Web Portal Analysis of Health Science Colleges in Karnataka

S.B. Biradar
Research Scholar
Kuvempu University
Shankarghatta
e-mail: sbkulib1@gmail.com

Dr. B. U. Kannappanavar
Kuvempu University
Shankarghatta
e-mail: kannappanavar@gmail.com

Abstract - This study intended to analysis of health science library portals. They provide single access point to the ocean of electronic information. The study conducted on health science libraries belonged to Ayurvedic, Dental, Home therapy, Medical science, and Physiotherapy, Pharmacy, and Unani colleges. Library portals play a major role in the library setup. The study has analysis the library portals using predetermined criteria and found that the library portals are good at the design whereas the layout, alignment of the portals need to be taken care of. The study also recommended to the standardization of library portals in health science institutions.

Keywords: Web portals, library portal, Health Science Library, ICT

Introduction

The Web portals as one of the many tools have been used as the mainstream communication media in academic and research institutions. Design and development of web portals in the libraries has become a norm. . Library web portals are useful sources to locate the scholarly information, which are organized with an intention to serve the library clientele systematically institutions imparting health science education are no exemption for using the web portals. The availability of advanced ICT tools and techniques provide ample opportunities to extend the library services. Many platforms have been identified and utilized to make the library users happy. Today, the libraries have been increasingly investing more on the development of electronic resources, the library portals are being used to organize and make them accessible via single access place. The library portal has been increasing and the libraries tend to design robust portals which enable them to disseminate the e-resources easily. The integration of suitable technology to cope up with the latest technical advancements is essential to the effectiveness of library web portals. Hence, an analysis the study is required to know the tendency of medical science college library portals.

Review of Literature

Vijayakumar, Kannappanavar et. al. (2009) the study conducted on Indian Institutes of Technology libraries web portals to analyze organization of library information, link provided by the library portals to another web resource, web resources, OPAC and feedback provision, services through library portal. Major observations from the study are, all IIT web portals are different from each other, hence it is suggested to develop unique type of library portal, and give importance to importance to library information. **Yi Jin and Jia Peng (2009)** studied web portals which is helpful for libraries that plan to provide services to their users via

information portals, or to develop or evaluate portal systems or products. Analyses and concludes methods and functions to meet portal requirements through resource integration and service integration supported by Metalib, and web 2.0 technologies. Portal requirements can be met by resource integration and service integration to achieve cross searching, ways to enhance resource linking, and integration of library, subject and personalization services are analyzed and concluded the service framework is depicted in the research. Since the analysis is not based on an exhaustive list of portals and as technologies are always developing rapidly, the methods and functions to achieve information integration and provision presented in this paper perhaps are not complete and may need to be adjusted and amended. **Naik Nagaraja B et. al.(2012)** the study found that portal is one approach to organize information resources and services in away from that supports the users need. However, the library portal will not be the only starting point for access to the library websites in fact lies in integration of different effective information management and need based service modules are seen as positive potential frame works for achieving order out of chaos. Portals become a primary means for transacting information and commerce. **Joseph M. Dudley (2013)** stated that an academic library websites have become major service points for both students and faculty in order to contribute to a conversation on the maintenance activity associated with academic library websites and the establishment of best practice guidelines this paper reviewed the selected literature addressing library website maintenance and then review daily activities associated with the maintenance of the Bryant & Stratton College Cleveland Downtown campus library portals. **Andrina Granic et. al. (2013)** opined that web portals area special breed of websites, providing a large and diverse user population with a blend of information, services and facilities and they reach their aim of facilitating users access to diverse resources. **Kumara B (2013)** found that the development of the semantic web among all the library portals have a special place as key provide a gateway to an institutions resource by listing them for users and creating a direct link to the native interface of each resource. This study also stated that, of university library portals help the users to employ a library portals search interface to search simultaneously or sequentially in heterogeneous sources that do not share metadata schemes or search and retrieval techniques. **Khatri and Baheti (2013)** that study conducted on university websites and their web pages. The study was to analyzed the various aspects of the credibility of deemed university websites of Maharashtra. 21deemed universities from all over Maharashtra are considered for the study. The analysis of the data represents the extent and level of credibility possessed by these universities. The researcher concludes that credibility of website is a major issue in those days and website and library pages need to be evaluated periodically using established criteria like web design, accessibility and reliability issues.

Objectives of the study

- To determine the visual appearance of the health science college library portals.
- To identify the domain systems of all the health science college websites in Karnataka as per the web pages.
- To find out the extent of deep link ratio of web portals and the pattern of link type relationship between institutions of health science colleges in Karnataka
- To understand whether the library web portals makes provision for searching information including Web OPAC and Feedback form;

Methodology

Selection of Health Science Library Portals

This study is an attempt to analysis the health science college library portals. 131 health science colleges belonged to seven types of health science education has been recognized in Karnataka state. This study has categorized seven types of health science libraries viz. Ayurvedic, Dental, Homeopathy, Medical science, Pharmacy, Physiotherapy, and Unani. Once the identification of the library portals is finished, the URLs of library portals were copied and saved to a local disk.

Analysis of Library portals

For the present study the library portals of health science libraries of Karnataka state were selected of the 323 health science libraries, only 131 have library portals. The URLs of all 131 health science libraries have been collected. Further, the library portals were analysis on the basis of the following criteria mentioned in table-1. These criteria are designed on the basis of previous literature focusing on the evaluation of web portals by Large et al., 2001; Smith, 2001; Fogg, 2002; and Lausen et al., 2005.

Table-1: Criteria used to evaluate health science library portals

Criteria	Description
Basic features	Objectives of library, Mission/Vision of library, contact details, Staff details
Visual appearance	Use of font, alignment, Line spacing, Use of graphics, images, videos
Design	Page layout, buttons, icons used in library portals
Search and Retrieval	Information search facility provided in the library portals, Exp: simple search, advanced search and the accessibility to different e-resources, databases
Load time	Size of the portals, loading time

Analysis and Interpretation

Table-2: District-wise distribution of colleges

District	Type of Colleges							Total
	Ayurvedic	Dental	Homeopath	Medical s	Pharmacy	Physio	Unani	
Bagalkot	1	1	1	1	1			05
Bangalore (R)	-	1	-	-	4	-	-	05
Bangalore (U)	14	17	2	18	33	25	2	111
Belgaum	13	2	6	2	4	1	-	28
Bellary	3	1	-	1	1	-	-	06
Bidar	3	4	-	1	5	-	-	13
Bijapur	4	2	1	2	1	-	1	11
Chamarajanagar	-	-	--	-	-	-		-
ChikkaBallapur	-	-	-	-	-	-		-

Chikmaglore	1	-	-	-	-	-		01
Chitradurga	4	1	-	1	1	-		07
Dakshina Kannnada	3	7	2	7	5	12		36
Davangere	1	2	-	2	2	-		07
Dharwad	7	1	4	2	2	2		18
Gadag	4	-	-	-	1	-		05
Gulbarga	3	2	1	2	5	1	1	15
Haveri	1	1	-	1	2	-		05
Hassan	2	-	-	-	-	-		02
Kodagu	-	1	-	-	-	-	-	01
Kolar	-	1	-	1	2	--	-	04
Koppal	1	-	-	-	-	-		01
Mandya	-	-	-	2	1	-	-	03
Mysore	2	2	-	2	3	1	-	10
Raichur	1	2	-	2	2	1	-	08
Shimoga	2	1	-	1	1	-	-	05
Tumkur	1	1	-	1	3	2	1	09
Udupi	2	2	-	1	1	-	-	06
Uttar Kannada	1	-	-	-	-	-		01
Yadagiri	-	-	-	-	-	-	-	00
Total	74	52	17	50	80	45	05	323

Table 2. clearly shows that overall there were 323 Health Science colleges in Karnataka. Further it is analysed that Bangalore Urban district has highest numbers of health science colleges, (111), followed by (36) Dakshina Kannada district, 28 colleges in Belgaum district and 18 colleges Dharwar district. The Lowest Numbers of colleges are concern, Yadagiri district does not have any colleges, Chikkamagalore, Kodagu and Uttar Kannada districts are have only one college respectively.

Contact details in library portals:

The contact details of the library staff are essential to interaction between the library users and the library. An attempt has been made to know the availability of contact details of health science library portals in Karnataka.

Table-3: Contact details in library portals

Type of colleges	Contact details	
	Provided	%
Ayurvedic(N=16)	16	100.00
Dental(N=20)	20	100.00
Homeopathy(N=7)	7	100.00
Medical Science(N=37)	37	100.00
Pharmacy (N=29)	29	100.00
Physiotherapy (N=18)	18	100.00
Unani(N=4)	4	100.00
Total	131	100.00

Table 3 depicts the availability of contact details of the library staff. It is interesting to know that all 131 college library portals (100%) of health science colleges in Karnataka have provided the contact details. It can be concluded that all the college libraries under the study have provided an essential information in the library portals which promotes the communication between libraries and its users.

It can be concluded that all the college libraries under the study have provided an essential information in the library portals which promotes the communication between libraries and its users.

Relevance of Images in library portals:

An image is a picture that has been created or copied and stored in electronic form. An image can be described in terms of vector graphics or raster graphics. An image stored in raster form is sometimes called a bitmap. An image map is a file containing information that associates different locations on a specified image with hypertext links.

Table-4: Relevance of Images in library portals

Type of colleges	Relevant images	
	Provided	%
Ayurvedic (N=16)	16	100.00
Dental(N=20)	20	100.00
Homeopathy(N=7)	7	100.00
Medical Science(N=37)	37	100.00
Pharmacy (N=29)	29	100.00
Physiotherapy (N=18)	18	100.00
Unani (N=4)	4	100.00

Table 4 depicts the use of relevant images in the library portals. Not surprisingly, all 131 college library portals (100%) of health science colleges have used the relevant images in the library portals. It is evident that the images in library portals attract the users. Hence, the use of images is an effective way of communicating the information. It is not surprising to know that all health science libraries have understood the significance of images in library portals and eventually, used the relevant images.
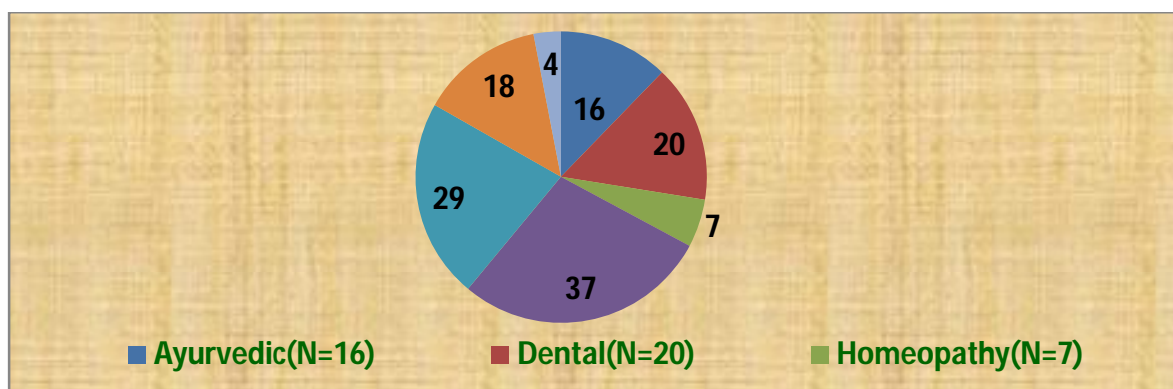

Figure:1 Relevance of Images in library portals

Functional menus:

The menus existed in the library portals help the user to distinguish between various sections of the library portals. At the same time, the menus encourage the navigation between different pages of the library portals. Keeping in mind this, an attempt has been made to know different functional menus such as, 'Services', 'Membership', 'Downloads', 'Notification', 'Collection', and 'FAQs'. The results are summarized in table 5

Table-5: Functional Menus

Type of colleges	Functional Menus					
	Services	Membership	Downloads	Notification	Library Collection	FAQs
Ayurvedic (N=16)	15 (93.75)	15 (93.75)	3 (18.75)	15 (93.75)	15 (93.75)	0 (0.00)
Dental (N=20)	20 (100.00)	20 (100.00)	5 (25.00)	20 (100.00)	20 (100.00)	0 (0.00)
Homeopathy (N=7)	7 (100.00)	7 (100.00)	3 (42.86)	7 (100.00)	7 (100.00)	0 (0.00)
Medical Science (N=37)	37 (100.00)	37 (100.00)	3 (8.11)	37 (100.00)	37 (100.00)	0 (0.00)
Pharmacy (N=29)	29 (100.00)	29 (100.00)	29 (100.00)	29 (100.00)	29 (100.00)	0 (0.00)
Physiotherapy (N=18)	18 (100.00)	18 (100.00)	0 (0.00)	16 (88.89)	18 (100.00)	0 (0.00)
Unani (N=4)	4 (100.00)	4 (100.00)	0 (0.00)	4 (100.00)	4 (100.00)	0 (0.00)

Table 5 depicts the existence of functional menus in the library portals of health science libraries. It is evident from the above table that 100% of Dental, Homeopathy, Medical Science, Pharmacy, Physiotherapy, and Unani college library portals have the functional menus viz., 'Services', 'Membership', ' 'Collection'. Further analysis of the data shows that the 93.75% of Ayurvedic college library portals have functional menus viz., 'Services', 'Membership', 'Notification', and 'Collection'.

It is interesting to know that 100% of Pharmacy college library portals have 'download' menu followed by Homeopathy college library portals (42.86%). It is also remarkable to know that 88.89% of Physiotherapy library portals have Notification menu. Surprisingly, no library portal has 'FAQ' menu which is useful to obtain information about libraries.

Method of accessing e-resources through library portals:

Modern day libraries provide access to e-journals using library networking. The libraries those connected to Wide Area Network or to Local Area Network are capable of providing access to e-collection to its users. This greatly helps the user to get access to the ample volume of electronic information remotely. The remote access through 'user name' and 'password' helps the user to access the electronic information subscribed by the library anywhere in the world, whereas IP access enables the user to access the e-information of the library within the campus. The attempt to know the mode of accessibility to the e-information has brought out the following result presented in table-6.

Table-6 Method of accessing e-resources through library portal

Type of colleges	Method of accessibility			
	Remote access	%	IP access	%
Ayurvedic(N=16)	3	18.75	13	81.25
Dental(N=20)	2	10.00	18	90.00
Homeopathy(N=7)	0	0.00	7	100.00
Medical Science(N=37)	4	10.81	33	89.19
Pharmacy (N=29)	2	6.90	27	93.10
Physiotherapy (N=18)	1	5.56	17	94.44
Unani(N=4)	0	0.00	4	100.00

It is clear from the table-6 that majority of health science libraries have provided IP access. All Homeopathy College (100%) and Unani college libraries (100%) have provided IP access to e-resources, followed by Physiotherapy (94.44%), Pharmacy (93.10%), Dental (90%), Medical Science (89.19%), and Ayurvedic (81.25%) college libraries.

The table also indicates that 18.75% of Ayurvedic college libraries have provided remote access to e-resources through the user name and password method, followed by Medical science (10.81%), and dental science (10%) college libraries.

It is clear from the above analysis that compares to the remote access method, the IP access method was widely used in the health science library portals. It may be due to restricting the use of e-resources to the campus and not to provide access to any computer connected to the World Wide Web.

Security features in library portals:

Table-7: Security features in library portals

Type of colleges	Security Features		
	User ID/ Password	Copyright information	Privacy statement
Ayurvedic (N=16)	3 (18.75)	1 (6.25)	1 (6.25
Dental (N=20)	2 (10.00)	1 (5.00)	3 (15.00)
Homeopathy (N=7)	- (0.00)	1 (14.29)	2 (28.57)
Medical Science (N=37)	4 (10.81)	1 (2.70)	6 (16.22)
Pharmacy (N=29)	2 (6.90)	2 (6.90)	4 (13.79)
Physiotherapy (N=18)	1 (5.56)	(0.00)	2 (11.11)
Unani (N=4)	- (0.00)	- (0.00)	1 (25.00)

Table 7 depicts the security features provided the health science library portals. It is clear from the above table that a very less number of health science library portals have introduced the security features such as User ID/Password control, copyright information, and privacy

statement. Only 18.75% of Ayurvedic college libraries have provided User ID/Password   to access e-content followed by medical college library portals (10.81%), and Pharmacy college library portals (6.90%). Whereas the Copyright information is concerned, only one or two colleges of all kinds of health science library portals have introduced the copyright information.   Further analysis of the data presented in table-5.16 shows that 28.57% of homeopathy library portals have privacy statement followed by Unani library portals (25%), and medical science library portals (16.22%). It is evident from the analysis of table-5.16 that the security features are essential factors for the tech-savvy (Knowing a lot about modern technology in computers) libraries those were connected to the World Wide Web. However, the study has witnessed that a majority of health science library portals lack the security features which are found be a significant finding.

Design of Library portals:

Library portals shall have multimedia content to attractively present the information before the users. An attempt has been made to know the extent of use of multimedia contents in the health science library portals. The results are presented in table 8.

Table-8: Use of multimedia content in library portals

Type of colleges	Multimedia content		
	Text	Images	Videos
Ayurvedic(N=16)	16 (100.00)	16 (100.00)	4 (25.00)
Dental(N=20)	20 (100.00)	20 (100.00)	6 (30.00)
Homeopathy(N=7)	7 (100.00)	7 (100.00)	1 (14.29)
Medical Science(N=37)	37 (100.00)	37 (100.00)	8 (21.62)
Pharmacy (N=29)	29 (100.00)	29 (100.00)	3 (10.34)
Physiotherapy (N=18)	18 (100.00)	18 (100.00)	6 (33.33)
Unani(N=4)	4 (100.00)	4 (100.00)	(0.00)

It is evident from table 8 that all health science library portals have textual information as well as images. This finding shows that the information is presented in text and images which are the most commonly used formats. Whereas the use of videos are concerned 33.33% of Physiotherapy library portals have used it which is followed by 30% of dental college library portals, and 25% of Ayurvedic college library portals. It is also identified that a very less number of Pharmacy college library portals (10.34%) have used videos.

The above table clearly indicates that the text and images are the most common format of information whereas a good number of library portals have provided the content in video format.

Quality of visual identity of library portals:

A visual quality document is created to assist a manufacturer in the automation of all activities within the process while managing overall performance to obtain the highest quality.

Table-9: Quality of visual identity of library portals

Type of colleges	Visual identity			
	Very high	High	Low	Very low
Ayurvedic(N=16)	- (0.00)	2 (12.50)	12 (75.00)	1 (6.25)
Dental(N=20)	- (0.00)	1 (5.00)	18 (90.00)	1 (5.00)
Homeopathy(N=7)	- (0.00)	2 (28.57)	5 (71.43)	- (0.00)
Medical Science(N=37)	- (0.00)	- (0.00)	29 (78.38)	8 (21.62)
Pharmacy (N=29)	- (0.00)	- (0.00)	29 (100.00)	- (0.00)
Physiotherapy (N=18)	- (0.00)	- (0.00)	18 (100.00)	- (0.00)
Unani(N=4)	- (0.00)	1 (25.00)	3 (75.00)	- (0.00)

An attempt has been made to identify the quality of visual identity of the library portals. The measurement has been done on the basis of four points' scale i.e. Very high to very low. The analyzed results are presented in table 9

Table 10 shows that 28.57% of Homeopathy college library portals have high visual identity followed by 25% of Unani college library portals and 12.50% of Ayurvedic College library portals. Further, 100% of Pharmacy and Physiotherapy college libraries have a low visual identity followed by Dental college library portals (90%), medical science library portals (78.38%), Unani & Ayurvedic college library portals (75%), and Homeopathy college library portals (71.43%). It is also interesting to know that 21.62% of medical college library portals have very low visual identity. It can be observed from the above table that the overall visual identify of health science library portals is low whereas a very few health science college library portals have a very good visual identity.

Table-10: Size of different library portals

Loading time	Ayurvedic		Dental		Homeopathy		Medical Science		Pharmacy		Physiotherapy		Unani	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%
< 200 KB	12	75.00	17	85.00	4	57.14	28	75.68	22	75.86	16	88.89	3	75.00
>200-400 KB	1	6.25	2	10.00	1	14.29	6	16.22	4	13.79	1	5.56		0.00
>400-600 KB	2	12.50		0.00	1	14.29	3	8.11		0.00	1	5.56		0.00
> 600-800 KB	1	6.25	1	5.00		0.00		0.00	3	10.34		0.00		0.00
> 800 KB		0.00		0.00	1	14.29		0.00		0.00		0.00	1	25.00

Table 10 shows the size of health science library portals. In order to measure the size of the library portals, the study has used 'Website Page Size Checker' (https://smallseotools.com/website-page-size-checker) which is freely available over the web. It is evident from the above table that majority of health science library portals have the size of fewer than 200 kilobytes. The physiotherapy college library portals (88.89%) followed by Dental college library portals (85%), Pharmacy (75.86%), Medical science (75.68%), and Ayurvedic and Unani (75% each) have fallen under the category of <200 KB size.

Further analysis shows that 16.22% of Medical science library portals have the size of 200-400 KB size followed by Homeopathy (14.29%), Pharmacy (13.79%), and Dental college library portals (10%). A very small number of Homeopathy (14.29%), Ayurvedic (12.50%), Medical science (8.11%), and Physiotherapy (5.56%) have the size of 400-600 Kilo Bytes. It is interesting to note that only one Homeopathy and Unani college library portals have more than 800 Kilo Byte of size.

Discussion and Conclusion

The study is an attempt to know the status of library portals in health science college libraries of Karnataka. It is clear from the results that only 51.78% of libraries have library portal. The all health science libraries need to design and develop library portals to create a technical platform for disseminating the information that they have. Meanwhile, it is also identified that only 4 out of 131 college library portals have objective statements. The presentation of library objectives on the library portal clearly indicates the vision of the library. Hence, it is suggested to include at least one core vision statement in the library portal.

While, the study identified that a good number of library portals have been district wise distribution of colleges in Karnataka. It cover also contact details of library portals and relevance of Images in Library portals. Hence, it is expected that the health science library portals shall maintain properly organized content which enhance the use of library portals.
Further, link to e-theses, e-books, and e-conference papers need to be provided in the library portals in the line of IITs, IIMs. The link to such databases helps the user to identify the research gap as well as ethical use of information. An attempt has been made to know the 'functional menus' of each web portals. The data presented in the Table 5 depicts the existence of functional menus in the library portals of health science libraries. It is evident from the above table that 100% of Dental, Homeopathy, Medical Science, Pharmacy, Physiotherapy, and Unani college library portals have the functional menus viz., 'Services', 'Membership', ' 'Collection'. Further analysis of the data shows that the 93.75% of Ayurvedic college library portals have functional menus viz., 'Services', 'Membership', 'Notification', and 'Collection'. It is interesting to know that 100% of Pharmacy college library portals have 'download' menu followed by Homeopathy college library portals (42.86%). It is also remarkable to know that 88.89% of Physiotherapy library portals have Notification menu. Surprisingly, no library portal has 'FAQ' menu which is useful to obtain information about libraries.

It is clear from the majority of health science libraries have provided IP access. All Homeopathy College (100%) and Unani college libraries (100%) have provided IP access to e-resources, followed by Physiotherapy (94.44%), Pharmacy (93.10%), Dental (90%), Medical Science (89.19%), and Ayurvedic (81.25%) college libraries. 18.75% of Ayurvedic college libraries have provided remote access to e-resources through the user name and password method, followed by Medical science (10.81%), and dental science (10%) college

libraries. Only 18.75% of Ayurvedic college libraries have provided User ID/Password   to access e-content followed by medical college library portals (10.81%), and Pharmacy college library portals (6.90%). However, the study has witnessed that a majority of health science library portals lack the security features which are found be a significant finding.

References:

1. Andrina Granic, Nikola Marangunic and Ivica Mitrovic(2013). Usability Inspection of Web Portals: Results and Insights from Empirical Study, *International Journal of Computer Science,*10(3), 234-241.

2. Joseph M. Dudley (2013*). Maintenance and Development of the Library Web Portal at Bryant & Stratton College Cleveland Downtown Campus.* TCC 2013 Conference Proceedings,

3. Khatri and Baheti (2013) Evaluate study of university websites and their web pages; *International Journal of Digital Library Services,* 3(1), 1-11.

4. Kumara, B. (2013) University Library Portals: an Assessment*, Indian Journal of Applied Research* 3(9), 302-304.

5. Lakos, A. A. (2004). Portals in libraries. Portal vision*. Bulletin of the Association for Information Science and Technology*, 31(1), 8-9.

6. Naik Nagaraja B. , Vanaja D. Kuamri, Lokanatha C. Reddy (2012). Portal Approaches For Digital Library of Indian Universities. *International Journal of Scientific and Research,* 2(5), 1-5.

7. Vijayakumar, Kannappanavar B.U. et.al (2009) Content analysis of Indian institutes of technology librareies web portals: a case study; *DESIDOC: Journal of Library and Information Technology*, 29(1), 57-63.

8. Yi Jin, Jia Peng (2009). Information Portal Development and Practice at Shanghai Jiao Tong University Library. *Online Information Review*, 33(3), 537-547.

IJLIS