The Efficiency of St. Nicholas Home (SNH) Library Services for Blind and Visually Impaired (BVI) Users: A Case Study

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ABSTRACT

This investigation examines the efficacy of the BVI Special Library in terms of accessibility and user satisfaction. As the number of BVI in Malaysia increased, so did their need for information. The purposes of this research are to: 1) identify the accessibility of the SNH Library among BVI users, which influences the efficacy of the library; and 2) investigate user satisfaction among BVI users, which influences the effectiveness of the library. This study was conducted using a quantitative research survey with a five-part questionnaire, with respondents selected using a straightforward random sampling technique. The questionnaire was administered to a sample of SNH employees and revised accordingly. This study demonstrates that the SNH Library is effective in terms of physical access, as it offers door-to-door services to surmount physical barriers. Still, the SNH Library is ineffectual in terms of user access, as the BVI user has restricted access to the library and obtained materials based on the librarians' recommendations rather than their own interests. They are unable to visualize and comprehend the SNH Library. This research uncovered a number of issues that require further action to ensure that the quantity of information and resources will meet the requirements and expectations of this specific group of users.

***KEYWORDS**: Blind and Visually Impaired (BVI) Users, Special Library Services, Information & Sources Accessibility, Information Needs*

Introduction

The library is a location where book collections and other resources, such as periodicals, newspapers, audio-visual materials, and digital resources, are organised and made accessible to the public. As centres of learning and information, libraries provide access to materials for many different types of users and pursuits, such as leisure reading, classroom instruction, advanced research, and continuing education. Librarians frequently assist users in navigating and locating the materials they need, as well as in conducting research and obtaining access to information. In addition to physical libraries, digital libraries offer online platforms for electronic access to resources. In Malaysia, there are five fundamental types of libraries: the National Library, Academic Library, School Library, Public Library, and Special Library. Additionally, there are specialised libraries for the community of blind and visually impaired (BVI) people. BVI communities are the largest minority group on the globe. Numerous library services addressing the issues of this community have been established and adopted.

Rarely is research conducted on the effectiveness of special libraries, particularly in Malaysia. This study will investigate the accessibility and user satisfaction of special library services for blind and visually impaired patrons. In 1926, the Anglican Medical Mission established the St. Nicholas Home (SNH) for the Blind and Visually Impaired (BVI) in Malacca, and in 1931, it was relocated to Penang. Prior to the founding of the Malayan Association for the Blind in 1951, St. Nicholas was the sole blind organisation in the country. St. Nicholas was founded to aid the visually impaired of all racial and religious backgrounds. SNH has engaged in useful endeavours including early intervention, computer classes, massage, confectionary, and basketry instruction. Library, audio production, braille, and DAISY are the four divisions that make up the SNH Resources Department. This entire department is in charge of producing and distributing information to BVI users within and outside of SNH, including schools, public libraries, individuals, and all Malaysians with BVI-related difficulties.

Problem Statement

Despite its goal to provide accessible resources and services for people with visual impairments (BVI), the BVI Special Library faces hurdles in terms of accessibility and user satisfaction (Lund & Cmar, 2019). The library's ability to serve people with visual impairments (BVI) requires an evaluation of its present accessibility measures and an analysis of user satisfaction.

The number of Blind and Visually Impaired (BVI) are increasing daily. More than 250 million individuals worldwide are afflicted with irreversible visual impairment (VI), which includes blindness and low vision (Li & Zhou, 2021). According to Bourne et al., (2017), approximately 10 percent of the global population had a disability. They are the largest minority on the globe, comprising 80 percent of the population of developed countries, including Malaysia. Taking into account the population density of Malaysia, which is 27 million, the approximate number of individuals with disabilities is 2.7 million. Out of 2.7 million, about 900,000, or one-third, are people with blindness and other visual impairments. In Malaysia, there are roughly 65 000 blind and visually impaired people, but only 15,000 are registered (Abdul Latif, 2023). According to statistics from the (Department of Social Welfare, 2023), it is evident that the number of registered BVI has significantly increased from 22,856 people in 2008 to 52,111 people in 2020. However, this data suggests that a considerable number of BVI remain unregistered, emphasizing the presence of a significant population outside the registry.

They must rely more on others, particularly in education, if they are to influence the future of the blind and visually impaired. To access information and disseminate it to the blind and visually impaired, they had difficulty deciphering written materials. In other developed nations, library services for the blind and visually impaired are promoted and improved in order to combat blindness and visual impairment. In Malaysia, blind people, the visually impaired, and even normal citizens are unfamiliar with these library services. By addressing these issues, the BVI Special Library can ensure equitable access to information and an inclusive environment that meets the specific requirements of its visually impaired patrons, thereby increasing their overall satisfaction and enhancing their library experience.

Therefore, this research will examine the efficacy of a specialized library at St. Nicholas Home, one of the homes for the blind and visually impaired in Northern Malaysia. The purpose of this investigation is to determine the independent variable and dependent variable. Effectiveness of SNH Library services for blind and visually impaired customers is the dependent variable. The independent variables are usability and accessibility. This research may also aid others in preparing additional accommodations at other public libraries, school libraries, and academic libraries in an effort to alter the fate of the blind and visually impaired in Malaysia. Perhaps Malaysians will have a greater understanding of the issues and difficulties confronted by the blind and visually impaired.

Objective of The Study

The objective of this study is:

i. To identify the accessibility of the SNH Library among BVI users that influences the effectiveness of the library.
ii. To investigate the effectiveness of the SNH Library through user satisfaction.

Research Questions

Two research questions need to be answered in this study which is**:**

i. How far does accessibility influence the effectiveness of the SNH Library?
ii. How far does user satisfaction with the services and materials provided influence the effectiveness of the SNH Library?

Significance of the study

This study's significance is that it will enable the SNH Library to provide library services for the blind and visually impaired that are comparable to those in other developed nations. Enhance the SNH Library's effectiveness in terms of accessibility and user satisfaction. Changes the fate of the blind and visually impaired in Malaysia, as well as other industrialised nations.

Literature Review

Blindness is defined as the inability to distinguish the fingers of a hand at a distance of three meters, while low vision is described as the inability to recognize the faces of friends at a distance of six meters (Ferraro et al., 2006). As described by Kran et al., (2019), visual impairment criteria are currently established using visual acuity and visual field measurements. Partial vision is a milder kind of vision loss. A person can be classified as partly sighted if they can only read the top letter of the eye chart from a distance of six meters or less.

There are four classifications of visual function, according to Dandona & Dandona, (2006) normal vision, mild visual impairment, severe visual impairment, and blindness. Due to this condition, if a person cannot see the top letter of the eye test chart (used by optometrists and doctors) from a distance of three metres or less, they may still be listed as blind. However, if a person can see (but not read) the top letter, they may still be able to register if their visual field is severely constricted (Ann Chapman, 2000).

Countries developed differently. Charitable organisations that provided books for blind persons often started their own libraries outside the conventional library system (Okerulu, 2004). Libraries for the visually impaired have grown alongside the literacy movement, serving the same educational, vocational, and lifelong learning needs as their sighted counterparts.

Due to limited financial means, the ignorance and apathy of family members, and the absence of rehabilitation programs for elderly blind people, the majority of them are illiterate, confined to their homes, and dependent on the charity of their family and community for survival. Discussing their official education, training, or career in the organized sector is very impracticable (Cherry et al., 2012).

After the 1980s, a number of public libraries in South Korea established reading rooms for those with disabilities and began to offer limited library services. Nevertheless, library services for people with impairments are still in their infancy and are developing extremely slowly (Sook Hee, 2001). South Korea has 34 Braille libraries, 23 of which are registered with the Ministry of Culture and Tourism, six of which are run by the Ministry of Health and Welfare, and five of which are not registered (Kim et al., 2012).

Reading and information materials are scarce for the few blind and visually impaired students in primary through postsecondary schools. Blind and visually impaired students at all educational institutions must practise reading and information materials in alternate formats. There aren't many reading and information materials for the few blind and visually impaired students in elementary through college. Blind and visually impaired students at all educational institutions must practise reading and information materials in alternate formats. Reading and information materials are scarce for the few blind and visually impaired students in primary through postsecondary schools. Blind and visually impaired students at all educational institutions must practise reading and information materials in alternate formats (Tee et al., 2010)

Effectiveness

Effective library systems fulfil individual needs, are prompt, easy to understand, and offered by kind and knowledgeable employees (Jeong, 2011). There are numerous approaches to assess the efficiency of library resources and services. According to Oluwatobi et al., (2014), libraries are evaluated based on predetermined goals and the application of predetermined standards for measuring the number of operations.

The efficiency of the blind library's services should also be monitored. Libraries should also regularly evaluate their services to spot any inefficiencies in addition to conducting needs assessments. Both qualitative and quantitative methods can be used to assess a library's performance. Whether quantitative or qualitative, the characteristics are designed to be judged by library patrons, who are in the best position to assess the library's success (Barata et al., 2018). The most significant aspect is the evaluation of users' wants and desires, as well as their happiness with the given collections and services. The effectiveness and efficiency of a library's service delivery can be determined by performance measurement and user surveys. The most significant aspect is the evaluation of users' wants and desires, as well as their happiness with the given collections and services. The effectiveness and efficiency of a library's service delivery can be determined by performance measurement and user surveys (Deo, 2017).

Accessibility

Access for people with disabilities to use libraries is often neglected or not yet available. Making libraries accessible for disabilities includes the availability of physical access, materials, and services provided. These services and facilities should be readily available and user-friendly, particularly for individuals with disabilities (Ternenge & Agipu, 2019). Access can be understood in two ways: (a) physical access to the library and its resources, which involves finding and locating specific documents, and (b) user access, which determines the availability of a particular service to different user groups (Birgitta Irvall & Skat Nielsen, 2005).

People with disabilities require an alternative format that effectively communicates visual information to those who have difficulty with print materials. These include Braille, Talking Book, Talking newspapers, large printed materials, and electronic texts such as IFLA. The developed countries like UK, Canada and Japan developed their own national catalogues of accessible formats to ease the blind and visually impaired patrons when they search for references or information. The world-famous DAISY book, for example, has been used in certain developed and developing countries. It is designed to provide accessible content for individuals with print disabilities as it allows users to navigate through the content in a non-linear way (Kahlisch, 2008). Unfortunately, in Malaysia, individuals who are blind and visually impaired are experiencing difficulties in accessing information due to the current lack of materials, especially braille, for the group. In 2011, there was a news report highlighting the story of Mohd Rifaat, a student with visual disabilities (blindness), who faced significant challenges while pursuing his Sijil Tinggi Peperiksaan Malaysia (STPM), a national examination in Malaysia. Rifaat almost gave up on his studies due to the lack of reference materials, including those found in libraries. Despite these obstacles, Rifaat, who attended SMK St. John Kuala Lumpur, ultimately achieved remarkable results of 4A and 1B in his STPM examination (Harian Metro, 2011). As of 2019, Dr. Ahmad Shamsuri Muhamad, the Chairperson of the Human Capital Development Committee at the Society of the Blind in Malaysia, stated that the lack of reference books in Braille continues to persist. This scarcity of Braille resources poses a significant challenge for individuals with visual impairments (BVI) in accessing necessary information, particularly for students (Bernama, 2019b). It is disheartening to note that up to 95% of blind children are unable to attend schools due to

limited access to Braille materials and equipment (New Straits Times, 2021). Lack of accessibilities to materials and services for the blind and visually impaired could actually hamper children's educational opportunities.

With the emergence of the Fourth Industrial Revolution (IR 4.0), there is a common perception that it has become more convenient to support BVI communities in terms of accessibility in the libraries. Technology is often seen as the solution in addressing this issue. A common misconception among the public is the differences between technologies in general and assistive technologies. It is important to recognise that BVI individuals rely more on assistive technologies rather than the general ones (Sachdeva *et al*., 2015). Assistive technologies include screen readers for blind individuals and screen magnifiers for low vision computer users. When these two needs are fulfilled, then, not only it helps the blind to find their own resources easily, but also enables them to participate in society as contributing members (Abdelrahman, 2016). In addition to technologies, BIV individuals also require training programs and activities to effectively utilize these technologies. In Norway, for instance, they established a new full time position of information officers just to fully assist the users. In addition, the National Library for the Blind in the UK has given training on access on technology not only to those who are working closely with BVI but open to the public just to educate them more on the accessibility for BVI individuals (Irvall & Nielsen, 2005).

User Satisfaction (Services and Materials)

Under the overall category of customers' happiness, there are two important subgroups to consider: user satisfaction with present services and materials, and user requirements for currently inaccessible services and products (Yeo *et al*., 2002).

Library services for blind and vision-impaired people usually provide postal services: most countries allow recorded and Braille books for blind people to be mailed free of charge (Pillar, 1995). Services usually include producing alternative format material since this is not usually commercially available. -Library services may be provided via public and national libraries or a welfare organization for vision-impaired people (Pillar, 1995). Target services include access to specific catalogues, digital texts, DTB (Digital Talking Books), and special interlibrary loan format. Audio Books, CD-ROMS, Braille, and large print books occupy an increasing part of the services of public libraries (Craddock,

2003). With the advancement of technology, libraries are seizing the opportunity to enhance their facilities especially to the people with disabilities. These innovative technologies include screen magnifier, screen reader, and voice recognition software (Rayini, 2017).

In Malaysia particularly, materials for the blind and visually impaired are still limited. Kuala Lumpur Braille Resources reported that there is a shortage of reference books in Braille in Malaysia due to the lack of experts who can convert conventional texts to Braille (Bernama, 2019a). Demand for books in appropriate formats is increasing while the steeply remains inadequate, and this is true at all educational levels, from primary to tertiary levels. At the tertiary level, particularly, visually impaired students fend for themselves by providing reading and information materials (Atinmo, 2007). A survey found that only some partially sighted people read large print materials. Reasons for non-reading included the non-use of library services in general, dissatisfaction with the range of materials available, lack of awareness, and the preference for other formats such as Braille (Berntsson, 1980). On the contrary, research conducted by Williamson et. al (2000) showed that participants noted several problems with printed materials because many did not read Braille as it tends to be used mostly by those who have been blind since a young age.

Methodology

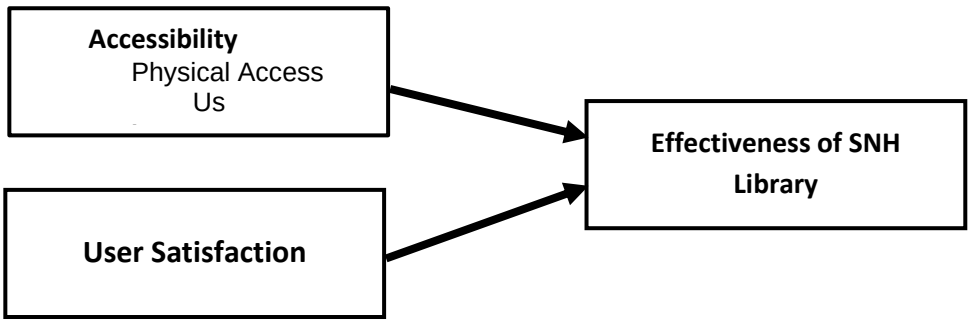
This study is mostly about the BVI trainees in SNH. In Table 1, you can find the demographic data. SNH has 43 full-time employees and 72 apprentices, some of whom are deaf or blind.

Table 1: The number of SNH staff and apprentices

Population	Number
a) Staff	43
b) Trainee	72
c) Skill Development Centre	12
d) Basketry	9
e) Massage	20
f) Pastry	7
g) Work Program	12
h) Deaf & Blind	12

As respondents, only apprentices who are blind and visually impaired will be chosen, and 52 respondents have already been identified from the skill development centre, basketry, massage, patisserie, and work programme, which are not part of the deaf and blind programme. According to Sekaran and Bougie, (2013), the simplified size decision presented in the matrix below guarantees a sound decision model. 52 respondents were randomly selected as a sample from 60 blind and visually impaired SNH populations.

Figure 1: Research framework



In surveys of the blind and visually impaired, participants document their responses to a series of questionnaires. The questionnaire was translated from Bahasa Malaysia to Braille so that blind and visually impaired respondents could respond. The questionnaire was piloted with members of the SNH and BVI staff. A few items had been changed to retain the questionnaire's internal coherence, particularly in parts C and D. The reliability test for the Likert Scale question is 0.787. George and Mallery, (2003) provide the following rules of thumb: "_ > .9 – Excellent, _ > .8 – Good, _ > .7 – Acceptable, _ > .6 – Questionable, _ > .5 – Poor and _ < .5 – Unacceptable".

However, the researcher's presence may interrupt the respondents' natural surroundings, and they may feel their replies are less anonymous and genuine. To avoid this, the researcher distributes the questionnaire with the assistance of SNH staff members. The group-administered questionnaire will be administered by SNH Staff without the presence of the researcher. SPSS 18 was used to analyze the data in this study.

Finding and Analysis

Table 2: Demographic

No.	Questions		Percent (%)	N	Mean
1	Gender	Male	55.8	52	2.71
		Female	44.2		
2	Age	< 20	15.4	52	1.44
		21-25	34.6		
		26-30	13.5		
		30>	36.5		
3	Blind and Visually Impairment Level	B1	50.0	52	1.56
		B2	44.2		
		B3	5.8		
4	Training Course	Massage	34.6	52	2.19
		Basketry	11.5		
		Others	53.8		
5	Stay at SNH or not	Yes	94.2	52	1.06
		No	5.8		
6	Marital Status	Single	88.5	52	1.13
		Married	9.6		
		Widow	1.9		

Five questions that inquire about the SNH Library from the viewpoint of BVI users. 49 respondents are aware of the existence of the SNH Library, while 3 are unaware. Aside from that, nearly all of them enjoy visiting the SNH Library, consistently utilise the available services, and have a need for the SNH Library's services. The majority of respondents, or 84.6 percent, rarely or never visit the SNH Library, according to the survey results.

Physical accessibility is not an issue for BVI users while visiting the SNH Library; 88.5% of respondents were able to do so on their own, and 96.2% did not feel that the stairs restricted

their movement. However, physical access becomes a concern in the SNH Library as the BVI user is unable to move freely within the library. Without the librarian's assistance, they are unable to seek out materials in the library. Due to these issues, SNH Library was compelled to offer door-to-door services to BVI patrons; 96.2% of respondents preferred door-to-door services in which reading materials were mailed to them. Based on these findings, it can be concluded that the SNH Library is effective in terms of physical access in that it solves the physical problems encountered by the BVI user, its intended audience.

BVI users can use the library's resources, like Braille and talking books, for their reading with assistance from the librarian rather than on their own. However, none of these materials are relevant to their training courses, which include pastry, massage, and basketry. In addition, the SNH Library is unable to inform a BVI user of the library's holdings because 80.8% of BVI respondents are unable to search for materials in the SNH Library, despite the fact that the SNH Library has a Braille catalogue accessible for them. This is because not every BVI can read Braille. In addition, the BVI user has limited access to Cyber Corner services, and the vast majority of respondents do not believe the Internet can satisfy their informational requirements. These computer and internet access issues differ from the BVI, the other developed country where almost all of them see the computer and internet as main sources of information (Ahmed 2020). Otherwise, 55.8% of respondents concur that they cannot access the SNH Library during their leisure time due to the library's office-hours-based access hours. It can be concluded that the SNH Library is ineffective in terms of user access, as BVI users have limited access capabilities and receive materials in the library based on the librarian's recommendations rather than their true interests, as they are unable to imagine and view the actual image and contents of the SNH Library.

The BVI user of the SNH Library is satisfied with the collection in the library, as almost all of the respondents agree and strongly agree that the collection in the SNH Library is the most recent. All types of collection, including Braille and talking books, are sufficient for the BVI user, with the exception of the large print collection, which is insufficient and should be expanded. In all other respects, the BVI user respondents concur that the talking book is simpler to use than the Braille book, and they are satisfied with the talking book collections. The majority of respondents concur that the librarian was helpful when providing services to BVI users. In addition, respondents are extremely pleased with the door-to-door services that are significant to them.

However, the BVI user is dissatisfied with the services at the Cyber Corner in the SNH Library, where there are not enough computers and the software on the computers is not the most recent, despite the fact that Jaws software aids the BVI user in using the Cyber Corner computer. 82.7% of respondents were dissatisfied with this service because the SNH Library lacks a sizable and comfortable reading area for BVI users that would encourage them to visit the library and hang out there.

From these findings, it is possible to conclude that the SNH Library is effective in terms of the collections of materials in the library, where the respondents are satisfied with the collections because the SNH produced these materials at their own location, but not for the other Cyber Corner and reading area services, which cost money and space. It should be understood that SNH Library is the Special Library of the parent organization, which is a non-profit that relies on its capital sources. Cost and budget become the primary impediments for the SNH Library to expand and enhance its existing services to the same level as the other library in a developed nation that serves BVI users.

DISCUSSIONS AND RECOMMENDATIONS

SNH is a non-profit organization for BVI users that requires a budget to enhance the SNH Library's services and collections. The SNH Library may collaborate with the National Library of Malaysia to enhance its services for the challenging BVI. Alternately, SNH may collaborate with UNESCO, the Malaysian Association for the Blind (MAB), the Social Welfare Department, the State Library, higher institutions, and the Information Science School to obtain funding and implement certain programs for the development of the SNH Library.

Assistive technology systems provide a technological solution for the BVI user's accessibility issues in the SNH Library, allowing the visually impaired to live more independently by minimizing the obstacles of daily life (Sumathi *et al*., 2022). Providing the user with intelligent navigational aids facilitates indoor travel in complex building structures (Giudice, 2019). Several researchers have proposed technological solutions based on RFID and GPS technology to aid the visually impaired (Saez *et al*., 2021). Among the reported assistive systems are iCane (Chang *et al.,* 2005), BrailleNote GPS (BrailleNote GPS), and wearable systems (Cardin *et a*l., 2007); SESAMONET (Ceipidor *et al*., 2010); artificial intelligence (AI) and computer vision (He & Deng,

2017); and braille displays and braille e-readers (Kavitha, 2020). This technology will overcome the BVI user's lack of physical access to the library, where they require assistance from the librarian.

In addition, the library computer with Jaws software has the ability to replace the Braille Catalogue with the Online Public Access Catalogue (OPAC). Screen-reading software is a program that describes the contents of a computer screen using synthesized speech. Therefore, BVI users can still utilize the OPAC to identify the SNH Library. Some residents of the British Virgin Islands have the International Computer Driving License (ICDL), which requires them to memorize the keyboard shortcuts for each command and specific keyboard functions in order to operate computers.

Aside from that, the Cyber Corner in the Library should be upgraded with the most recent hardware and software to facilitate the BVI user's use of the computer since they already have an ICDL provided by the SNH. However, the computer is pointless without access to the internet, which is now accessible and affordable for everyone. As a result, the internet can satisfy the information needs of BVI users because creating Braille books, talking books, and large print books would be expensive in terms of both time and money.

In addition, the SNH Library should have had a reading area to entice BVI users to visit the library. Even though they are blind, they should be provided with comfortable seating so they can sit in peace. It could be mobile applications that offer features such as text-to-speech conversion, magnification, colour recognition, and GPS navigation to assist with various daily tasks. Additionally, talking books can be prepared in the library's reading area, enabling patrons to simultaneously rest and read, thereby increasing the library's efficiency.

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