS every library usage this facilities for its users 20 (55.56%) received query between (01-05), 06 (16.67%) library received query in (06-10) domain, 06 (16.67%) library received query between (11-15) slots, 02 (05.56%) have respectively received (16-20) & (21-25) questions (Mean=1.89 & SD=1.21)

### **Mobile Reference**

Mobile reference is another tool of DRS, 19 (52.78%) out of 36 university does not provide mobile reference to their users, 12 (33.33%) Libraries received (01-05) question daily, 05 (13.89%) libraries received question range (06-10). The Mean & SD Mobile reference are (M= 1.53 & SD 0.51) respectively.

### **Social Media Network**

Social media Network (Facebook Page, Twitter, Google plus etc.) is also one of the medium which is used in Libraries for digital reference purpose 28 (77.78%) respondents they don't have their library Page in any social media Network, 03 (08.33%) received query (01-05) daily, 04 (11.11%) library received (06-10) and 1 (02.78%) library has received (11-15) reference request. Mean of (SMN) is 1.78 & SD 0.42

### **VoIP**

Voice over Internet Protocol (VoIP) like skyup, Google Talk is also a source of Digital reference services 30 library out of 36 respondent replies in Negative and their libraries are not use VoIP as reference service. However, 06 (16.67%) Universities libraries have VoIP facilities in libraries.

### **CONCLUSION**

The conclusions drawn from the study provides a clear picture of DRS among the private and public sector institution of Karachi. Both private and public sector universities has gradually implemented DRS. Few public and private sector universities has strong base services of DRS. However, most of public and private sector universities are struggling on the issue of DRS. Finding and analysis also reveal that funding and poor IT infrastructure is main cause of DRS implementation. HEC Training on Digital Reference Services can improve the situation Digital reference services in Karachi. University Management and Librarian interest on this service can bring more university students in the DRS Service net. Especially public sector university library need pay proper attention they have more resources respective Government (Provincial/Federal) and HEC. Students and Faculty members to connect digital reference need to designed live chat forum, ask librarian and etc. on separate library web page.



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