



Research Paper

## Use of Electronic Resources and Services by Visually Impaired Students in BHU

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### Abstract

The development of information technologies and web technology has evolved in modifications to latest information storage and retrieval systems, such as “digital libraries, online databases, digital repositories, virtual libraries, and so on”. Banaras Hindu university (BHU) is one of the universities that has benefited from these internet tools and services. The current study is an aspect of one of the writers' Ph.D. studies. To ascertain how visual impairments BHU students utilize electronic -resources and services. The goal of this study was to find out how BHU's visually impairable students used electronic resources “e-journals, e-books, online/offline databases, and web resources”. Visual disability imposes some inequitable demands that have a long-term impact on the personality of visually impaired students. These students face a variety of difficulties, one of which being destitution. Instead of being loved and cared for, blind people are condoled. The purpose of this review is to look at the information resources available to visually impaired individuals through India's major institutions and assess the impact of electronic resources on impairable students of “Banaras Hindu university”.

**Keywords:** Visually impaired students, Electronic resources, Banaras Hindu university.

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### I. Introduction

The “Banaras Hindu University,” located in Varanasi's holy heart, is an internationally famous temple of learning. Pandit Madan Mohan Malviya, a prominent nationalist leader, founded this innovative and creative university in 1916 with the assistance of notable individuals such as Dr. Annie Besant, who viewed it as the University of India. The B.H.U. Act of 1915 was passed by Parliament and established Banaras Hindu University. It was a pivotal figure in India's independence struggle and has since grown into the country's most important educational institution. It has provided many great independence warriors and architects of modern India, as well as many notable intellectuals, artists, scientists, and technicians who have graced its halls, all of whom have greatly contributed to the nation's growth. It is one of India's most prestigious research universities. Pandit Madan Mohan Malviya, a brilliant visionary and national leader, founded it on 1300 acres of land. Currently, the institution has about 30000 students, 1700 instructors, and over 5500 non-teaching employees. The University Central Library, also known as Sayaji Rao Gaekwad Library, is India's largest university library system, founded in 1917 with funds donated by Prof. P. K. Telang.

Electronic resources are online resources that are generated and distributed digitally and are accessible via the internet. “Electronic systems and networks. OPACs, CD-ROMs, online databases, E-journals, E-books, internet resources, print-on-demand (POD), E-mail publishing, wireless publishing, electronic link and web publishing, and so on” are all examples of “e-resources.” In this sense, the concept largely refers to “any electronic product that offers a collection of data as a commercially available resource, whether it be in text, numerical, graphical, or time-based form” (Bavakenthy and colleagues, 2003). Electronic resources are digital commodity which provide a collection of the data, information, and other resources. Electronic resources are a great source of knowledge for students who desire to supplement their normal classroom activities with additional learning materials.

Physically disabled persons are one of the distinctive classifications, among others. Visually impaired is a wide phrase that is commonly used in educational settings to describe persons who have vision problems, irrespective of the source of their deficiency. As per Friend (2009) [1] "Visually impaired is a term which is used to describe the people who are partially-sighted or completely blind".

World Health Organization (WHO, 2018) [2] expected that there are 1.3 billion individuals worldwide who have some form of visual impairment, with moderate vision impairment numbering up to 188.5 million. "There are roughly 217 million people with moderately severe impaired vision, 36 million people who are completely blind, and 826 million people who have near visual impairment. It has also been said that most persons with visual impairment are above the age of 50. However, it is believed that around 80% of total vision impairment is preventable or treatable". Visual disability requires some unjust expectations that have a long-term impact on the personalities of visually impaired people. These people face a lot of difficulties, one of which being destitution. Instead of being loved and cared for, blind people are excused (Chaturvedi, 2002) [3]. With the recognition of this user community at large significance in mind, the current study seeks to evaluate the technological resources available to persons with visually impaired by India's central institutes.

The Centre for Research in Library and Information Management (CERLIM) has conducted the availability of electronic resources by visual impairments people to improve understanding of marginalization from access to digital knowledge, which can all to occur immediately when human beings do not even have so-called 'ordinary' vision. Because of technological advancements, users may now access information in several ways that best suit their wants and requirements. This is especially true in educational institutions, but it is also becoming true in public libraries, publicly available services, and home technology. The Internet has enabled blind and visually impaired persons to access the very same resources as visual learners by employing access technologies like as screen magnification, voice output, and electronic Braille output. However, it is critical to guarantee that complete access is granted.

## II. Review of Literature

A survey of related literature serves several functions and is vital to a well-designed research project. It usually occurs early in the research process and can provide useful information to any section of the research study." This implies that it not only assists the researcher by providing information on the state of knowledge in the field he/she plans to examine, but it also assists in having a clear understanding of the concept, the technique to be used, and speculating on the experiment's outcome.

**Datta, Poulomee and Talukdar, Joy (2016)** [4] concluded that students with visual impairment obtained poor ratings on all elements of self, particularly physiologically, morally, spiritual, family, economical, and intellectual, while some students achieved average ratings on family and academic self-concepts, there seem to be no significant differences between boys and girls with vision impairment across the six social and economic dimensions.

**Pant, and Pankaj, Joshi, P. K. (2016)** [5] found that children with visual impairments who attend inclusive schools are more emotionally stable than students with visual impairments who attend special schools. demonstrated that there is a substantial gap in adjustment between handicapped and typical children

**Dangi, R. K., & Saraf, S. (2016)** [6] Information literacy in the BHU library system was discussed, as well as the elements of the system of information literacy, the significance of information literacy, information literacy and information technology, information literacy and higher education, the BHU libraries and information system, and information literacy and the BHU library system

**Gahlawat, Savita (2017)** [7] found that the personality and psychological health of visually challenged teenagers are considerably poorer than those of their non-visually challenged peers on average. It has been shown that emotionally and physically damaged youngsters adjust better than visually handicapped children. Children who are physically deformed are more well-adjusted at school than children who are visually handicapped.

**Singh, Kunwar & Varma, Akhilesh Kumar (2017)** [8] The paper is primarily concerned with the usage of electronic resources by students and researchers, with particular emphasis on the faculty of arts at B.H.U. Varanasi. For the purpose of determining the impact of demographic information on overall satisfaction with e-resources, a basic frequency survey was conducted. They found several concerns pertaining to electronic resources. These limitations have an impact on the utilization of e-resources at Banaras Hindu University. Although these limitations are primarily related to poor information technology infrastructure and limited access to the internet and e-resources, they may also result in other limitations, such as a reluctance to use electronic resources on a regular basis and, as a result, only a limited level of satisfaction with such resources.

**Bhardwaj, Raj Kumar (2018)** [9] stressed that the libraries of Delhi's institutions of higher learning had few resources for visually impaired students making it impossible for such students to conduct investigations with the existing technical infrastructure. These universities lacked the infrastructure required to provide effective service to visually impaired students.

**Khowaja, Sufia & Fatima, Nishat (2019)** [10] Visual disability put some unjust obligations on visually impaired people, which have had a long-term impact on their personalities and well-being. Many difficulties befall these individuals, deprivation being the most significant of them. Instead of being loved and cared for, blind people are condoned and tolerated.

**Devi, Bharati and Saxena, Deepa Rani (2019)** [11] looked at the problems that visually impaired students have over the course of their higher school education. As a result of several key issues, such as a lack of contemporary teaching equipment, the absence of a class lecture recorder, financial difficulties, and the excessive amount of paperwork required by institutions during the test and admission process, this occurred. Another element that has an impact on schooling is the psychological and social adjustment to new settings. Learning is a continuous process that has the potential to impact individuals. Visually impaired students have had a tremendous influence on society at every stage of their lives, from elementary school to higher education, and this contribution should not be overlooked. Consequently, it is important to give assistance to persons who are visually impaired in order to increase their chances of achieving job success and to avoid them being educationally disadvantaged while entering the higher education system.

**Mishra, Rajani & Shukla, Ashok Kumar (2020)** [12] discovered that the reliance on electronic resources in every field of intellectual endeavor is growing by the day. The purpose of this study is to evaluate the use of electronic information resources by social scientists at Banaras Hindu University in order to support the usage of electronic information resources in general. It was discovered that social scientists have access to electronic materials that are readily available. Results indicated that social scientists used the library equitably for their research and other academic objectives.

### **III. Influence of Visual Impairment on Students**

Visual impairment has a variety of educational, economic, and psychological ramifications. Depending on the kind and degree of vision impairment, the consequences are both objective and subjective. It is thought beneficial to classify the type of impacts for educational reasons. The objective consequences of vision impairment are cognitive in nature. As the senses are the doorway to knowledge. The range and quality of cognition are reduced when there is a sensory impairment in vision. In addition, vision is the most actively employed sense. Visual experiences generate a lot of knowledge. As a result, the vision's consequences are severe. According to Berthold Lowenfeld (1964), vision impairment “imposes three essential limitations” on the individual. i.e.

- Restrictions in the quantity and diversity of experiences.
- Restrictions in mobility.
- Restrictions in environmental control and self-relationship.

Touch observations are the sole way for a visually impaired individual to learn about the spatial characteristics of items. Kinesthetic experiences are crucial in his sort of knowledge. Direct contact with the items to be inspected is necessary to conduct any touch observations. Color vision, for example, is a feature of the retina and hence cannot be performed by any other sensory organ. Because touch demands direct interaction with the objects to be examined, visually impaired children usually only have a limited comprehension of them. The ability to perceive is limited in its ability to operate when it is actively used for the goal of cognition, but the sense of vision is always active when the eyes are opened and performing activities, unless the organs is inhibited. The youngsters who are sight challenged are still unable to explore. When a person loses his or her vision completely, he or she becomes reliant on his or her other senses, which causes increasing difficulty and slowdown in moving around. Visual impairment is often recognized as having the most significant single influence on a person's life. Visual impairment impacts not just the chances for achievement of a visually challenged individual, but it also impairs his or her ability to maintain social bonds. Their movement, exposure, and stimulation for learning new knowledge are limited because to their lack of eyesight. He is constrained in his spontaneous decision to pursue or continue various pursuit of learning and enjoyment.

#### **1. Requirement of training for usage of electronic resources**

The usage of Electronic Resources and other linked resources, the application of skills is required that should not be overlooked, and these abilities can only be acquired via appropriate training and supervision. University graduates must learn and practice the required skills to make good use of the ever-increasing number of e-resources available. So, if they had any training on the different e-resources accessible at their local library, they were asked.

#### **2. List of electronic resources used in BHU**

There are several types of resources that are available and accessible today at BHU, including intranet (locally produced E-resources), internet, also known as online (remotely stored E-resources), and physical media (stored data on CD-ROM, audio, and video cassettes, among other things)-based resources. The third type of publishing is like conventional paper-based publications, with the exception that they required computer hardware and software in order to be used effectively (Judith, 2003). [13]

- E-BOOKS
- E-Journals
- E-Maps
- E-theses/dissertations
- E-newspaper
- E-reports
- CD ROMs
- Digital library
- Institutional repository

### **3. Information Access to Visually Impaired Students of BHU**

When it comes to information, those who are blind or visually impaired have the same need as their seeing equivalents. These individuals, like everyone else, require rapid access to information, and they may choose to listen to the news, a journal, or any other relevant material. Important literary, economic, and technical works may be digitally stored and made accessible to all visual impairment's individuals around the globe for education, entertainment, and research purposes, as well as for other purposes, study, and enjoyment, as well as to future generations, thanks to advances in technology (Bhardwaj, Shukla, and Yogesh, 2005) [14]. In advanced civilizations such as North America, Europe, and portions of Asia, there is a strong emphasis on education efforts have been made to improve inclusive access to the information for visually impaired people (Majinge, 2014) [15]. According to Babalola and Haliso (2011) [16], Annichiarico (1991) [17], Shokoff (2001) [18] and West (1995) [19] many alternative techniques have been created across the world to satisfy the information demands of visually impaired students, including:

- Books in Braille: Braille is a design made up of dots and dashes that represent characters. It is used to learn by touching the pages. Braille books are an amazing site for those who are blind or deaf.
- Audiobooks are abridged versions of fiction that are also available in print.
- A talking book is a book that is designed to enhance the reading experience for readers who have visual impairments by highlighting, reflecting, and being as realistic as possible. This allows the reader to comprehend what the author was attempting to express via the book.
- Talking media outlets are audio recordings of newspaper news stories.
- Huge, printed materials: These are publications that have large fonts and are typically utilized by partly sighted individuals.

Visually impaired people are also benefiting from ICT developments in assistive technology to get access to information. Assistive technology is a broad phrase that encompasses both equipment and software used in the delivery of assistive services and products. An electrical equipment has been specifically created to aid people with impairments in carrying out their everyday routines on their own. Assistive technology enables people to be productive, autonomous, and to engage in education, all of which improve their well-being and provide them with dignified lifestyles. Assistive technology may be defined as compensating aids for individuals with impairments. (WHO, 2018) [40]. Screen magnifiers, screen readers, and voice recognition software are examples of assistive technology used by the visually handicapped to access information.

### **IV. Suggestions are for Effective Electronic Services to Visually Impaired Students**

- Students who are visually impaired in BHU should receive appropriate computer training and be made aware of the software options accessible to them in order to enhance the ease with which they can access information to the entire age.
- It is important to raise awareness of the usage of electronic journals, electronic databases, and institutional repositories in order to get up-to-date information.
- Students should be encouraged by implementing awareness programs for doing duties electronically, which will also help to increase their level of self-confidence by BHU.
- For these individuals, access to electronic resources is a critical concern. Consequently, libraries should place a strong emphasis on creating an accessible web design in order to ensure that such materials are accessible and used.

### **V. Conclusion**

Visually impaired people are socially disadvantaged people who have compatibility issues since advancements in information access are not occurring at the same rate for them. Learning resources for visually impaired students in Indian institutions are inadequate; without these fundamental amenities, students would struggle to continue higher education and undertake research and development. Leading to a shortage of implementation of the Physical Handicapped Persons Act, nongovernmental organizations (NGOs) provide specific library services to visually impaired individuals in India. Libraries in the nation are still not disabled-

friendly as a result (PWD Act), (Pillai, 2011) [20]. Even though visually impaired BHU students are aware of e-resources and are utilizing these resources for a variety of purposes such as staying up to date and writing their assignments, the most significant difficulty they encounter is the issue of consistency of such resources with graphical interfaces and a lack of assistance from faculty.

This review showed that many e-resources are made available at BHU. According to the findings of this survey, The vast majority of BHU users access e-resources for educational purposes. It was observed that e-resources items are suitable at BHU, and that consumers are generally satisfied with them. Even though BHU lacks infrastructure, the current e-resources can fulfil user needs. Furthermore, BHU should organize extra user training programs, employ competent personnel with ICT skills, and take user feedback into account while signing up for new e-journal subscriptions.

E-resources are useful for ensuring thorough and precise information. The e-resources offer a variety of search possibilities to the user and library managers. Using e-resources allows the library to conserve space in the library as well as the users' time. E-resources are beneficial to libraries as well as other members of society who are looking for a range of information from across the world. The advancements in information and communication technology services accessible today have resulted in significant changes in library operations. Its benefits are for technocrats since the use of electronic devices improves the user's expertise.

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