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INFORMATION SEEKING BEHAVIOR AMONG THE DIFFERENT CATEGORIES OF PERSONS WITH DISABILITIES

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Abstract : In this study, we assess the information needs of different categories of disabilities and investigate the intricate relationship between the factors of information-seeking behavior and different types of disabilities. The study used a survey technique to achieve its objectives and interviewed with the help of a structured questionnaire. Data were collected from 300 respondents with different types of disabilities, and the responses were received and analyzed. The result of the study sheds light that information seeking behavior varied accordingly to the different types of disabilities and it is dependent on each other, except for the time spent by the user. Only time spent is not dependable. The findings of this study contribute to a deeper understanding of the information behavior of a person with disabilities that can shape an inclusive information system and services, and offer insights that can inform policy, technology, and accessibility initiatives to better support this population and foster inclusive information ecosystems.

Keywords: Hearing disabilities, Information behavior, information need, locomotor Disabilities, Media choice, persons with impairment, visual disabilities

1.0 Introduction

People receive information throughout the day from different sources, channels, media, etc., being conscious or unconscious (Laloo, 2002). But it is seen that different types of persons with disabilities have different information behavior due to their physical abilities, social and economic conditions. This study tried to focus on the involvement of information need, information behavior of persons with disabilities. Particularly in this study, it is tried to show the current status of information needs and information-seeking behavior of persons with disabilities. The objectives of the study are to find out the information needs, media choice, use of sources of information, and the time spent on information seeking of persons with disabilities. For this purpose, it is tried to show the relation between information behavior with different categories of persons with disabilities.

2.0 Objectives of the study

The objectives of the study are to find out the information behaviour patterns among the different types of disabilities. To achieve this goal, this study precisely makes an attempt to realize the following targets:

i. To assess the types of information needs among persons with disabilities.
ii. To assess the types of media choice among persons with disabilities.
iii. To assess the use of sources of information among persons with disabilities.
iv. To assess the time spent of information searching among persons with disabilities.
v. To examine the relationship between information behaviour and types of disabilities.

3.0 Overview of Literature

An endeavor towards a comprehensive literature search had been conducted at the preliminary stage, to identify

and locate available information, relevant and pertinent to the problem of this research work, that has been scattered in various information sources like journal articles, conference papers, theses and dissertations, research reports, books, electronic information sources, and even in Internet resources. An in-depth review of existing literature related to the problem of this research work is furnished below:

The information behavior of three major type of persons with disabilities like locomotor disabilities, visual disabilities and hearing disabilities can be explained by taking the users need and information behavior. So many theories are being developed on information behavior of these major types of disabilities. According to Giesbrecht et al. (2017), people with disabilities often required assistive devices, modifications to their home environment, and physical assistance to facilitate mobility. Their study examined self-reported met and unmet needs of people with disabilities who use wheeled mobility devices, compared with non-users (Giesbrecht, 2017). Sammer et al. (2012) revealed that mobility impairments can restrict the participation in social life of those affected such that people lack fair opportunities for fulfilling their needs. From the point of view of those affected, there are difficulties that go beyond the mere physical barriers, which have been the focus of traffic planning (Sammer et al., 2012). In an another study Sambo, Rabiu & Shaba explored information needs of the physically challenged students in Kwara State Library, Ilorin, Nigeria. They focused on information needs of different field like medical, academic, security, news/current awareness, training/conference, seminar respectively, transport/travel, sport, politics, and among others (Sambo et al., 2016). Zamarripa & Shields in their study clearly have found that information is very important to post-secondary students with mobility impairments. The study showed that this population of students also needs information on disability services, campus accessibility and disability related health issues along with the general information need of traditional post-secondary students (Zamarripa, 2015). Sambo et al., (2018) examined the information needs of the wheelchair users in Oyo State Public Library, Ibadan, Nigeria. They focused on the information needs of wheelchair users covered education, recreational, social/personal, security/government policies programmes, health, politics and others information. Their study also revealed that internet and library topped the highest ways of meeting the information needs. Their study showed the scarcity of information resources in meeting their needs (Sambo et al., 2018). In regarding visual disabilities, Brunsman-Johnson et al. (2011) described in his study the website information seeking strategies used by users who are blind and compares those with sighted users. Also they outlined how assistive technologies and website design can aid users who are blind while information seeking (Brunsman-Johnson et al., 2011). Bamidele (2018) focused on information need of visually disable people with the help of assistive devices. Despite people with visually impaired variations in educational backgrounds and living conditions, decision makers, educational administrators, policy makers, school administrators, parents and information professionals should work together with a common vision, to achieve equal accessibility for the blind and visually impaired people to information (Bamidele, 2018). Eyinade tried to show the information-seeking behavior of visually impaired students using Wilson's model of information behavior in Federal College of Education (Special), Oyo, with a focus on assessing information needs, adequacy, and satisfaction of the visually impaired students. (Eyinade, 2022). Khowaja & Fatima (2023) focused on information seeking behavior of visually impaired students at Aligarh Muslim University and University of Delhi. Also their study ascertained the sources and strategies employed by visually impaired students for acquiring the information. Problems encountered and suggestions to overcome are also discussed in the study (Khowaja & Fatima, 2023). Beverley, Bath & Barber (2007) tried to determine by their study the extent to which two existing models of information behavior could explain the information behavior of visually impaired people seeking health and social care information (Beverley et al., 2007). Erlianti (2020) wanted to find out information-seeking behavior, especially for the blind in facing the industrial revolution era 4.0. He also pointed out that the search behavior required guidance from the accompanying teacher/librarian and as a whole required the internet in searching for information (Elrianti, 2020). Fatima & Kumari (2017) explored in their study, the information seeking behavior of visually impaired students in Maulana Azad Library, AMU. The purpose of their study was to examine the information seeking behavior of visually impaired students in Maulana Azad Library, AMU (Fatima & Kumari, 2017). There is also some literature found in which authors deal with the issues of information behavior on hearing disabilities. In regarding this, Porter & Edirippulige (2007) revealed the issues related to minimal online information available to families beyond early intervention. Information on education issues, mental health, and deafness or the day-to-day management of a child or adolescent with a hearing loss are neglected topics on Web sites (Porter & Edirippulige, 2007). Omondi et al. (2007), focused on childhood hearing impairment. While most parents were aware of their children's hearing limitations, they detected them late and their level of service demand and uptake was still low. Prioritizing

issues of access to and utilization of the care facilities, the organizational factors and poverty alleviation can harnessed the benefits of parental awareness for early intervention in ear care programs (Omondi et al., 2007).
In summary, a great deal of research has been done on many facets of information-related behavior, including information need, information seeking, and information sources by different groups of people. It is found that there is a significant knowledge gap in information behaviour by persons with disabilities.

4.0 Methodology

To achieve the stated objective, the survey method was employed. An attempt was first made to determine the sample from the target population for the collection of the necessary data required to fulfill the objective of the study. However, with regard to the population of this study, all persons with disabilities across the world should come under consideration. But covering such a large and heterogeneous population was not convenient for the study. So, a sample was chosen by referring to the Central Government report, i.e., 'Census of India 2011'. As per the report, locomotor disability (20.3%), visual impairment (18.8%), and hearing impairment (18.9%) were found to constitute the major portion. Hence, observing the report, three major sample categories of disabilities, namely 'Locomotor Disabilities', 'Visual Impairment', and 'Hearing Impairment' had been selected for the purpose.

For the study, a stratified random sampling technique was employed. Each of the three disability categories was considered as a separate stratum with a fixed sample size of 100 individuals. It was intended to collect data from a total sample of 300 disabled people from rural, urban, and semi-urban areas of Kolkata and its surrounding districts, namely South 24 Parganas, North 24 Parganas, Howrah, and East Midnapore.

To collect the required data, a structured questionnaire was framed. Data had been collected from the selected sample using a combination of both questionnaire and interview methods.

Finally, analysis and interpretations of all the collected data were done to fulfill the objective of the study. The formulated hypothesis was tested by employing Pearson's Chi-Square Test of Independence using the statistical software R (version 4.4.1).

5.0 Analysis

The findings obtained from the analysis of collected data are as follows:

5.1 Information needs of different types of disabilities

Table 1 shows the information needs of different categories of persons with disabilities.

Table 1: Information Needs by different types of disabilities

Sample Size: 300 (Locomotor Disability: 100; Visual Disability: 100; Hearing Disability: 100)

Types of Disability	Political Information	Financial and other related Information	Educational Information	Health-related Information	Recreational Information	Sports-related Information	Religious Information
Locomotor Disability	9%	47%	12%	11%	9%	5%	7%
Visual Disability	8%	27%	19%	20%	6%	0%	20%
Hearing Disability	7%	24%	35%	13%	16%	3%	2%

It is found from Table 1 that in the case of information needs, people with locomotor disabilities preferred financial information most (47%). While sports-related information was less preferred (5%) by those with

locomotor disabilities. Financial information was also most preferred (27%) by persons with visual disabilities. None of the respondents favored sports-related information, and a negligible percentage (6%) preferred recreational information. On the other hand, in the case of hearing disabilities, educational information was most preferred (35%), followed by financial information (24%). Religious information was less preferred (2%).

5.2 Media choice by different types of disabilities

Table 2 shows the use of media choice of different categories of persons with disabilities.

Table 2: Media choice by different types of disabilities

Sample Size: 300 (Locomotor Disability: 100; Visual Disability: 100; Hearing Disability: 100)

Types Of Disability	Printed text	Audio	Visual	Audio-visual	Verbal	Non-verbal
Locomotor Disability	24%	2%	0%	29%	45%	0%
Visual Disability	7%	33%	0%	0%	60%	0%
Hearing Disability	24%	0%	23%	30%	17%	6%

It is found from Table 2 that in the case of media choice, people with visual disabilities (60%) showed their highest preference for verbal media. While printed texts were less preferred (7%) by those with visual disabilities and none of the respondents with visual disabilities showed their interest in visual, audio-visual, and non-verbal media. Verbal media choice was also most preferred (45%) by persons with locomotor disabilities. Audio media were less preferred (2%) by those with locomotor disabilities, and none of the respondents showed interest in visual and non-verbal media choice. On the other hand, in the case of hearing disabilities, audio-visual media were most preferred (30%), followed by printed texts (24%). None of the respondents with visual disabilities showed interest in audio media choice.

5.3 Use of sources of information by different types of disabilities

Table 3 shows the use of sources of information among different categories of persons with disabilities.

Table 3: Use of sources of information by different types of disabilities

Sample Size: 300 (Locomotor Disability: 100; Visual Disability: 100; Hearing Disability: 100)

Types of Disability	Documentary	Institutional	Human sources	Mass media	Internet
Locomotor Disability	20%	0%	44%	19%	17%
Visual Disability	14%	6%	57%	16%	7%
Hearing Disability	26%	0%	17%	25%	32%

It is found from Table 3 that in the case of use of sources of information, people with visual disabilities preferred human sources the most (57%). Institutional sources were less preferred (6%) by those with visual disabilities. Human sources were also most preferred (44%) by persons with locomotor disabilities. While none of the respondents favored institutional sources. On the other hand, in the case of hearing disabilities, internet sources were most preferred (32%), followed by documentary sources (26%). None of the respondents with hearing disabilities favored institutional sources.

5.4 Time spent in seeking information by types of disabilities

Table 4 tries to show the time spent in seeking information among different categories of persons with disabilities.

Table 4: Time spent for information seeking by types of disabilities

Sample Size: 300 (Locomotor Disability: 100; Visual Disability: 100; Hearing Disability: 100)

Types of Disability	**Below 2 hours**	**2-4 Hours**	**4-6 Hours**	**Above 6 Hours**
Locomotor Disability	48%	30%	8%	14%
Visual Disability	41%	46%	7%	6%
Hearing Disability	48%	34%	13%	5%

Based on Table 4, distinct time patterns emerge in information-seeking across disability types. Both locomotor and hearing disabilities show similar preferences, with 48% of respondents in each category spending less than two hours seeking information. However, persons with visual disabilities demonstrate a different pattern, with 46% preferring 2-4 hour sessions - the highest percentage in this duration category across all groups.
The data reveal that most individuals across all disability types favor shorter information-seeking sessions, but those with visual disabilities show greater engagement in moderate-duration activities (2-4 hours). Extended information seeking (over 6 hours) remains minimal across all groups, with locomotor disabilities showing the highest percentage (14%) in this category, while visual disabilities show the lowest (6%). This suggests that regardless of disability type, there is a general preference for time-efficient information-seeking approaches, though the optimal duration varies by specific disability characteristics.

5.5 Relationship between information behaviour among different types of disabilities

From the above analysis, it is observed that information behavior, viz. information need, media choice, use of sources of information, time spent, etc., varies accordingly to the different categories of disabilities. The following hypotheses were framed out to test the fifth objective of the study, i.e., examining the relationship between information behavior and types of disabilities:

Hypotheses 1

H_0: Information needs and types of persons with disability are independent.
H_1: Information needs and types of persons with disability are dependent.

Hypotheses 2

H_0: Media choice and types of persons with disability are independent.
H_1: Media choice and types of persons with disability are dependent.

Hypotheses 3

H_0: Sources of information and types of persons with disability are independent.
H_1: Sources of information and types of persons with disability are dependent.

Hypotheses 4

H_0: Average time spent and types of persons with disability are independent.
H_1: Average time spent and types of persons with disability are dependent.

Pearson's Chi-Square test of independence is applied to test the association between the information need, media choice, sources of information they use, and average time spent, with the types of disabilities. The mathematical formula of Pearson's Chi-Square test of independence is as follows:

$\chi^2 = \sum(\text{Observed value} - \text{Expected value})^2 / \text{Expected value}$

Table 5 tries to showcase the statistical summary of the hypothesis test using Pearson's Chi-squared test.

Table 5: Pearson's Chi-squared test

Types of Information Behaviour	**Degree of freedom (df)**	**X-squared (χ^2)**	**p-value**
Information Need	12	36.795	0.0002412

Media Choice	10	180.15	2.2e-16
Use of Sources of Information	8	55.834	3.039e-09
Times Spent	6	12.551	0.05074

Based on the statistical analysis presented in Table 5, several significant relationships were identified between various information-seeking behaviors and types of disabilities. The chi-squared tests revealed that information needs are significantly associated with disability types, with a chi-squared value of 36.795 and a p-value of 0.0002412, leading to rejection of the null hypothesis at the 0.05 significance level. Similarly, media choice preferences demonstrated an even stronger dependency on disability types, showing a chi-squared value of 180.15 and an extremely small p-value of 2.2e-16, again resulting in rejection of the null hypothesis. The analysis of information sources also indicated a significant relationship with disability types, yielding a chi-squared value of 55.834 and a p-value of 3.039e-09, which was well below the significance threshold. However, one notable exception emerged in the analysis of time spent seeking information, where the chi-squared value of 12.551 produced a p-value of 0.05074, which slightly exceeded the 0.05 significance level. Consequently, the null hypothesis was accepted for this variable, indicating that the amount of time users spend seeking information appears to be independent of their disability type, unlike the other information-seeking behaviors examined in the study.

6.0 Conclusion

This study of 300 respondents across three disability categories demonstrates that information-seeking behaviors vary significantly based on disability type. The statistical analysis confirms that information needs, media choices, and source preferences are all dependent on the specific type of disability, with only time spent seeking information remaining independent across groups. Persons with locomotor disabilities favored financial information and verbal media, those with visual disabilities relied heavily on verbal media and human sources, while individuals with hearing disabilities preferred educational information and audio-visual media with internet sources.

These findings have crucial implications for developing inclusive information systems and services. The results indicate that accessibility solutions must be tailored to specific disability types rather than adopting a universal approach. Libraries, educational institutions, and technology developers should design multi-modal information delivery systems that accommodate these distinct preferences and behaviors.

The study contributes valuable empirical evidence for policy development and technology design in digital inclusion initiatives. Future research should explore the intersection of multiple disabilities and examine how emerging technologies impact information behaviors, ultimately supporting the creation of more equitable and accessible information ecosystems for all persons with disabilities.

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