

## Computer literacy competencies among Indian students: the digital divide

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### Abstract

**Purpose** – The purpose of this paper is to investigate computer literacy competencies among rural and urban students in India and its prime objectives are to find out: how rural and urban students use computers, what is the purpose of computers for these students and what problems have the students encountered while using computers.

**Design/methodology/approach** – Scheduled interviews were conducted to collect necessary data from rural and urban students. The interview schedules consisted of various questions designed to elicit details about the students' use of computers. A total of 600 interview schedules were collected and data were analyzed using Statistical Package for the Social Sciences for windows to test the formulated hypothesis.

**Findings** – The findings of the study indicate that the infrastructural facilities varied among rural and urban schools. Another notable finding of the study was that majority (91.33 percent) of urban students used computers compared to a significantly less percentage of rural students (32.33 percent). Most rural students have not used computers mainly because they do not know how to (49.75 percent) followed by lack of support from teachers (48.76 percent) and non-availability of computers in their schools (48.27 percent). Electrical power failure was another major problem faced by both urban students (31.75 percent) and rural students (40.20 percent).

**Originality/value** – This study attempted to learn about the computer literacy competencies among the students and the digital divide in Indian schools. On the basis of the findings, the study has recommended guidelines to bridge the digital gap. These findings and recommendations will potentially be helpful to school authorities and the government in order to take the necessary measurements to bridge the digital gap between the rural and urban students.

# **Internet use and its impact on the academic performance of university teachers and researchers: A comparative study**

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## **Abstract**

**Purpose** – The internet growth has created a new scientific communication system with new facilities that are competing with the traditional sources of information. The present study investigated impact of internet use on academic performance of teachers and researcher in university setup. The aim of this paper is to find out how these academics use internet sources and services? What is the user's satisfaction level with internet sources and services? And what problems has the user encountered when searching the information on the internet. It further aims to know how the user compares the internet sources with traditional information sources.

**Design/methodology/approach** – Questionnaires were distributed to randomly selected teachers and researchers in Kuvempu University, Karnataka state. Total 200 questionnaires were distributed out of which 140 duly filled questionnaires were returned. The questionnaire consisted of various questions which are designed for the teachers and researchers to elicit the impact of internet use on their academic performance.

**Findings** – This study has demonstrated the high use of the internet sources and services by teachers and researchers in university setup. Most of them used internet in support of their study and teaching. Majority of respondents learnt to use the internet through self-instruction and trial and error, with the help of friends and by reading books or papers. Study results also indicated that internet has made an impact on their academic performance (i.e. in writing more research papers, in doing better research, better learning experience, etc.).

**Originality/value** – This is the comprehensive study on the impact of internet sources and services on the academic performance of teachers and researchers in the university environment. Findings of the study will be helpful to university authority to enhance the internet facilities for effective and efficient use by the teachers and researchers. The study also suggested that there is a need to focus on opportunities for providing training on use advanced internet search skills to the academic community. Concerned authorities also need to enhance the internet bandwidth to increase the internet speed.

# Search engines and their search strategies: the effective use by Indian academics

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## Abstract

**Purpose** – The purpose of this paper is to examine the use of various search engines and meta search engines by Indian academics for retrieving information on the web. It also aims to know whether the academics use search strategy of various search engines for retrieval of information or not, and how the Indian academics learn the various search strategies for using search engines.

**Design/methodology/approach** – The data collection instruments used for this study were a questionnaire and follow-up interviews with students and faculty members. The questionnaire consisted of various questions which were designed to elicit the use of search engines, search strategies and method of learning the search strategies of search engines. A total of 450 questionnaires were distributed, out of which 300 duly filled copies were returned, constituting a 66.66 percent response rate. The data thus collected were analysed with the help of the SPSS (version 19.0) statistical package to present the findings in percentage and test the formulated hypothesis.

**Findings** – The findings of the survey show that the majority of the respondents most frequently used Google (91.93 percent) and Yahoo (43.85 percent) while Dogpile and Ixquick (35.78 percent each) were less frequently used by the respondents. 65.26 percent of respondents used the search strategy for retrieving information. The study also shows that there is a significant relationship between the respondent's profession and use of search engines (  $p < 0.018$ ) as well use search strategies of search engines (  $p < 0.028$ ). Method of learning the search strategies of search engines is also associated with the respondent's profession (  $p < 0.008$ ).

**Originality/value** – The results of this study have clear implications for information literacy instruction in the context of search engines. The study recommends that there is a need to conduct intensive training for students and faculty members in order for them to acquire the essential search strategies for effective information retrieval. The findings of the study will be helpful to concerned authorities to enhance the effective and efficient use of search engines by the respondents.

**Keywords** India, Students, Search engines, Faculty members, Search strategies

## **HTTP 404-page (not) found: Recovery of decayed URL citations**

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### **Abstract**

Study investigates the availability, persistence and half life of URL citations cited in two Indian LIS journals articles published between 2002 and 2010. This study also investigates how researchers can resurrect lapsed URL citations cited in research articles, using Wayback machine. A total of 1290 URLs cited in 472 research articles published in Indian LIS journals spanning a period of 9 years (2002–2010) were extracted. Study found that only 18.91% (1290 out of 6820) of URLs cited in these journal articles. 39.84% of URL citations were not accessible and remaining 60.15% of URL citations were still accessible. The HTTP 404 error message-“page not found” was the overwhelming message encountered and represented 54.86% of all HTTP error messages. However 51.06% URLs were recovered from HTTP 404 error message. Study also noticed that the half-life of URL citations was increased from 6.33 years to 13.85 years after recovering missing URLs from Wayback machine.

### **National Publication-**

**2013**

## **Computer Literacy Among the Students and Faculty Members of Dental Sciences**

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### **Abstract**

The world of computing has influenced the health sector, introducing number administrative as well as clinical innovations. The present paper focuses on the use of computer, experience in the use computer and use of various computer applications by students and faculty members of dental sciences. The Study found that all the respondents used computer. Majority of respondents had their own computers and they had 3-5 years of experience in using computer. Majority of them felt that they were most competent in computer skills and therefore training is not necessary. Majority of the respondents used computer for teaching and research. Some of the respondents also used for maintaining patients record,

diagnosis and monitoring of treatments equally and some of the respondents using for scheduling the patients and billing.

## **Use of URLs as citations in Indian LIS articles: An Analysis**

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### **Abstract**

The paper compares the characteristics of URLs cited in Indian LIS conference proceedings papers. A total of 15,745 references appended to 1,700 articles published in three Indian LIS conference proceedings published during 2001-2010 were selected. From these references we extracted a total of 5698 URLs and were further classified according to their top level domains, file formats and path depths for further analysis. The results showed that the percentage of articles with at least one URL increased from 39.10% in 2001 to 91.67% in 2010. There was a constant and continuous increase in the number of articles with URLs over the years during 2001-2010. Of the 1,700 articles published in conference proceedings, there were 1,011 (59.47%) articles with URLs. Study also reveals the fact that, of the 5,698 URLs, more than 50% were shared by .org and .com domains which accounted for 1,799 (31.57%) and 1,474 (25.87%) URLs respectively. The highest percentage of cited URLs belonged to HTML (68.50%) followed by .pdf files (8.86%). The path depth levels 0 (no path), 2 and 3 collectively accounted for 67.67% of the extracted URLs. URLs with path depth 1 and 4 put together accounted for 25.31% of all the 5,698 URLs.

## **Corrosion of URLs: Implication for Electronic Publishing**

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### **Abstract**

The aim of this study is to analyze the accessibility, corrosion and half-life of URLs cited in the articles of Indian LIS conference proceedings published during 2001 to 2010. A total of 5,698 URLs cited in the 1,700 articles were examined. The percentage of URLs increased from 39.10 percent in 2001 to 73.47 percent in 2009. The study found that 50.09 percent of URLs were not accessible at the time of testing and the remaining 49.91 percent of URLs were accessible. The HTTP 404 error message – “file not found” was the overwhelming message encountered and represented 53.29 percent of all HTTP messages. The study also noticed that the average half-life of URLs of missing URLs was estimated to be 4.94 years. Even though there are various retrieval tools being used to recover vanished URLs, still there is a need to improve such tools.

## **Computers Literacy Competencies among Indian Students: The Digital Divide**

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### **Abstract**

Purpose – The purpose of this paper is to investigate computer literacy competencies among rural and urban students in India and its prime objectives are to find out: how rural and urban students use computers, what is the purpose of computers for these students and what problems have the students encountered while using computers.

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Findings – The findings of the study indicate that the infrastructural facilities varied among rural and urban schools. Another notable finding of the study was that majority (91.33 percent) of urban students used computers compared to a significantly less percentage of rural students (32.33 percent). Most rural students have not used computers mainly because they do not know how to (49.75 percent) followed by lack of support from teachers (48.76 percent) and non-availability of computers in their schools (48.27 percent). Electrical power failure was another major problem faced by both urban students (31.75 percent) and rural students (40.20 percent).

Originality/value – This study attempted to learn about the computer literacy competencies among the students and the digital divide in Indian schools. On the basis of the findings, the study has recommended guidelines to bridge the digital gap. These findings and recommendations will potentially be helpful to school authorities and the government in order to take the necessary measurements to bridge the digital gap between the rural and urban students.

## **Bringing life to Dead: Role of Wayback Machine in Retrieving Vanished URLs**

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### **Abstract**

The paper makes an attempt to examine the decay and half-life of URL citations cited in articles of conference proceedings. The main focus of the paper is to explore the possibilities of recovering inactive URL citations through the Wayback Machine. The study collected a total of 5698 URLs cited in the 1700 articles published in three Indian LIS conference proceedings published during 2001–2010. Results of the study show that only 49.91% (2844 out of 5698) of URL citations remained active whereas the remaining 2854 (50.09%) were found to have vanished. The paper argues that, as the age of URLs increases, the disappearance of URL citations also increases ( $r = 0.861$ ,  $p = 0.003$ ). The study also found that there was an increase in the percentage of active URLs from 2844 (49.91%) to 4506 (79.08%) after the recovery of vanished URLs through the Wayback Machine. The average half-life of URLs before the recovery of vanished URLs and after the recovery of vanished URLs was 4.94 and 14.99 years, respectively ( $t = -6.720$ ,  $d.f. = 9$ ,  $p = 0.000$ ).

**2014**

**Computer and its Impact on Academic Performance of Faculty Members and Research Scholars: A Case Study of Kuvempu University,**

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**Abstract**

The paper is intended to identify the differences in the access and use of computer among the academics. It also aims to know the impact of computer use on the academic performance of faculty members and research scholars in a university setup. A survey questionnaire was administered to university academics and collected on its completion. This study has demonstrated the high use of the computer by faculty and research scholars. It is found that there exists a difference of opinion among the faculty and research scholars regarding the computer access ( $p=0.000$ ), years of experience in the use of computer ( $p=0.000$ ) and purpose of use ( $p=0.040$ ). Data also shows that there is a difference of opinion among the faculty members and research scholars regarding the impact of computer on their academic performance ( $p=0.025$ ).



**2015**

**Wayback machine: reincarnation to vanished online citations**

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**Purpose** – The purpose of this paper is to know the rate of loss of online citations used as references in scholarly journals. It also intended to recover the vanished online citations using Wayback Machine and also to calculate the half-life period of online citations.

**Design/methodology/approach** – The study selected three journals published by Emerald publication. All 389 articles published in these three scholarly journals were selected. A total of 15,211 citations were extracted of which 13,281 were print citations and only 1,930 were online citations. The online citations so extracted were then tested to determine whether they were active or missing on the Web. W3C Link Checker was used to check the existence of online citations. The online citations which got HTTP error message while testing for its accessibility were then entered in to the search box of the Wayback Machine to recover vanished online citations.

**Findings** – Study found that only 12.69 percent (1,930 out of 15,211) citations were online citations and the percentage of online citations varied from a low of 9.41 in the year 2011 to high of 17.52 in the year 2009. Another notable finding of the research was that 30.98 percent of online citations were not accessible (vanished) and remaining 69.02 percent of online citations were still accessible (active). The HTTP 404 error message – “page not found” was the overwhelming message encountered and represented 62.98 percent of all HTTP error message. It was found that the Wayback Machine had archived only 48.33 percent of the vanished web pages, leaving 51.67 percent still unavailable. The half-life of online citations was increased from 5.40 years to 11.73 years after recovering the vanished online citations.

**Originality/value** – This is a systematic and in-depth study on recovery of vanished online citations cited in journals articles spanning a period of five years. The findings of the study will be helpful to researchers, authors, publishers, and editorial staff to recover vanishing online citations using Wayback Machine.

# **URLs Link Rot: Implications for Electronic Publishing**

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## **Abstract:**

In recent years the authors of scholarly publications have relied on e-resources. But e-resources have raised the question of permanency on the web. In this context, this article investigates the availability, persistence of Uniform Resource Locator (URL) citations cited in two Library and Information Science (LIS) journal articles published by Emerald Publishers during 2008 and 2012. In total, 2477 URLs cited in 406 research articles published in two LIS journals spanning a period of five years (2008–2012) were extracted. The study found that 23.81 per cent (2,477 out of 10,400 references) of URLs were cited in these journal articles. 49.53 per cent of URL citations were not accessible and the remaining 51.47 per cent of URL citations were still accessible. The study used W3C link checker to identify HTTP errors associated with missing URLs. HTTP 500 error message—‘page not found’ was the overwhelming message that represented 39.18 per cent of all HTTP error messages. This study attempts to focus on URLs link rot and its implications for electronic publishing.

# **Web Citation trends in Indian LIS journal: A Citation Analysis**

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The aim of this study is to know the use of web citations in Indian LIS journals published during 2001 to 2010. The findings of study shows that the average number of web citations per article ranged from a low of 1.02 in 2001, to a high of 4.58 in 2010. There was a constant and continuous increase in the number of articles with web citations over the years during 2001–2010. The average number of web citations for every article is 2.60. The most widely cited top level domains were organizational (.org) and commercial (.com) with 30.91% and 22.08% respectively. The highest percentage of web citations belonged to HTML file formats (67.30%) followed by PDF file formats (11.39%).

## **International Publication**

**2016**

### **Computer access and use: understanding the expectations of Indian rural students**

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#### **Abstract**

**Purpose** – This study aims to understand the expectations of rural students with respect to their computer access and use. It also made an attempt to learn the expectations of rural students from their schools and local government in providing the information and communication technology (ICT) infrastructure.

**Design/methodology/approach** – Interview schedules were used to collect the necessary data from the rural students. The interview schedules consisted of various questions that were designed to elicit the expectations of rural students in terms of their usage of computers. A total of 300 interview schedules were collected from the students, and data were analyzed using Statistical Package for the Social Sciences (Windows 19.0 version) to test the formulated hypothesis. **Findings** – This study clearly showed that 72 per cent of female and 63.33 per cent of male students have not used a computer. Most of the students opined that lack of support from teachers (91.57 per cent Male, 94.25 per cent Female) and non-availability of computers at home and schools (82.10 per cent Male, 80.55 per cent Female) were the main

reasons for not using the computer. A notable finding of the study was that 93.68 per cent of male and 95.37 per cent of female students were interested in using a computer. Most of the students opined that the state/local government should establish computer laboratories and provide Internet facilities in rural schools. Originality/value – This paper has provided useful empirical data regarding the expectations of rural students with respect to their access and use of computers. The results of this study will be more helpful to school authority and government in providing necessary ICT infrastructure to rural schools.

## **Measuring the usability of Library website using Google analytics" in the journal**

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### **Abstract**

The main purpose of this article is to explore the usability of library website using Google Analytics. The usability of the library website has been measured during February 2011 to February 2013 (25 months). The results of the study shows that there were totally, 8304 visitors viewed the web pages from 62 countries. Home page was the most frequently visited web page (51.99%) followed by library services web page (41.59%) and question paper archives (14.11%). A total of 1926 search terms were used to search library website. The findings of the study will be more useful to librarians and also webmasters to understand the usability of web pages and to improve the quality of web page.

### **International Publication**

**2017**

## **Gender Disparities in the use of ICT: A survey of students in Urban Schools**

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This study aims to investigate gender differences in the use of ICT by the students of urban schools. The objectives of the study are to find out the use of computers and Internet by the students and also the problems encountered by them while using computers and Internet. The study found that there is a significant association between the place ( $p=.005$ ) and frequency ( $p=.002$ ) of use of computers and gender. It is also found that there are significant differences in the problems faced by students while using

computers ( $p=.002$ ), use of Internet ( $p=.004$ ), and the gender. This clearly indicates that there exists a gender disparity in the use of ICT by the male and female students in the urban schools. In order to overcome this disparity, the school authority should provide the basic and necessary ICT infrastructure in schools which can be equally used by male and female students.

### **Prevalence of URLs in Library and Information Science (LIS) Literature: A Citation Analysis**

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#### **Abstract**

This paper intends to know the prevalence of URLs as citations in Library and Information Science scholarly publications. A total of 8203 research articles published in 12 LIS journals during the years 2006-2015 were studied. Of the 288,452 citations 42,098 were URLs. The characteristics associated with the cited URLs were also analyzed. The study revealed that an average of 5.42 URL citations per article was cited among the single-authored papers. The study also indicated the fact that URLs associated with organizational and commercial domains were highly cited and the HTML and PDF file formats were dominantly cited.

### **Recovery of vanished URLs: Comparing the efficiency of Internet Archive and Google.**

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#### **Abstract**

This article examines the vanishing nature of URLs and recovery of vanished URLs through Internet Archive and Google search engine. For that purpose study investigates the URLs cited in the articles of two LIS journals published during 2009-2013. A total of 226 articles published in two open access LIS journals were selected. Of 5197 citations cited in 226 articles, 21.05 percent were URLs (1094). Study found that 38.12 percent (417 out of 5197) URLs were found missing and remaining 61.88 percent of URLs were active at the time of URL check with W3C link checker. The HTTP 404 error message – “page not found” was the overwhelming message encountered and represented 54.2 percent of all HTTP error message. Internet Archive and Google search engine were used to recover vanished URLs. However, the Internet Archive recovered 66.19 percent of the total vanished URLs, whereas, Google

manages to recover only 30.70 percent of the total vanished URLs. The recovery of vanishing URLs through Internet Archive and Google increased the active URL's rate from 61.88 per cent to 87.11 per cent and 73.58 per cent respectively. Study found that Internet Archive is a most efficient tool to recover vanished URLs compared to Google search engine.

## **National Publication**

**2017**

### **Research Productivity of Physicist as Reflected in Google Scholar**

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The study intended to know the research productivity of Physicist as reflected in Google Scholar database. The number of articles included in the Google scholar database, the number citations received by each articles and h-index of each Physicist are considered to measure the research productivity. In order to know the research productivity, the term "Physics" was entered in the search box of the Google Scholar and the data has been collected for further analysis. The study found that Glen Cowan from UK has received the highest number of citations (210675) among the Physicist across the globe and the Gagan Mohanty has received 102599 citations among the Indian Physics scholars.

### **Finding the unfound: Recovery of missing URLs through Internet Archive**

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The study investigated the accessibility and permanency of citations containing URLs in the articles published in *DESIDOC Journal of Library and Information Technology* journal during 2006-2015. A total of 2133 URL citations were identified out of which 823 were found to be incorrect or missing. HTTP-404 was the most common error message associated with the missing URLs. The study also tried to recover the incorrect or URL citations using *Internet Archive* and recovered a total of 484 (58.81%) missing URL citations.

**Internet as a Source of Information: Usage among the Faculty Members and Students**

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**Abstract**

Applications of ICT in Libraries and Information centres have a positive impact in changing the library environment. In this context, this paper made an attempt know the use of Internet by the faculty members and students of Engineering college libraries in Tumakuru city. The questionnaire was used to collect the data from the faculty members as well as students. The results of the study show that, the majority of respondents accessed the Internet using smart phone (67.40%) and 49.25% of them used at their college campus. The most of respondents visited library to read newspaper (61.48%) and 38.88% of respondents visited library to borrow and return books, while only 30% of respondents visited to library to read e-journals. Majority of faculty and students opined that the low Internet speed (46.29%) and high Internet cost (31.48%) are the major problems faced by the users.

**The digital divide in India: use and non-use of ICT by rural and urban students**

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**Abstract**

**Purpose** – The purpose of this paper is to know the frequency, place, and purpose of use of computer. It also aimed to know the various problems faced by the students in using the computer and to know the reasons for not using computer by rural and urban students.

**Design/methodology/approach** – A total of the 2,592 sample population were selected from 64 rural and urban high schools of two districts of Karnataka state. A structured questionnaire was used for the data collection and data have been analyzed using Software Package for Social Science. Statistical tests, namely,  $\chi^2$  and one-way ANOVA were applied to test the formulated hypotheses.

**Findings** – The results of the study showed that only 20.66 percent rural students and 69.70 percent of urban students used computer for various academic purposes. Further, most of the rural and urban students opined that “electric power failure” and “lack of computer” skills were major problem in using computer.

**Originality/value** – Today, the computer education in schools plays an important role in student’s career development and enhances the quality of learning among students. Thus, the local government/school authorities may provide the minimum ICT infrastructure in both schools and more particularly in rural schools