

# Deaf Digital Technology Uses: A Demography Survey in East Java Indonesia

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## ABSTRACT

The presence of the internet that invites as a medium that makes it easy to communicate, makes the deaf support in a container. Where in the container they exchanged information related to the development of assistive technology as well as health information. Utilization of the internet by people with hearing impairment in Indonesia has not been fully maximized, given the spread of the internet by them in Indonesia is also not evenly distributed, this is related to the use of the internet media itself. This study aims to map the patterns of the use of internet media by deaf people in East Java to find out patterns of protection of persons with disabilities in this case deaf in terms of information technology. Using the online survey method provided google form, the result seems people with hearing impairment in East Java prefer to browse information by utilizing digital technology, the Internet in many ways.

**Keywords:** *digital technology, the Internet, People with Hearing Impairment*

## 1. INTRODUCTION

Today's internet is an important part of millennial life from all walks of life. Along with the change in a more consumptive society, where access to information needs is now the main and important thing for anyone to do, including for people with physical hearing impairments or deaf people. information is often used as a resource, commodity, and strength in life, resulting in hearing-impaired people needing a lot of information in a form to meet their daily needs and survival. The existence of different information needs from one individual to another causes access to information to be fulfilled in various forms, one of which is information in electronic form which is then widely called the internet.

Based on what we know that people with hearing impairment are people who have a hearing impairment. As a result, communication with other normal people is also hampered, remembering that not everyone generally understands communication using sign language. Therefore, with this internet, it is easier for them to communicate with each other, so that they can exchange and share information that can be done without any limitation of space or time [1]. Despite their limitations, many deaf people have used and made use of the internet.

There are studies examine the use of the internet by deaf people [2]. From a nationally distributed survey of 419 respondents who are deaf, 307 of them are internet users and

112 do not use the internet. The results found 79% of deaf people are more likely to use the internet every day than the average person who is only 59%. The presence of the internet which is considered as a medium that facilitates communication, makes the deaf people gather in a container. Where in the container they exchanged information related to the development of assistive technology and health information.

As quoted from research entitled "Communication strategies between members in the group of people with hearing impairment" where even though they are deaf, but the presence of gadgets is the most helpful. fast and direct answers using video calls via the internet [3]. With video calls, they can have a conversation with sign language that can be seen by the other person. So it can be concluded they can still function. And if their abilities are developed optimally, they will not experience difficulties in terms of learning, especially in the use of the internet.

The use of the internet by people with hearing impairment in Indonesia is not yet fully maximized, given the spread of the internet by them in Indonesia is also not evenly distributed, this affects the use of the internet media itself. Most of the deaf people still use the internet as a medium of entertainment or only know a few specific sources of information [4]. With the various sources of information available on the internet but the lack of information or experience in searching the internet, this has resulted in them only accessing certain information

[5]. If the internet for the deaf can be utilized maximally, then it can be used as one of the media to master and enrich the information they have [6]. Based on this, it is interesting to study because not only with the ease of access, the latest technology offered by the internet at this time, but whether the physical limitations that are owned can form its characteristics in the use of the internet [7].

Also, research related to the use of the internet by people with hearing impairment in Indonesia is rarely done. This is very unfortunate because it can increase the knowledge and intellectual abilities of the deaf [8]. Therefore, research on the internet by people with a hearing impairment needs to be done to find out the picture in the use of internet media by people with hearing impairment in Indonesia. Thus, it is expected to improve the status of the deaf themselves in the eyes of the wider community. Based on the background, the formulation of the problem of this research is: how is the pattern of internet media utilization by the deaf in East Java?

**2. METHOD**

A demographic survey consisting of 20 questions that discuss the use of technology, needs, and preferences of individuals with hearing impairment who live in Indonesia and the region is available via the web link provided by google form each question is presented in Indonesian text and also in Indonesian Sign Language (available to participants via embedded videos). A paper and pencil survey version is also available for participants based on the request; no such request was made.

Before distributing the survey, permission to conduct this research was granted by Universitas Negeri Surabaya. Requests for completing surveys are then circulated to deaf communities through schools for deaf, national, state, and local organizations from and for deaf, and through personal contacts throughout Indonesia through the snowball sampling method collection of survey surveys or sample references (Atkinson and Flint, 2001). All surveys planned to be carried out between 14 August 2019 to 15 September 2019 were received.

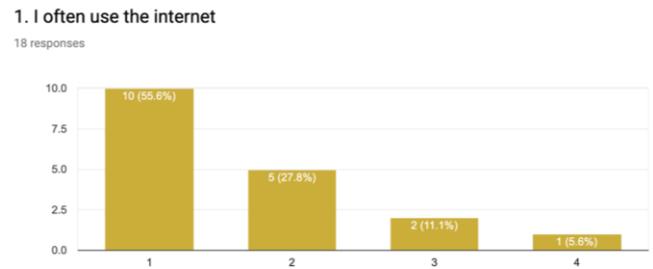
The 20 questions survey consisted of seven initial questions, closed questions, discussed usage (for example, often, sometimes, rarely, never), and the preference of stationary and cellular technology, software or hardware, and the internet. Three open/free response questions that discuss Web sites that are frequently visited, software that is frequently used, and suggestions for increasing access to internet-based content for individual users with hearing impairment are included. Ten questions that discussed graphical information such as location by country, age, education level, occupation, audiological level, hearing aid user (ABD), communication preferences, and disability (not hearing loss) were also included.

The survey instrument in this study will be developed online through the google form. Question items were developed through the 4D-Model development procedure developed by S. Thagarajann, Dorothy S. Semmel, and Melvyn I. Semmel. The 4D development model consists of 4 main stages, namely define, design, develop, and disseminate.

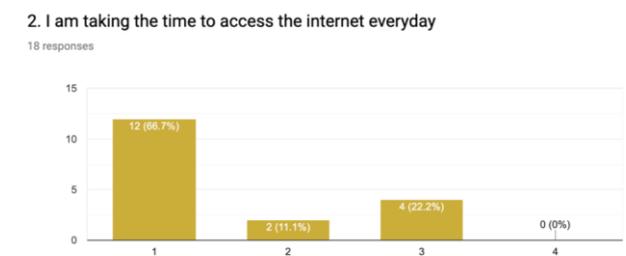
Broadly speaking, the four stages are seen in more detail at the research stage carried out primarily directed at the development of online survey instruments and sign language videos as support.

**3. RESULTS AND DISCUSSION**

The instrument that has been finalized and made in the form of a questionnaire began to be filled in by persons with hearing impairment in East Java. Some of the questions were how often do they use internet media?; how optimal is internet media for those who are deaf. The data were collected using Google forms, or online questionnaires.



**Figure 1.** The question about the frequencies of Internet using for people with hearing impairment



**Figure 2.** The question about using Internet intensity for people with hearing impairment

**4. CONCLUSION**

Based on the results of the study, some of the conclusions are that people with hearing impairment prefer the internet to find anything they need to know. People with hearing impairment learn not only academic skills but also social skills from the Internet.

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