



UTILIZATION OF INFORMATION & COMMUNICATION TECHNOLOGY SERVICES IN KASHMIR DIVISION COLLEGES-A COMPARATIVE STUDY

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ABSTRACT

Information & Communication technology (ICT) in education simply refers to utilization of technologically innovated tools that help to communicate, create, disseminate, store and manage information effectively. The role of ICT re-emerged during and post covid-19 pandemic, when we were left with no other option but to use the services of ICT. The current study attempts to investigate the availability & utilization of ICT services in Kashmir Division Colleges. It is comparative study in which 20 colleges were sampled with equal numbers from urban and rural locations. Simple statistical techniques of percentage, mean and t-test has been used to analysis the data. The study revealed that both rural colleges and urban colleges have below satisfactory level of ICT infrastructure. Only 50 percent urban degree colleges have got satisfactory ICT infrastructure available. Moreover, there is significant difference between the urban and rural colleges as for availability of infra-structure is concerned.

Keywords: *ICT, Infrastructure, technology, urban, rural.*

1. INTRODUCTION

According to UNDP, "ICTs are basically information handling tools-a variety of goods, applications and services that are used to produce, store, and process, distribute and exchange information. These include the old ICTs of radio, television and telephone and the new ICTs of computers, satellite and wireless technology and the internet. These different tools are now able to work together and combine to form our networked world. Amin S.N. (2016) conducted a study on Internet Usage among University students in relation to their Lifestyle, Academic achievement and Attitude towards research. The main objectives of the study were to identify and compare internet users and nonusers in relation to their lifestyle, academic achievement and attitude towards research. A total of 600 post graduate students drawn from three faculties of university of Kashmir. Information blank, Lifestyle Scale by S.K. Bawa and S. Kaur and Attitude scale towards research by Vishal Sood and Y.K. Sharma were used as tools. The collected data was analyzed using Percentage statistic, mean, S.D and t-test. The study revealed that Internet usage has a significant impact on the lifestyle, academic achievement and attitude towards research. The study reveals that students from science and social science who use internet are also high on academic achievement side, while as the case is reverse in case of Arts students. The study reveals that in general internet usage by university students significantly enhances the lifestyle, academic achievement and attitude towards research.

Paul S. &Lal K. (2016) conducted a study on ICT as enabler in Higher Education. The main objective of the study was to examine the impact of Information and Communication technology on higher education and to identify major impediments resulting in the slow penetration of ICTs in higher educational institutions in rural India. A sample of 72 students from four higher educational institutions located in Sitapur. Questionnaire was used for Data collection. The collected data was analyzed using Percentage statistics. The study revealed that despite many promising benefits of ICT to higher educational institutions, the technological and physical infrastructure is still posing a major hurdle in capitalizing the benefits of ICT revolution. The study suggests that faculty needs to be motivated to use modern and effective ICT led teaching tools in the teaching learning process.

Nadeem, N. A. and Nisa, K. (2014) in the study on Impact of Social Networking on Educational Awareness and Achievement of Postgraduate Students provide a promising picture of use and impact of Social Networking in educational achievement. The objectives of the study were to study the extent of usage of various portals of social networking, to study the impact of social networking viz. Facebook, Twitter, YouTube and Whatsapp on General Awareness and Academic achievement of PG students, to study sex and subject of study as the sources of variation with regard to use and impact, and to compare the impact of social networking between male students and female students.

Ahmed, M. et al. (2014) in their study on ICT for English Language Teaching: A Study with reference to Kashmir with the objective of the study being to assess the ICT infrastructure available and the extent to which these are being used in the ELT classrooms of various undergraduate colleges of Kashmir valley of Jammu & Kashmir state, India. The study was based on a total number of 46 functional Heads of English Departments of different Government Degree Colleges of Kashmir. Questionnaire was used for data collection. The collected data was analysed using Simple Percentage. The study revealed that all the respondents have a working knowledge of computers and use internet for their personal purposes.

The United Nations Sustainable Development Goal 17 takes into consideration the importance of ICT in the overall mitigation of the sufferings and problems of countries globally, has set, Sustainable development goal, which calls for a significant increase in the access of Information and Communication technology and striving to provide universal and affordable access to the internet in least developed countries by 2020. Keeping in view this goal, it is quite clear that a lot needs to be done, if the goal is really to be achieved. We need to have a sense of collective responsibilities for achieving this much needed and well set goal. Information and Communication Technology is a wide term and refers to a multitude of services including various computer based applications and communication devices like radio, television, computer, Cell phone, networking hardware and software, satellite systems and the allied services and applications associated with such electronic platforms like audio video conferencing, online learning and distance learning. ICT has revolutionized each and every sector of the world in general and education in particular. It has transformed the ways to store, retrieve and disseminate the knowledge and information. It has changed the means of communication, transformed the teaching learning process from a highly dependable and teacher centric approach to a highly flexible and student centric approach. It has facilitated and augmented the teaching process by bringing to the scene many tools and techniques that have made teaching more attractive and interesting. It has facilitated more effective communication between the student and the teacher. It has brought into existence the online universities providing online education across the globe. It has facilitated e learning, eBooks, e-journals, e-repositories, digital libraries, online forums, discussion groups and much more. It has a promising role in student admissions, record keeping, support services, study material and has facilitated public outreach of educational institutions. It has widened the horizons of higher education significantly. Social networking is also considered as potential benefit of ICT. Social networking platforms like Face book, What's app, Hike etc had connected people globally at affordable price. It has brought engagement and amusement among people in general and academic and research in particular. CT in higher education plays a very important role in various spheres like teaching and learning process, admission, evaluations, administration, student services, recruitment, record keeping etc.

2. APPROACHING TO THE PROBLEM

A. HIGHER EDUCATION IN INDIA

Indian Higher Education is the second largest in the world after China. Higher education system of country is an indicator of its well-being in terms social, economic, political and technological development. So the importance of higher education system of country cannot be underestimated. In this context, the higher education system of India is discussed in brief here to have a cursory over the structural overview of higher education in India. The higher education system in India is one of the best in world. It has undergone a significant change so far as the number of higher education institutions is concerned. At the time of independence there were only 20 Universities. The growth has been very sharp and promising. It has increased 34 times from 20 in 1950 to 677 in 2014, which is very much promising. The number of Colleges has also witnessed tremendous increase of 74 times with just 500 in 1950 increased to 37204 as on 31march 2013. The responsibility of higher education in India is shared by both centre and states. The maintenance and regulation of determination of quality standards in Universities and Colleges is the role responsibilities of University Grants Commission, All India Council for Technical Education (AICTE), Council of Architecture (COA), Medical Council of India (MCI), Indian Council for Agricultural Research (ICAR), National Council for Teacher Education (NCTE), Dental Council of India (DCI), Pharmacy Council of India (PCI), Indian Nursing Council (INC), Central Council of Homeopathy (CCH), Central Council for Indian Medicine (CCIM), Rehabilitation Council of India (RCI), National Council for Rural Institutes (NCRI), State Higher Education Councils (SHECs), Association of Indian Universities(AIU) and Bar Council of India (BCI) and there are two accrediting institutions namely National Board of Accreditation (NBA) set up by AICTE and National Assessment and Accreditation Council (NAAC) set up by UGC. Minister of Human Resource and development, Government of India has categorized the higher education institutions into 6 main categories including Central University established or incorporated by Central Act, State University, established by State or provincial Act, Private University, established by State/Central act by a sponsoring body, Deemed-to-be University, an institution commonly known as Deemed University, refers to a well performing institution declared so by Central government under section 3 of UGC at of 1956. Institutions of National importance, which is established by Act of Parliament and declared so as an institution of national importance and the last one institution under State legislature Act which refers to an institution established or incorporated by State legislature Act.

B. HIGHER EDUCATION IN J&K

The higher education system of Jammu & Kashmir is not much different from that of the higher education system of India in many of the aspects, yet there are a few areas where Higher education system of Jammu and Kashmir has shown significant developments that has brought its name to the forefront in the national circles. Higher Education in Jammu and Kashmir is being provided by Universities, both Central and State, Colleges, Institutes of National Importance. The state of Jammu of Kashmir has a total of 9 Universities including University of Kashmir, University of Jammu, Central University of Kashmir, Central university of Jammu, Sheri- Kashmir University of Agricultural Sciences and Technology Kashmir, Sher-e-Kashmir University of Agricultural Sciences and Technology Jammu, Islamic University of Science and Technology, Awantipora, Shri Mata Vaishno Devi University Katra and Baba Ghulam Shah Badshah University Rajouri. It has one National Institute of Technology (NIT) Srinagar and one Indian Institute of Technology (IIT) including IIT Jammu, one IIM that is IIM Jammu, and one IIMC at Jammu that have been established very recently. Besides it has a total of 97 Government Degree Colleges with 46 colleges in Kashmir division, 47 colleges in Jammu division and 4 colleges in Leh. Moreover there are 208 private colleges In Jammu and Kashmir with 107 colleges in Jammu and 101 Colleges in Kashmir (Source: HED, J&K). The higher education department has added a new feature to its cap recently by the launch of a novel idea of Cluster Universities in the year 2016 and became the first state to have established Cluster University in the whole of India. The said effort has been highly appreciated and acknowledged. Establishment of two Cluster Universities one at Srinagar and one at Jammu namely Cluster University Srinagar and Cluster University Jammu under the Centrally sponsored scheme of RUSA, Rashtriya Uchcharat Shiksha Abhiyan. In addition the higher department has sanctioned two Schools of Architecture, one at GDC Bemina and One at Government MAM college Jammu, two nursing colleges, one at Government Women's College Srinagar, and one at Government PG College for Women, Jammu. In addition JKIMS has been set up at Srinagar, which is a model institute for teaching and learning of mathematics in the state. The University Grants Commission(UGC) the apex body responsible for maintaining standards in higher education, has acknowledged the role of Internet resources in improving teaching-

learning process, building new knowledge, collaborating with peers in the governance of education in colleges and Universities. The Internet services were introduced in Kashmir Valley during 1994-95 by Bharat Sanchar Nigam Limited (BSNL). With the passage of time three more privately owned ISPs-IPEAKS, SLICNET and INFONET were registered but only IPEAKS was operational till 1997 (Loan F. A. 2011). Presently a number of ISPs are operational in the valley namely Airtel, BSNL, Tata Indicom, Idea, Vodafone, Reliance, Aircel. The Commercial Cyber Cafes are also available in all the major towns of the valley. Besides, 69 Community Information Centres (CICs) are available in Kashmir for providing access to the internet. The availability of ICT resources in the educational institutions of Kashmir is largely inadequate. Most of the higher educational institutions like Universities have started to provide these facilities to the academic community fully. Universities including, University of Kashmir Srinagar, SKUAST-K, IUST, Central University of Kashmir and a number of colleges are providing a satisfactory level of internet access to both student community and faculty. However, a significant number of colleges and other higher educational institutions do have a little or no access to the diversity of ICT services like Internet, Computers, EDUSAT and GyanDarshan. Though the impact of ICT has been quite adequate in other sectors like banking, tourism, medicine, engineering etc, the use of ICT services is facing severe difficulties like lack of funding, lack of trained and competent faculty, motivation and need perception among teachers to adopt ICT services as teaching tools and to integrate ICT in their total teaching phenomenon.

ICT INITIATIVES IN INDIA

The use of ICT in India in educational perspective is not very recent. Use of ICT services like audio visual aids, radio, TV to support education and dissemination of information for national development has been there from a very long ago. Use of ICT in education in India for the first time was noticed during British rule in June 1923, by Radio Club of Mumbai. BBC aired educational programs. In 1937, All India Radio broadcasted educational programs for school. (Agarwal, 2005). India showed its seriousness towards this area when an indigenously built, fully dedicated education satellite named EDUSAT, Educational Satellite was launched on 20 September 2004, which is solely designed, developed and launched to serve the exclusive purpose of imparting education to the entire India which includes both rural and urban population at primary, secondary and higher levels. Through Educational Satellite, live audio-video interactive sessions are being held between students and faculty, online classrooms, virtual schools, evening coaching classes, radio and television based classes are the new modes of imparting education in areas with poor infrastructure and where there is lack of efficient teachers, EDUSAT delivers to fulfill the gap. It has come up with promising results in uplifting the education system as a whole both qualitatively and quantitatively in many states like Haryana, M.P, Karnataka and Gujarat. Consequently EDUSAT was installed in J&K in 2008 with two hubs one at Government College for Women Gandhi Nagar Jammu and other at Government College for Women M.A Road Srinagar and more than 100 Satellite Interactive Terminals (SIT"s) in different institutions of higher education, 41-in Jammu and 59- in Kashmir region. Recently Higher Education Department of Jammu and Kashmir has showed its due concern and has taken new initiatives to expand and upgrade the requisite EDUSAT related infrastructure in majority of the higher educational institutions of J&K. Another major ICT based educational service launched jointly by the Ministry of Human Resource Development, Information and Broadcasting, the Prasar Bharti and IGNOU on 26th January 2000 as the exclusive educational television channel of India was GyanDarshan. IGNOU was given the responsibility to be the nodal agency for uplinking. The channel has come up with non-stop transmission of various educational programmes. GyanVani was another such step which broadcasts programs contributed by IITs and IGNOU. Under the UGC country wide classroom initiative, education programs are broadcast on GyanDarshan and Doordarshan"s National Channel (DD1) everyday. Egyankosh which aims at preserving digital learning resources is a digital repository launched by IGNOU in 2005. More than 95% of the printed material has been digitized and uploaded on the repository by IGNOU. The National Programme on Technology Enhanced Learning (NPTEL) is another major initiative launched by IITs and IISCs in 2001 that promotes education through technology. In 2009, the government approved the landmark, „National Mission on Education through ICT" scheme which is centrally sponsored by Ministry of HRD and approved by Cabinet Committee on Economic Affairs (CCEA). The mission had planned a variety of initiatives aimed at developing and standardizing digital content for higher education sector in India. The idea of National Knowledge Network was proposed by National Knowledge Commission (2006-07), the purpose of such a knowledge network goes to the very core of the country"s quest to build quality institutions with requisite research facilities and create a pool of highly trained persons. The NKN while impacting the existing academic and student community will also alter the R&D landscape for future generations. The NKN will enable scientists, researchers and students from different backgrounds and diverse geographies to work for advancing human development in critical and emerging areas. Another major ICT intervention is the „Digital India project" which aims at making all the services available to citizens electronically. Digital India envisages connecting 205 lakh villages by broadband and phones. It aims at facilitating Wi-Fi in 2.5 lakh schools, all Universities and Colleges, public Wi-Fi hotspots and thus promotes e-governance and transforms India into a connected knowledge economy.

STATEMENT OF THE PROBLEM

Keeping in view the review above, the present study is entitled as, "Use of ICT Services in Higher Education: A Comparative Study of Rural and Urban Degree Colleges of Kashmir". The study in principle focussed on the status of ICT integration in Higher education sector in Kashmir Valley and the likely scope for furthering the ICT adoption in Higher education.

3. OBJECTIVES OF THE STUDY

The study mainly concentrates on the ICT services and its utility among rural and urban Degree Colleges of Kashmir, therefore the study will be carried out keeping in view the following broad objectives.

- 1) To study the level of ICT infrastructure in Rural and Urban Degree Colleges of Kashmir.
- 2) To compare the level of ICT infrastructure in Rural and Urban Degree Colleges of Kashmir.
- 3) To provide a classification of the Degree College of the Kashmir in terms of availability of ICT infrastructure.

- 4) To study and compare ICT literacy among rural and urban College students of Kashmir valley.
- 5) To assess and compare the Perception towards ICT among rural and urban College students of Kashmir.
- 6) To study and compare the Use of ICT services among rural and urban College students of Kashmir valley.
- 7) To study and compare the Use of Cell phone between rural and urban College students of Kashmir Valley.

4. METHODS AND PROCEDURES

A. POPULATION & SAMPLE

The present study was conducted on 20 degree colleges of Kashmir division. The sample has been selected on the basis of Stratified Random Sampling Technique. There are 46 Government Degree Colleges in Kashmir division which are unevenly distributed in the ten even districts of Kashmir division. Of the total 46 colleges, 36 colleges belong to urban areas and hence are designated as urban colleges while as 10 colleges belong to rural areas as per Census of India 2011 classification data and hence are designated as rural colleges. The same has been used to stratify the Degree colleges of Kashmir into rural and urban Degree colleges. In this context, the below given is the list of rural and urban colleges of Kashmir.

SNO	Urban	Rural
1	S.P College Srinagar	Government Degree College Kangan.
2	A.S College Srinagar	Government Degree College Gurez.
3	I.A.S.E Srinagar, formally C.O.E Srinagar.	Government Degree College Tangdhar.
4	Women's College M.A Road Srinagar.	Government Degree College Tangmarg.
5	Women's College Nawakadal Srinagar.	Government Degree College Uttersoo.
6	Government Degree College Bemina.	Government Degree College Vailoo- Larnoo.
7	Women's college Srinagar.	Government Degree College Kellam.
8	Government Degree College Bagi-Dilawar Khan.	Government Degree College D.H.Pora.
9	Government Degree College Ganderbal.	Government Degree College Hadipora.
10	Government Degree College Budgam.	Government Degree College Sogam.
11	Government Degree College Khan Sahib.	
12	Government Degree College Charie-Sharief.	
13	Government Degree College Magam.	
14	Government Degree College Beerwah.	
15	Government Degree College Bandipora.	
16	Government Degree College Sumbal.	
17	Government Degree College Anantnag.	
18	Women's College Anantnag.	
19	Government Degree College Dooru.	
20	Government Degree College Bijbehara.	
21	Government Degree College Kulgam.	
22	Government Degree College Pulwama	

23	Women's College Pulwama	
24	Government Degree College Tral.	
25	Government Degree College Pampore.	
26	Government Degree College Shopian.	
27	Women's College Baramulla.	
28	Government Degree College Baramulla.	
28	Government Degree College Sopore.	
30	Women's College Sopore.	
31	Government Degree College Kupwara.	
32	Government Degree College Handwara.	
33	Government Degree College Kokernag.	
34	Women's College Kupwara.	
35	Government Degree College Pattan	
36	Government Degree College Uri.	

From both the Strata's i.e. Rural and Urban degree colleges, 10 colleges were selected from Urban Degree Colleges, using simple random sampling. The sampling procedure involved lottery method, where in the chits equal in size colour were used equal to the number of colleges of urban area. Then at random a total of 10 degree colleges were selected. The following is the list of 10 degree colleges from the urban strata.

1. Amar Singh College Srinagar.
2. Government Degree College Kulgam.
3. S.P. College Srinagar.
4. Government Degree College Sumbal.
5. Government Degree College Budgam.
6. Government Degree College Sopore.
7. Government Degree College Ganderbal.
8. Women's College Srinagar.
9. Government Degree College Anantnag.
10. Government Degree College Pulwama.

Since the number of Rural Degree Colleges as per the operational limitations of the study is 10. All the 10 colleges were taken and from each college 25 students and 10 teachers were taken at random for the study. Using the method, the following are the ten degree colleges that comprised the rural strata.

1. Government Degree College Kangan.
2. Government Degree College Gurez.
3. Government Degree College Sogam.
4. Government Degree College Uttersoo.
5. Government Degree College Tangdhar.
6. Government Degree College Tangmarg.
7. Government Degree College Vailoo-Larnoo.
8. Government Degree College Kellam.
9. Government Degree College Hadipora.

10. Government Degree College D.H.Pora.

Now here, a total of 20 colleges were selected, 10 urban strata and 10 from rural strata. From each college, 25 students were selected at random and 10 teachers, to whom separately set questionnaires were served. Thus the sample consisted of 500 students and 200 teachers. In addition, a checklist was used to access the basic ICT infrastructure of the degree colleges of Kashmir. A total of

B. TOOLS

In the present study, the following tools were used:

- 1) Checklist
- 2) Self-constructed questionnaire for students.
- 3) Self-constructed questionnaire for Teachers

5. MAJOR FINDINGS

A brief summary of the findings of the study is as under: ICT Infrastructure in Rural & Urban Degree Colleges.

- 1) There is an overall below satisfactory level of ICT infrastructure in the rural degree colleges of Kashmir. Out of the total 20 colleges surveyed, 13 colleges including all ten rural colleges and 3 colleges from urban have a below satisfactory level of ICT infrastructure. Only 5 urban degree colleges have got satisfactory ICT infrastructure level available and 2 colleges from urban degree colleges of Kashmir have above satisfactory level of ICT infrastructure.
- 2) The study revealed that rural and urban degree colleges of Kashmir differ significantly so far as the ICT infrastructure level is concerned. In other words urban colleges have got a far better level of ICT infrastructure as compared to rural degree colleges of Kashmir. Only 3 out of 10 urban degree colleges are having below satisfactory level of ICT infrastructure.
- 3) The study reveals that rural degree colleges have least infrastructure in terms of availability of Computer labs, number of computer labs, internet access, Edusat connectivity, college website, CCTV connectivity, ICT trained faculty, projectors and smart classrooms and power supply and power backup facility, than that of the urban colleges.
- 4) The lack of access to suitable ICT infrastructure in the rural degree colleges of Kashmir is hampering the process of optimum use of ICT services in higher education in Kashmir especially in rural areas.
- 5) These rural urban ICT infrastructural gaps are widening the scope of digital divide and narrowing the scope of equitable access to ICT which is one of the key Sustainable Development Goals. Regarding ICT Literacy, Perception towards ICT, Use of ICT and Use Of Cell phone Among Rural and Urban Degree College Students
- 6) The study reveals that rural and urban degree college students of Kashmir show a great difference so far as ICT literacy is concerned. Urban students score more on ICT literacy than that of their rural counterparts.
- 7) Perception towards ICT among rural students is low as compared urban degree college students of Kashmir.
- 8) Urban student's usage of ICT services is high as compared to that of rural college students. The difference between rural and urban degree college students on the basis of Usage of ICT services is significant.
- 9) Urban students use more Cell phone in their educational affairs than that of rural students.
- 10) There is a positive correlation between ICT literacy and academic achievement as found in students of both rural and urban degree colleges of Kashmir. The students scoring high on ICT literacy dimension has also got a higher academic achievement than that of the students scoring low on ICT literacy dimension.

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