Is Digital Exclusion a Reality or Illusion?

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Group 3 - Sarmistha Dutta, Christoph Scheiber

Abstract

Internet development has revolutionized the way we live, but millions of people cannot access the power of the web around the world. People with low literacy levels or no internet access are at risk of digital exclusion because of a variety of barriers. This paper aims to get a better understanding of different factors that are responsible for digital divide. To do so we are using a questionnaire containing questions that target different age groups, internet usage patterns and causes for digital exclusion. We found that people who are digitally excluded are affected by several different barriers. In conclusion, we suggest that dynamic collaboration between government, citizens, and organizations can help to reduce the digital exclusion.

Introduction

New technological advancements and latest cutting edge research are topics that are widely addressed in research, economy and society in general. The number of people employed in IT related jobs is continuously increasing and still the demand for skilled personnel is larger than the supply. But the ubiquity of IT does not only impact how we work. A majority of 83% of all Swedes use social media on a daily basis and 56% read their newspaper online every day (NORDICOM, 2021). In other countries around the world the importance of news consumed via social media is on a high level as well. For example in Kenya 82% of adults use social media as a source for news (Reuters Institute for the Study of Journalism, 2022). These are only a few examples to highlight the importance of being online to receive news and stay connected.

Another example is the identification method “BankID” which is very common in Sweden. It was developed by a consortium of Swedish and Scandinavian banking institutes. BankID is mainly used as an identification for online payments, the login to e-government services or for accessing medical files. In 2021 more than 8 million users used the service for a total of billion uses in total during that year (BankID, 2022). The mentioned use-cases and high number of users highlight the importance of having access to the BankID identification method.

However, not all people have access to the internet or even to devices that would allow them to go online. Even people who potentially would have access to these resources might be left behind because of different reasons which shall be addressed within this paper. Sweden has a population of more than 10 million people (The World Bank, 2022), which implies that more than 2 million people in Sweden do not use BankID. Therefore, these people are not able to use services that rely on BankID as an identification method.

These discrepancies are being referred to as a “digital divide”. Although this is not a new issue, the continuous increase in importance of being online and being connected strengthens the need for more research and more engagement to reduce this discrepancy.

With our field work we want to contribute to reducing the digital divide by providing more data for research and by analyzing the responses we received.
To do so we structured this paper in the following chapters. After this introduction, the second chapter discusses the methodology used for collecting and analyzing the raw data that served as the basis for our discussions. The results of our data analysis are presented in the results chapter. The final chapter of the paper summarizes the findings and concludes with key takeaways.

Methodology

In this paper, we use quantitative structured interviews to elicit in-depth information about how people characterized by age groups and usage patterns use the internet, devices that allow for internet access and crucial applications such as BankID.

The first eight interview questions are related to the technological knowledge of the interviewees, from the beginnings of internet use to changes in internet access. Additionally, participants were asked about their age, smartphones, mobile internet, expensiveness of the internet, knowledge as a technology user, total time spent on the internet, the reason for being online, and the frequency of participation in different online activities. The second part of the interview from questions 9 to 14 focuses on the use of Bank ID, how difficult it is to use Bank ID, pay bills with Bank ID, store personal data online, and the safety of storing personal information and data online. The last part of the questionnaire is specially designed for people without smartphones and internet access.

Interviews were conducted between September 9th to September 12th in two major cities in Lund and Helsingborg, Sweden. A total of 11 interviews were conducted. All target populations were 18 or older, information about gender distribution was not part of the survey. The participants were mostly randomly selected and approached on the street, in cafes, public libraries, supermarkets, and other public places. Two participants filled out the questionnaire at home with translations provided by a Swedish native speaker. The other interviews were conducted in a public place via face-to-face interaction. Interviews mostly lasted 15–25 minutes, depending on their interest and understanding. All responses were collected and submitted using Google Forms.

Results

In total eight out of eleven respondents actively use the internet. Although they have very different patterns of usage, one point they agree on is that the amount they are paying for broadband or mobile internet is too high. Even though they all state that they can afford paying for it. One person that does not use the internet at all named the price as the sole reason why they are not online. The price of internet subscription is listed as the most important factor considered by Swedes when subscribing to the internet. (European Commission, 2016) The combination of the importance of the price and the height thereof could be a major reason why especially for households with lower incomes do not have access to internet at all or only with a bandwidth that does not serve the respective needs.

We analyze our respondents' everyday Internet usage and establish that younger people spend more time online than older people. Younger people spend most of their time playing online games, interacting with people on social media, and learning or watching educational videos. People aged 25-60 spent their maximum time doing job-related activities (checking mail, uploading and downloading files, etc.), listening to music, and watching TV/Videos/News. The internet usage of elderly people is limited to 3 hours a day, most of their time is spent listening to music and communicating with their families on social media.

In this survey, we found that maintaining BankID is challenging for older respondents. Their perception is that this is not safe, and they can lose their money if they make one mistake. Yet, they prefer to make withdrawals, deposits, and transfers at the bank. In fact, they never avail of other services that require Bank ID authentication.

Further reasons why many people may not be able to use the internet or applications such as Bank ID in the appropriate way are accessibility issues. Sin et al. (2021) list factors such as complicated layouts, dense text passages or mobile apps that rely on icons rather than text to be often perceived as not user friendly by older adults (60+ years). These non-inclusive user interfaces therefore can be a contributing factor for digital divide. To overcome such issues, most smartphones do have accessibility tools such as screen readers, magnifying glasses and so on. However, many of the older adults do not know how to make use of these tools. Only two internet users that answered our questionnaire are able to use them. However, both of them are in the age group of 30-39 years and spend more than eight hours per day online. These results allow for the conclusion that accessibility tools often are not a solution to cope with non-inclusive user interfaces. Rather the interface itself should be designed in such a way that it can also be used by people facing accessibility issues. To do so Sin et al. (2021) propose a Digital Design Marginalization (DDM) framework that should help in creating inclusive interfaces.

Conclusion

By looking at the results of this questionnaire it is clear that digital divide is an existing problem that can be caused by a multitude of factors. One contributing factor that internet users and non users can agree on is the price for broadband services in Sweden. Especially for people with lower income this can be a significant barrier. However such financial barriers can be overcome for example with subsidized offers for affected people.
Other barriers such as usability and the perceived risk when using apps such as BankID cannot be overcome by financial support. They require more effort towards inclusive interfaces from developers of websites and apps. Furthermore, affected people need to be aware of the solutions to their needs. The best technical identification solution can still be perceived as unsafe if the capabilities thereof are not communicated for all different user groups.
With the continuous rise of importance of the internet, dealing with digital divide is more important than ever. As this survey showed there is no one universal solution to solve this problem. However, the possibilities to reduce accessibility barriers exist and must be used more effectively and more widely, requiring a collaboration between government, organizations and individual citizens.

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