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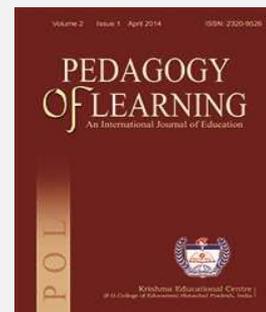
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Status of Availability and Accessibility of e-Resources at University Level

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ABSTRACT:

The role of technology in present context is very meaningful not because of its utilization in communication but also towards great opportunity for expanding the education in country wide. Technology in education is well introduced through ICT and e-Resources because of its nature of needs and fulfillment goals or its missions. The main frame of educational progress is worth full through technology as believing on practicability. In higher education most of the countries are followed well equipped technology for making a meaningful classroom environment. The aim of this present study is to know the availability and accessibility of e-Resources facilities for research scholars at University level. The Survey procedure was employed in carrying out the study. The sample for the study was consisted 104 research scholars from all the department of Ravenshaw University and 116 research scholars from all the departments of Utkal University (only M.Phil. and Ph.D scholars) of Odisha state that were selected by following purposive sampling. The researcher was used self-developed Checklist. Only quantitative including descriptive statistics including frequency, percentage and graphical presentation were used for analysis of the data. The study reveals that the availability of hardware and software components in Utkal University is either equal to or higher than Ravenshaw University and some extent it showing the mid-path progress of ICT and e-Resources availability and accessibility in both universities.

Keywords: Availability, Accessibility, University level, e-Resources, Research Scholar .

BACKGROUND

Higher education plays a major role in the development of a nation. It is viewed as a powerful means to build knowledge based society with broad vision towards quality education. In India, higher education is facing challenges in terms of *Access, Equity and Quality*. The Government of India has taken several initiatives during the 11th Five Year Plan (2007-2012) and 12th Five Year Plan (2012-2017) period to increase *access and quality growth* in higher education and initiatives include enhancing the relevance of higher education by adopting networking and information technology (Inclusive and Quality Expansion of Higher Education, 2013). In the present context IT becomes ICT (Information and Communication Technology) which includes gathering, processing, storing and presenting data and involve activities such as collaboration and communication (Gokhe, 2012). In the present context ICT plays a critical role in enabling sustainable human development by providing people not only with “access” to information and services but also opportunities to participate in and contribute to the knowledge community and it has indeed changed the way we learn, travel, work, interact, participate and research.

RATIONAL OF THE STUDY

The primary purpose of e-Resources is to make content such as books, journals and periodicals easily available and accessible across the world. Nowadays e-Resources are gaining popularity gradually in academic libraries because of the demands of the learners. It is the emergence of Internet, particularly, the World Wide Web (WWW) as a new media of information delivery that triggered the proliferation of Web-based full-text online resources. Everyone can easily read the e-resources, save it in their own space and carry e-Copies anytime and anywhere. Some researcher found that access to content becomes fast, more up to date and crossing all geographical boundaries and add value while conducting research and development activities (Madhusudhan, 2010; Haridasan and Khan, 2008, Kim, 2010). The advantages of e-content include ease and speed of updates, customization of content and interactive features of e-content (Nelson, 2008). According to Coiro (2003) electronic text introduces new supports, new purpose for reading and new ways to interact with information. The major importance of e-Resources was stated by McFadden (2012) as the e-Resources (e-Contents) readers may follow links from the main content to further explanatory content; unfamiliar vocabulary may be defined instantly with links to dictionaries or other online references. For study purposes, students may highlight within the text the information they wish to include in notes or outlines and have this highlighted information transferred to an outline or notes for further study. One of the prime examples of e-Resources in teaching and learning is transformation of distance education into e-learning and blended learning through various e-Contents.

Therefore in India, 11th and 12th Five Year Plans have emphasised on incorporation of ICT in higher education in general and specifically focussed on promoting the use of e-Resources for research (Toro and Joshi, 2012). The aim is to increase access and quality in higher education through adopting networking and information technology. According to UGC-Infonet Digital Library Consortium (2012) through e-Resources it is easy to provide access to a high quality and scholarly e-Content to a large number of Institutions including universities and colleges at substantial lower rates of subscription. Government has invested huge amount of money to create digital content and make it accessible across the country. Presently we are running in 12th five year plan and it is important to find the ground reality in

institutes of higher education: whether the basic minimum infrastructure of hardware and software is available and have students started using e-resources for their learning and research. In this regard in the present study an attempt has been made to explore the availability, accessibility, and utilization of e-Resources at higher education level.

Objectives of the Study

1. To find out the availability of e-Resources at University level.
2. To study the accessibility of e-Resources at University level.

Research Questions of the Study

1. What are the e-Resources available for research scholars at University level?
2. What are the e-Resources accessible for research scholar at University level?

METHODOLOGY OF THE STUDY

The population for the present study consist of all the research scholars (M.Phil. and Ph.D programme) enrolled in the session 2014-15 to 2015-16. In Ravenshaw University there were three hundred twelve (312) research scholars and in Utkal University there were four hundred sixty three (463) research scholars enrolled M.Phil and Ph.D programme (for 2014-15 and 2015-16) session. The investigator has purposively selected four research scholars (two from M.Phil. and two from Ph.D) each university. Thus total sample is 220 research scholars from which one hundred four (104) are from Ravenshaw University and one hundred sixteen (116) are from Utkal University.

In order to achieve the objectives, Checklist tool has been constructed. The tool is researchers made and have been validated by expert and through pilot study. Description of the tool is presented below.

The first two objectives of the study were to find out the availability and accessibility of the e-Resources at University level (Ravenshaw University and Utkal University). To fulfil this objectives check list was prepared for research scholars (M.Phil and Ph.D). Check list comprised of three dimensions: Hardware, Software, and e-Contents. Hardware and Software components are the prerequisites to support the e-Contents. In the checklist basic hardware components such as computer lab, desktop, laptop, printer, scanner, web camera, sound system/speaker, projector, internet connectivity through Wi-Fi and wired network (LAN) have been included. Software components included two major categories: system software and data analysis software which is used for analysing research data. e-Content includes eLibrary, e-Books, e-Journals, Electronic thesis and dissertation and digitized resources like audio lectures and video contents. Further in checklist collect responded through 'Yes' and 'No' options with additional 'pleases specify the numbers' have been used in checklist.

The data was collected from research scholars by using checklist for frequency of available to be tabulated and analyzed by using percentages and graphical data presentation.

THE RESULTS

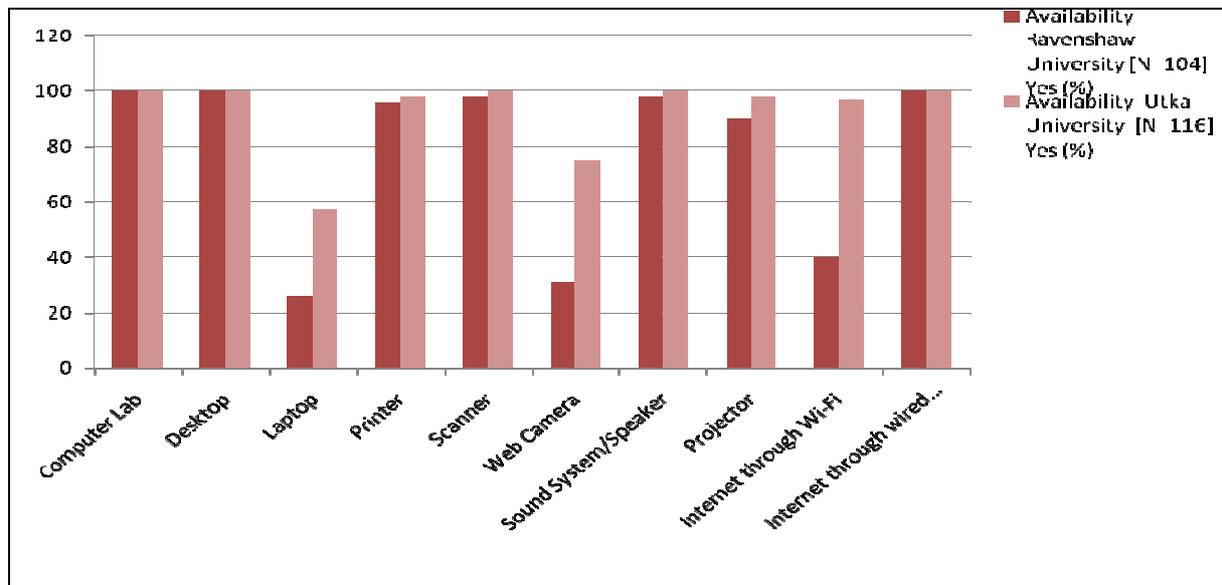
In this section analysis of data has been presented addressing first two objectives. Checklist tool was used to collect data for both availability and accessibility of e-Resources in Ravenshaw University and Utkal University (M.Phil. and Ph.D) individually. After that comparison has been drawn between Ravenshaw University and Utkal University. From the

check list frequency of only ‘Yes’ responses has been presented because ‘No’ and ‘Yes’ were mutually exclusive. The tool contains three major components: Hardware, Software and e-Contents. For a meaningful analysis, each component has been analysed separately. Then frequencies in the form of percentages (%) after which they have been presented graphically. **Comparison of availability of e-Resources between Ravenshaw University and Utkal University**

A. Hardware Components

Table No. 1: Availability of Hardware Components in Ravenshaw University and Utkal University

Components	Availability Ravenshaw University [N=104] Yes (%)	Availability Utkal University [N=116] Yes (%)
Computer Lab	100	100
Desktop	100	100
Laptop	26	57
Printer	96	98
Scanner	98	100
Web Camera	31	75
Sound System/Speaker	98	100
Projector	90	98
Internet Connectivity through Wi-Fi	40	97
Internet Connectivity through wired network(LAN)	100	100



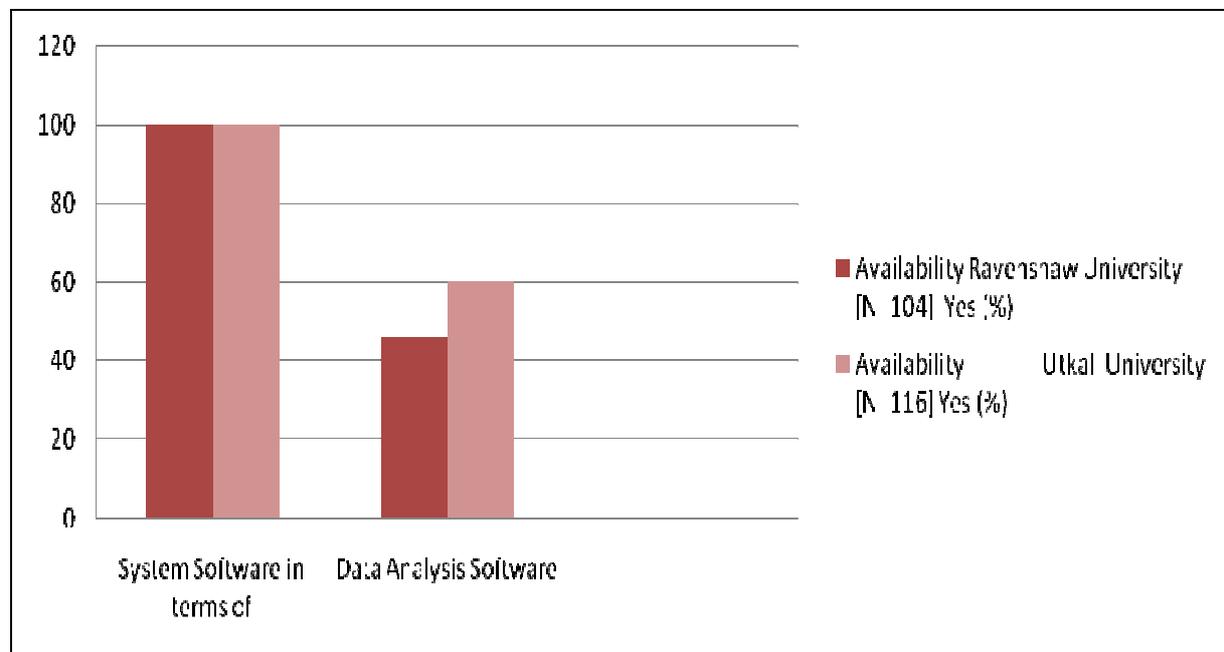
(Figure 1: Availability of Hardware Components in Ravenshaw University and Utkal University)

It is evident from table 1 and figure number 1 that availability of hardware components in Utkal University is either equal or higher than Ravenshaw University. The data shows that all the departments of both the Universities have Computer Lab (100%), Desktop (100%) and Internet connectivity through wired network (LAN) (100%). Availability of Printer, Scanner, Sound System/Speaker and Projector in both the Universities is very high (more than 90%) and the difference between universities regarding availability of these components is very low (less than 10%). However for Laptop, Web Camera and Internet connectivity through Wi-Fi the difference in availability between both Universities is substantial (more than 30%).

B. Software Components

Table No. 2: Availability of Software Components in Ravenshaw University and Utkal University

Components		Availability Ravenshaw University [N=104]	Availability Utkal University [N=116]
Software		Yes (%)	Yes (%)
	System Software in terms of (MS office, print, scan, etc.)	100	100
	Data Analysis Software in terms of (SPSS, Survey Monkeys, Nvivo, etc.)	46	60



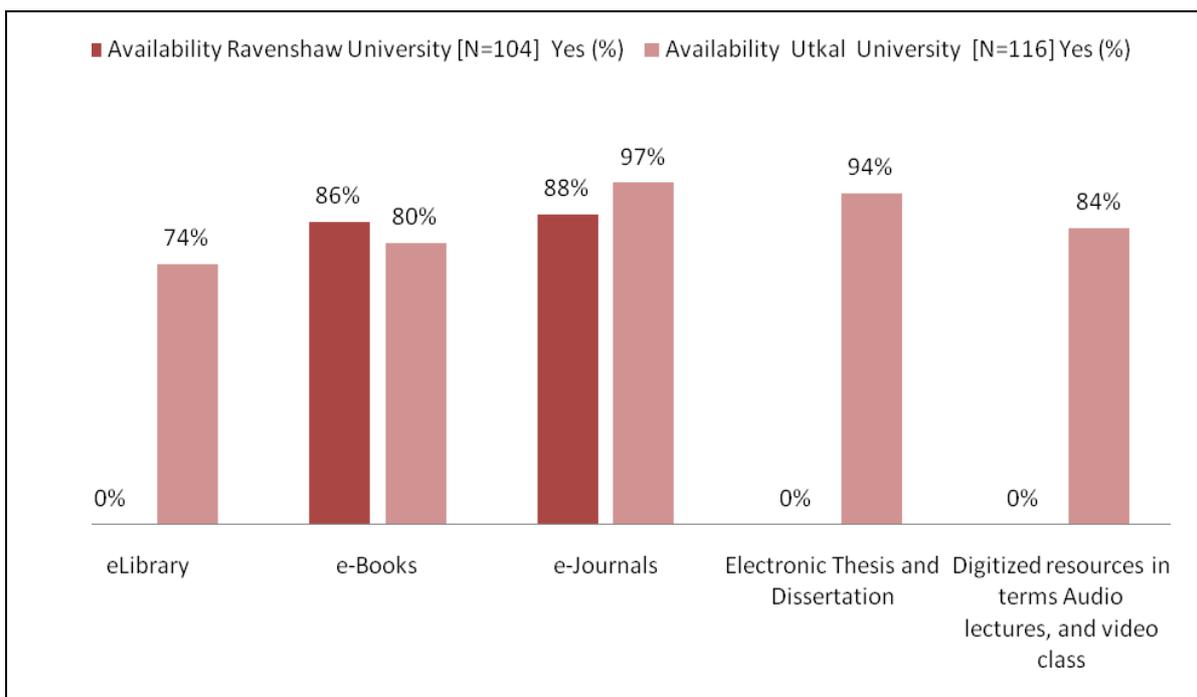
(Figure 2: Availability of Software Components in Ravenshaw University and Utkal University)

In the figure 2 it is clear that availability of System Software component is equal (100%) in both the Universities and availability of Data Analysis Software is higher Utkal University than Ravenshaw University (difference being 14%).

C. e-Content Components

Table No. 3 Availability of e-Content Components in Ravenshaw University and Utkal University

Components	e-Resources	Availability Ravenshaw University [N=104] Yes (%)	Availability Utkal University [N=116] Yes (%)
e-Content		Yes (%)	Yes (%)
	eLibrary	0	74
	e-Books	86	80
	e-Journals	88	97
	Electronic Thesis and Dissertation	0	94
	Digitized Resources in terms of Audio lectures, video contents etc.	0	84



(Figure 3: Availability of e-Contents in Ravenshaw University and Utkal University)

In the figure 3 it is clear that availability of e-Library, Electronic Thesis and Dissertation and Digitized Resources is 0% in Ravenshaw University therefore the gap between the two Universities for availability of these components is substantial (more than 70%). Amongst the e-Contents only e-Books and e-Journals are available in both the

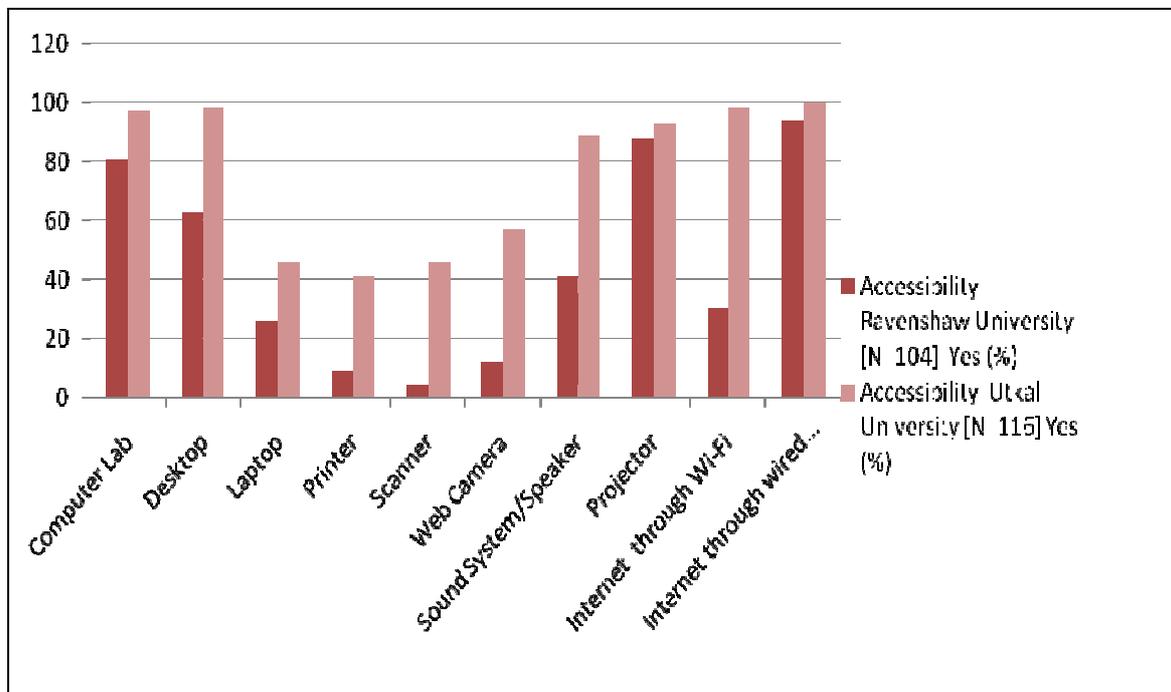
Universities with smaller gap (less than 10%). However availability of e-Books is higher in Ravenshaw University and availability of e-Journals is higher in Utkal University.

Comparison of Accessibility of e-Resources between Ravenshaw University and Utkal University

A. Hardware Components

Table No. 4 Accessibility of Hardware Components in Ravenshaw University and Utkal University

Components	Accessibility Ravenshaw University [N=104] Yes (%)	Accessibility Utkal University [N=116] Yes (%)
Hardware	Yes (%)	Yes (%)
Computer Lab	81	97
Desktop	63	98
Laptop	26	46
Printer	9	41
Scanner	4	46
Web Camera	12	57
Sound System/Speaker	41	89
Projector	88	93
Internet Connectivity through Wi-Fi	30	98
Internet Connectivity through wired network(LAN)	94	100



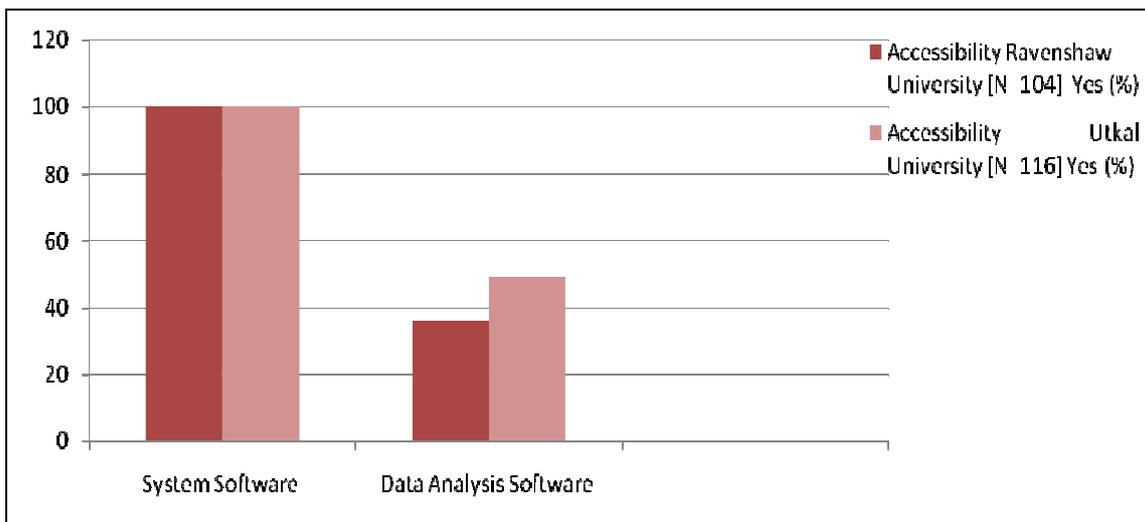
(Figure 4: Accessibility of Hardware Components in Ravenshaw University and Utkal University)

It is evident from table 4 and figure number 4 that accessibility of hardware components in Utkal University is higher than Ravenshaw University. The data indicates that Compute Lab, Projector and Internet through wired network (LAN) in Utkal University are high in both the Universities with difference less than 20%. However for Desktop, Printer, Scanner, Web Camera, Sound System/Speaker and Internet connectivity through Wi-Fi the difference in accessibility between both Universities is substantial (more than 30%) , highest being Internet connectivity through Wi-Fi (68%) .

B. Software Components

Table No. 5: Accessibility of Software Components in Ravenshaw University and Utkal University

Components		Accessibility Ravenshaw University [N=104]	Accessibility Utkal University [N=116]
Software		Yes (%)	Yes (%)
	System Software in terms of (MS office, print, scan, etc.)	100	100
	Data Analysis Software in terms of (SPSS, Survey Monkeys, Nvivo, etc.)	36	49



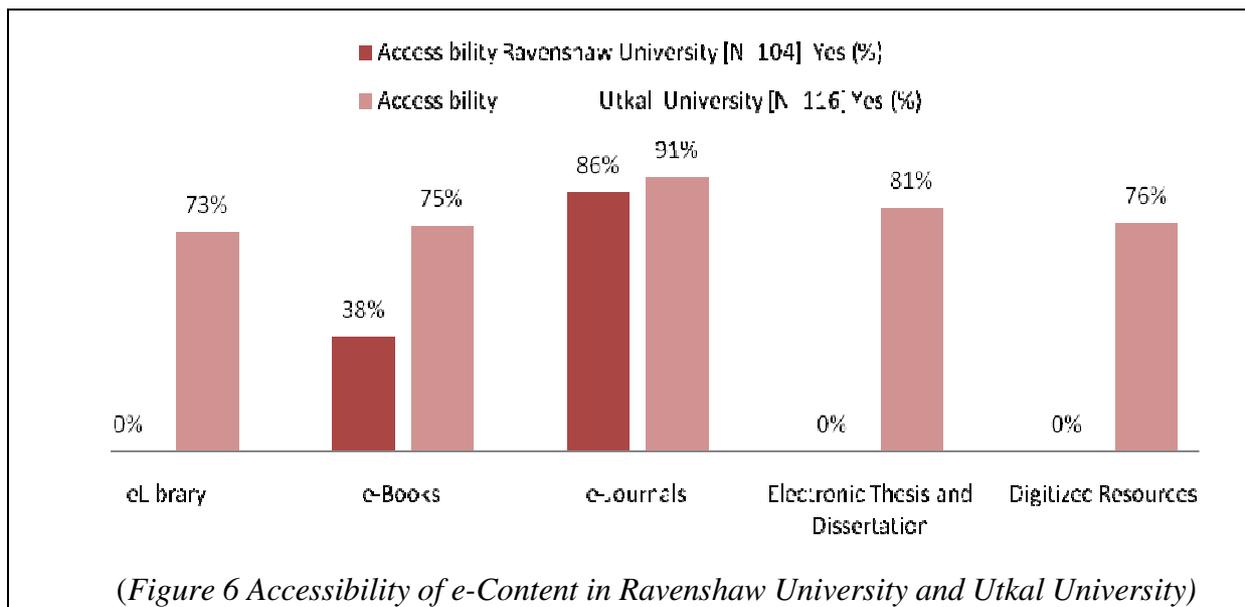
(Figure 5: Accessibility of Software in Ravenshaw University and Utkal University)

In the figure 5 it is clear that accessibility of System Software component is equal (100%) in both the Universities and accessibility of Data Analysis Software is higher in Utkal University than Ravenshaw University (difference being 13%).

C. e-Content Components

Table No. 6 Accessibility of e-Content in Ravenshaw University and Utkal University

Components	e-Resources	Accessibility Ravenshaw University [N=104] Yes (%)	Accessibility Utkal University [N=116] Yes (%)
e-Content		Yes (%)	Yes (%)
	eLibrary	0	73
	e-Books	38	75
	e-Journals	86	91
	Electronic Thesis and Dissertation	0	81
	Digitized resources in terms of Audio lectures, video classes etc.	0	76



Similar to the trend in availability in the figure 6 it is clear that accessibility of eLibrary, Electronic Thesis and Dissertation and Digitized Resources is 0% in Ravenshaw University therefore the gap between the two Universities for accessibility of these components is substantial (more than 70%). Only e-Books and e-Journals are accessible in both the Universities. Accessibility is higher in Utkal University than Ravenshaw for both the components, however, the gap is smaller (less than 10%) for e-Journals and substantial (less than 40%) for e-Books.

MAJOR FINDINGS

Objective 1

Availability of hardware components in Utkal University is either equal to or higher than Ravenshaw University. However for Laptop, Web Camera and Internet connectivity through Wi-Fi the difference in availability between both Universities is substantial i.e., more than 30%. Availability of System Software is equal (100%) in both the Universities and availability of Data Analysis Software is higher in Utkal University than the Ravenshaw University i.e., difference being 14%. Availability of eLibrary, Electronic Thesis and Dissertation and Digitized Resources is 0% in Ravenshaw University therefore the gap between the two Universities for availability of these components is substantial i.e., more than 70%. Amongst the e-Contents only e-Books and e-Journals are available in both the Universities with smaller gap (less than 10%). However availability of e-Books is higher in Ravenshaw University and availability of e-Journals is higher in Utkal University. Through these findings the researcher interpreting that effectiveness of 11th five year plans to be progress satisfactory because of the availability of ICT components (Hardware and Software) at University level.

Objective 2

Accessibility of all the components: hardware, software and e-Contents were higher in Utkal University as compared to Ravenshaw University. In Hardware, for Computer Lab, Projector, and Internet through wired network (LAN) access is high in both the Universities with differences less than 20%. However for Desktop, Printer, Scanner, Web Camera, Sound System/Speaker and Internet connectivity through Wi-Fi the difference in accessibility between both Universities is higher (more than 30%), highest being Internet connectivity through Wi-Fi (68%). Accessibility of System Software components is equal (100%) in both the Universities and accessibility of Data Analysis Software is equal (100%) in both Universities and accessibility of Data Analysis Software is higher in Utkal University than Ravenshaw University with 13% difference. Accessibility of eLibrary, Electronic Thesis and Dissertation and Digitized Resources is 0% in Ravenshaw University therefore the gap between the two Universities for accessibility of these components is substantial (more than 70%). Only e-Books and e-Journals are accessible in both the Universities. Accessibility is higher in Utkal University than Ravenshaw University for both the components, however, the gap is smaller (less than 10%) for e-Journal and substantial (less than 40%) for e-Books). Through these findings the researcher interpreting that effectiveness of 12th five year plans to be progress un-satisfactory because of the accessibility of ICT components (Hardware and Software) and e-Resources is difficulty at University level.

EDUCATIONAL IMPLICATION

This study would be helpful to know the reality of availability, accessibility and utilization of e-Resources at University level.

- The study might be helpful to understand the problems face by the research scholars during accessing and utilizing e-Resources at University level.
- The study helps policy maker for understand the problems and gap between the e-Resources and research scholars.

CONCLUSION

In 21st century the importance of ICT and digitized resources are not only in the educational institutions but also it cover all aspects of present human civilization even our ID proof also a part of it. e-Resources become a major part of the modern society. It is necessary because of its easily accessible in different mode of technological instruments and makes it easier to handle and transfer in worldwide mode and moreover it shares the ideas in a way of global perspectives. The e-Resources on magnetic and optional media have a vast impact on the collections of universities libraries. These are more useful due to inherent capabilities for manipulation and searching, providing information access is cheaper to acquiring in storage and maintenance etc. and sometimes the electronic form is the only alternative.

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