Note

The use of and challenges with everyday technology among visually impaired in Norway 2010

Similarities and differences between the four age-groups;

> **the 16-24 years old**
>
> **the 25-39, years old**
>
> **the 40-59 years old,**
>
> **and the 60-75 years old.**

Dart Note 6/2011

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Abstract

This research note summarises key findings from a survey among four groups of blind and visual impaired in Norway 2010. The topic of the survey is social media, everyday technology and ICT in general. The market research company Synovate was responsible for the data-collection. The respondents, 150 individuals were members of the Norwegian Association of the Blind and Partially Sighted (NABP). The study shows that there are significant differences between the age groups. The youngest has the high ICT-literacy and very few report problems with regard to use of PC, mobile phones and online services. In this group social media is used by almost everyone. When the age increases, the percentages with difficulties also increase. This is particularly apparent for the 60 plus. However, also among the 60 plus there is a group with ICT literacy, but the majority experience difficulties with ITC online services. There is a type of technology that creates problem regardless of age and that is kiosks and information monitors. For all age groups ticket kiosks, and information monitors have low accessibility.

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Contents

1 Introduction

ICT and every day technologies are important to The Norwegian Association of the Blind and Partially Sighted (NABP) and its members. In order to collect information and to get a better understanding about the challenges for VIs with ICT, NABP regularly commissions surveys among their members. Synovate, has interviewed member of NABP on a number of occasion, and was commissioned to do the 2010 survey. The sampling frame made by NABP consisted of 587 telephone numbers. Within one week in December 2010, a total of 276 indiviuals answered the phone. Of the 276 Synovate completed interviews with 150 individual. In addition 40 answered please call back another time, 5 were incomplete interviews while 81 (29%) did not want to participate in the survey. These numbers indicate a high willingness to participate in the survey.

The project IVIS, Visually Impaired in the information Society, is co-funded by the *NordForsk*. One of the aims of IVIS is to investigate the present challenges for visually impaired ICT users, and the use of social media in particular. This research note documents the current state regarding the use of everyday technology among the members of NABP. When comparable figures from 2008 are available, these numbers are also presented.

The majority of visually impaired in Norway is in the 60 plus age group. We assume, and know based on similar studies on ICT, that there are major difference between young and old VIs. Hence we report the findings for the different age groups separately. In Norway NAPB is representing most of the VI. Therefore we believe that findings in this survey are representative for VI in Norway in general. However, in order to make valid estimate on the blind and VI population in Norway it is necessary to use weights that factor the size of each stratum; that is a combination of age and use of braille vs. magnifiers.

The survey is based on information from NABP about their members that is

sensitive information. Based on documentation from NR Norwegian Social Science Data Services (NSD) reviewed the procedures and ethical aspect and gave NR permission to carry out the study. The research note section is organized as follows; first about who the participants are, that is demographics. Then key findings and a summary of the findings for each age group. The answers are presented with percentages and numbers. For sighted readers we recommend the appendix A that contains tables with all four age groups.

2 Who participated in the survey, the demographic profile of the respondents

Based on member list from NABP, Synovate made a sample-frame based on the following criteria; four age groups, and braille user vs. large print (magnifier) users. In NABP the majority (more than 60%) of the members are old, 60 plus. The survey concerns ICT and from previous surveys and other source we know that NABP has a high percentage in the 60 plus age group. Therefor, and in order to reach the younger members, a stratification sampling techniques was chosen. The numbers of respondents in the four age groups are: 15-24 years old: 21 individuals, 25-39 years old: 40 individuals, 40-59 years old: 49 individuals and 60-75 years old: 40 individuals. This number includes both individuals with and without a PC. The interviews were done by telephone.

3 The age group 16 – 24 years old

3.1 Number of respondents in the age group

2008: There are 7 respondents in this age group.

2010: There are 21 respondents in this age group.

First we present figures for gender, age and blindness.

Gender

2008 Gender: 71% female and 29% male. (NB: only 7 respondents)

2010 Gender: 48% female and 52% male.

Blindness

2008

Blind: 0%

Severely VI: 29%

VI with low vision: 71%

2010

Blind: 19% (50% braille and 50% magnifier, 2 and 2 respondents)

Severely VI: 33% (86% magnifier and 14% Braille, 1 and 6 respondents)

VI, low vision: 48% (100% magnifier, 10 of 10 respondents)

3.2 To use of weights for the purpose of estimating population numbers.

The NABP has the age-profile of all its members. In the membership list it also registered whether or not a member is using braille or magnifier. This data is used to make a weighting scheme. Instead of using the raw date, the figures (the answers to each question) are re-calculated with a weight in order to get a more accurate percentage number. This is not an accurate number in the strict sense, there are potential biases in the data because the participant in the survey can answer questions incorrectly, misunderstand questions etc., but it is better to use the weighted data compared to the raw-date because we will get a more representative picture of the population, the members of NABP. For instance if more than 60% of the members are in the 60 plus age group, but less than 30% of the participants in the survey are from this group because willingness to participate in a survey about ICT is lower among the older generation, the 60 plus will in this case be under-represented. On the other hand, if the willingness to participate is high among the 60 plus, we will get a low in the other age groups. A key subject in the survey is social media. It is important to have a good sample about the younger generation. This is also a reason for using a stratified sampling technique.

3.3 Everyday technologies

Access to and use of PCs

2008

The use of PC's: (only) 7 respondents

3 have access to PC through magnifier

2 have access to PC through speech software

1 has access to PC through braille

2010

The use of PC's: 20 respondents

4 without any tool

8 have access to PC through braille

10 have access to PC through magnifier

7 have access to PC through speech software

To use a PC

For you, to what degree is it easy or difficult to use the following? Scale 1 to 6, 1 very difficult to 6 very easy

2010

71% answered very easy, and 29% easy

3.4 Online services

To what degree **can you use a PC** to the following? Scale 1 to 6, 1 very difficult to 6 very easy

2008

Internet: 76% to a very high degree and 24% answered 3 which means slightly on the negative/can not use.

2010

Internet: 79% to a very high degree, 16% high degree and 5% answered 3 which means slightly on the negative/can not use.

2008

To what degree can you use a PC to the following? Scale 1 to 6

Read and send email: 76% answered to a very high degree and 24% answered to a high degree

2010

Read and send email: 70% answered to a very high degree, 15% to a high degree, 10% somewhat high, and 5% answered to a very low degree, which means cannot do this.

2008

Read pdf files: 51% answered don't know, 24% to a high degree, and 24 % not at all

2010

Read pdf files: 15% answered don't know, 35% to a very high degree, 25 % to a high degree, 5% slightly positive, and 20% very low/not at all

2008 **Fill in electronic forms**, for instance from NAV, The Norwegian Labour and Welfare Service: 25% answered don't know, 25% to a very high degree, 25 % to a high degree, and, 25% totally disagree

2010 **Fill in electronic forms**, for instance from NAV, The Norwegian Labour and Welfare Service: 5% answered don't know, 35% to a very high degree, 15 % to a high degree, 20% somewhat agree, and 15% disagree somewhat, 10% totally disagree

Pay bills online (Internet banking)

20% answered don't know, 16% to a very high degree, 44 % to a high degree, 15% agree somewhat, and 5% disagree somewhat

Online shopping

25% answered don't know, 5% to a very high degree, 35% to a high degree, 15% agree somewhat, 10% disagree somewhat, 5% to a low degree, 5% to a very low degree

The next questions do not use the phrase (as above) "can you use", but to what degree is it easy or difficult to use the following (the interviewer read? Scale 1 to 6, 1 very difficult to 6 very easy

A search engine such as Google

2010

55% answered very easy, 25% easy, 15% somewhat easy, 5% very difficult

2010

To send text-messages

2008 (only 7 respondents)

57% answered very easy, 29% easy, and 14% somewhat difficult

2010

60% answered very easy, 25% somewhat easy, 10% somewhat difficult, and 5% very difficult

Mobile phones and frequencies of use

In 2010 all 20 respondents answered that they are using mobile phones for making calls and 90% for text-messaging, 65% mobile Internet and 45% apps.

To chat

2010

5% don't know, 55% answered very easy, 20% easy, 15% somewhat easy, 5% somewhat difficult

Use social media

2010

5% don't know, 50% answered very easy, 35% easy, and 10% somewhat easy

On the question, how often do you use Facebook the answers were:

5% not relevant, 80% daily, 5% weekly, 5% monthly, and 5% never

To put these number in perspective, a national survey by TNS Gallup in 2010 shows that 89% of the general Norwegian population in the age group 15-29 years old use Facebook weekly or more often.

Use MinID (the Norwegian public sector electronic log in service)

2010

20% don't know, 44% answered very easy, 10% easy, 16% somewhat easy, 5% somewhat difficult, and 5% very difficult

Use the bank-ID online

2010

30% don't know, 20% answered very easy, 15% easy, 25% somewhat easy, and 10% somewhat difficult

The mobile phone and the use of codes

2010

Use a pin code for a mobile phone

5% don't know, 75% very easy, 10% easy, 5% somewhat difficult, and 5% very difficult.

Use a puk code for a mobile phone (the puk code is used to unlock the sim-card on a cellular phone)

40% don't know, 20% very easy, 5% easy, 10% somewhat easy, 10% somewhat difficult, 5% difficult, and 10% very difficult.

3.5   Use tools and devices

Use a ticket machine

2008 (only 7 respondents)

29% answered don't know, 14% very easy, 14% somewhat easy, 29% difficult and 14% very difficult

2010

14% answered don't know, 22% very easy, 5% easy, 5% somewhat easy, 27% somewhat difficult, 14% difficult and 14% very difficult

Use an ATM

2008 (only 7 respondents)

29% very easy, 29% somewhat easy, 29% somewhat difficult, and 14% very difficult

2010

16% answered don't know, 25% very easy, 15% easy, 15% somewhat easy, 13% somewhat difficult, 5% difficult

In a store, use a payment kiosk

2008 (only 7 respondents)

57% very easy, 43% somewhat easy

2010

10% answered don't know, 25% very easy, 20% easy, 10% somewhat easy, 30% somewhat difficult and 5% very difficult

Information on digital signage (public display) for travelers

2010

10% don't know, 25% answered very easy, 5% easy, 30% somewhat easy, 10% somewhat difficult, 10% difficult and 10% very difficult

Information for travelers on during travel on digital signage (public display)

2010

5% answered very easy, 20% easy, 10% somewhat easy, 25% somewhat difficult, 30% difficult, and 10% very difficult

To use a queue system in a bank, postal office etc

2010

16% don't know, 24% answered very easy, 20% easy, 10% somewhat easy, 10% somewhat difficult, 15% difficult, and 5% very difficult

To read an instruction on something you have bought

2010

10% answered very easy, 5% easy, 20% somewhat easy, 20% somewhat difficult, 15% difficult, and 30% very difficult

Use a credit card or an ATM-card

2010

10% don't know, 20% answered very easy, 25% easy, 25% somewhat easy, 20% somewhat difficult

Use a kiosk in a shop in combination with information on a mobile phone, **for instance a text-message or a voucher**

2010

45% don't know, 15% answered very easy, 10% easy, 15% somewhat easy, 10% somewhat difficult, 5% very difficult

Use a home security alarm system

2010

80% don't know, 10% somewhat easy, 18% very difficult

Use a safe in a hotel

2010

75% don't know, 10% answered very easy, 10% easy, 5% somewhat difficult

The survey contains a question about whether or not someone had taught the person how to use words, the Internet, to use tools such as braille, magnifier or speech, to send and receive emails, and excel and power-points.

To use words

0% don't know, 20% answered to a very high degree, 40% to a high degree, 15% agree somewhat, 10% disagree somewhat, 0% to a low degree, 15% to a vey low degree.

To use the Internet

0% don't know, 25% answered to a very high degree, 15% to a high degree, 10% agree somewhat, 15% disagree somewhat, 0% to a low degree, 35% to a vey low degree.

To use assistive technologies such as braille, magnifier or speech

0% don't know, 0% answered to a very high degree, 5% to a high degree, 25% agree somewhat, 40% disagree somewhat, 5% to a low degree, 25% to a vey low degree.

To send and receive emails

0% don't know, 20% answered to a very high degree, 5% to a high degree, 15% agree somewhat, 20% disagree somewhat, 0% to a low degree, 40% to a vey low degree.

To use excel and powerpoint

0% don't know, 15% answered to a very high degree, 10% to a high degree, 35% agree somewhat, 10% disagree somewhat, 10% to a low degree, 20% to a vey low degree.

3.6   Summary of the age group 15 – 24 years old

The number of individuals in this age group in the survey is 21. It is a low number. With this in mind, it is still possible to see a pattern. Based on the data we conclude that the ICT literacy for this age group is high. Only for three services the majority of respondents in his age group find it very difficult, difficult or somewhat difficult to use these technology. These three are "to read instructions for a product that I have bought", "to use a ticket kiosks" and "to use (get access to) information on monitors during travel". For all the other services the majority in this age group answer that it is easy to use the service/technology.

4   The age group 25 – 39 years old

4.1   Number of respondents in the age group

2008

There are 39 respondents in this age group.

Gender: 68% female and 32% male.

Blind: 23% (67% braille and 33% magnifier)

Severely VI: 49% (100% magnifier)

VI, low vision: 28% (100% magnifier)

2010

There are 40 respondents in this age group.

Gender: 50% female and 50% male.

Blind: 32% (77% braille and 23% magnifier)

Severely VI: 35% (79% magnifier and 21% braille)

VI, low vision: 32% (85% magnifier and 15% braille)

Access to and use of PCs

2008

The use of PC's (30 of 39 respondents have access to PC)

59% (23) have access to PC through magnifier

44% (17) have access to PC through speech software

18% (7) have access to PC through braille

2010

The use of PC's, (36 of 40 respondents have access to PC)

22% (9) have access to PC through magnifier

50% (20) have access to PC through speech software

42% (17) have access to PC through braille

30% (12) without any tool

To use a PC

For you, to what degree is it easy or difficult to use the following? Scale 1 to 6, 1 very difficult to 6 very easy

2010

47% answered very easy, 16% easy, 25% somewhat easy, 4 % somewhat difficult and 8% very difficult

4.2 Online services

To what degree **can you use a PC** to the following? Scale 1 to 6, 1 very low degree to 6 a very high degree

2008

Internet: 57% answered to a very high degree (=very easy), 23% high degree (easy), 13% somewhat easy, 3% difficult/to a very low degree.

2010

Internet: 68% to a very high degree, 14% to a high degree, 9% somewhat positive, 5% somewhat negative, 4% low degree and 1% very low degree.

2008

Read and send email: 84% answered to a very high degree, 7% answered to a high degree, 3% somewhat positive, 3% somewhat negative, and 3% very low degree.

2010

Read and send email: 78% answered to a very high degree, 9% to a high degree, 4% somewhat positive, 1% somewhat negative, 5% low degree and 4% very low degree.

2008

Read pdf files: 37% answered to a very high degree, 10% answered to a high degree, 23% somewhat positive, 10% somewhat negative, 7% to a low degree and 10% very low degree.

2010

Read pdf files:1% don1t know, 21% answered to a very high degree, 9% answered to a high degree, 18% slightly positive, 19% slightly negative, 25% to a low degree and 8% very low degree.

2008

Fill in electronic forms, for instance from NAV, the Norwegian Labour and Welfare Service

33% answered to a very high degree and 13% answered to a high degree, 20% slightly positive, 7% slightly negative, 7% to a low degree and 13% very low degree.

2010

Fill in electronic forms, for instance from NAV, the office for the Norwegian Labour and Welfare Service

9% answered don't know, 25% answered very easy, 17% answered easy, 11% somewhat easy, 5% somewhat difficult, 13% difficult and 22% very difficult.

Pay bills online (Internet banking)

2008

10% answered don't know, 47% to a very high degree, 13 % to a high degree, 13%, 17% totally disagree

2010

Pay bills online (Internet banking)

11% answered don't know, 5% to a very high degree, 57% to a high degree, 5% agree somewhat, 5% disagree somewhat, 0% disagree, and 17% totally disagree

2010

Online shopping

18% answered don't know, 5% to a very high degree, 44% to a high degree, 15% agree somewhat, 4% disagree somewhat, and 14% disagree

The next question does not use the phrase (as above) "can you use", but to what degree is it easy or difficult to use the following (the interviewer read? Scale 1 to 6, 1 very difficult to 6 very easy

To use a search engine such as Google

2010

4% don't know, 43% answered very easy, 14% easy, 15% somewhat easy, 9% somewhat difficult, 4% disagree and 12% totally disagree

To send text-messages

2008

54% answered very easy, 15% easy, 8% somewhat easy, 5% somewhat difficult, 10% difficult and 8% very difficult.

2010

8% don't know, 60% answered very easy, 19% easy, 4% somewhat easy, 4% somewhat difficult, 7% difficult and 8% very difficult.

The use of mobile phones and mobile services

In 2010 all 40 respondents answered that they are using mobile phones for making calls and 96% for text-messaging, 40% mobile Internet and 38% apps.

To chat

2010

10% don't know, 23% answered very easy, 21% easy, 12% somewhat easy, 15% somewhat difficult, 8% difficult and 12% very difficult

Use social media

2010

10% don't know, 31% answered very easy, 16% easy, 15% somewhat easy, 10% somewhat difficult, 11% difficult, and 7% very difficult

On the question, how often do you use Facebook the answers were:

5% not relevant, 80% daily, 5% weekly, 5% monthly, and 5% never

Use MinID (the Norwegian public sector eletronic log in service)

2010

27% don't know, 6% answered very easy, 27% easy, 8% somewhat easy, 1% somewhat difficult, 13% difficult, 19% very difficult

Use the Bank-ID online

2010

18% don't know, 18% answered very easy, 11% easy, 15% somewhat easy, 4% somewhat difficult, 5% difficult, and 29% very difficult

Use online banking

2010

6% don't know, 30% answered very easy, 17% easy, 15% somewhat easy, 4% somewhat difficult, 11% difficult and 18% very difficult.

Mobile phone and the use of codes

2010

Use a pin code for a mobile phone

0% don't know, 62% very easy, 12% easy, 8% somewhat easy, 11% somewhat difficult, 4% difficult and 4% very difficult.

Use a puk code for a mobile phone (puk is used to unlock the sim-card on a cellular phone)

16% don't know, 32% very easy, 12% easy, 9% somewhat easy, 7% somewhat difficult, and 23% difficult.

4.3 Use of tools and devices

In the surveys the interviewer uses the words "to what degree is it easy or difficult to use the following"? Scale 1 to 6, 1 very difficult to 6 very easy

Use a ticket kiosk

2008

8% answered don't know, 5% very easy, 5% somewhat easy, 8% somewhat difficult, 15% difficult and 60% very difficult.

2010

12% answered don't know, 7% very easy, 0% easy, 11% somewhat easy, 12% somewhat difficult, 19% difficult and 39% very difficult

Use an ATM

2008

5% answered don't know, 15% very easy, 13% easy, 23% somewhat easy, 18% somewhat difficult, 18% difficult and 8% very difficult.

2010

9% answered don't know, 29% very easy, 8% easy, 9% somewhat easy, 9% somewhat difficult, 9% difficult and 28% very difficult

In a store, use a payment kiosk

2008

3% answered don't know, 21% answered very easy, 18% easy, 28% somewhat easy, 10% somewhat difficult, 10% difficult, and 10% very difficult.

2010

32% very easy, 32% easy, 16% somewhat easy, 12% somewhat difficult, 4% difficult, and 5% very difficult

Information for travelers on digital signage (public displays)

2010

7% don't know, 9% answered to a very easy, 4% easy, 24% somewhat difficult, 15% somewhat difficult, and 40% very difficult

Information for travelers during travel on digital signage

2010

4% don't know, 13% answered very easy, 8% easy, 8% somewhat easy, 20% somewhat difficult, 21% difficult, and 27% difficult

To use a queue system in a bank, postal office etc

2010

7% don't know, 22% answered very easy, 4% easy, 8% somewhat easy, 4% somewhat difficult, 35% difficult, and 20% very difficult

To read an instruction on something you have bought

2010

4% don't know, 11% answered very easy, 4% easy, 11% somewhat easy, 27% somewhat difficult, 1% difficult, and 42% very difficult

Use a credit card or an ATM-card

2010

39% very easy, 23% easy, 13% somewhat easy, 12% somewhat difficult, 4% difficult, and 9% very difficult

Use a kiosk in a store in combination with information on a mobile phone, **for instance a text-message or a voucher**

2010

22% don't know, 15% answered very easy, 13% easy, 19% somewhat easy, 4% somewhat difficult, 12% difficult, and 15% very difficult

Use a home security alarm system

2010

68% don't know, 4% answered very easy, 4% easy, 5% somewhat easy, 4% difficult 15% very difficult

Use a safe in a hotel

2010

42% don't know, 4% answered very easy, 11% easy, 18% somewhat easy, 18% somewhat difficult, 1% difficult, and 25% very difficult

The survey had a question about whether or not someone had taught the person how to use words, the Internet, to use tools such as braille, magnifier or speech, to send and receive emails, and excel and power-points.

To use words

4% don't know, 18% answered to a very high degree, 9% to a high degree, 27% agree somewhat, 6% disagree somewhat, 9% to a low degree, 28% to a vey low degree.

To use the Internet

4% don't know, 26% answered to a very high degree, 2% to a high degree, 9% agree somewhat, 10% disagree somewhat, 9% to a low degree, 41% to a vey low degree.

To use assistive technologies such as braille, magnifier or speech 12%
don't know, 12% don't know, 10% answered to a very high degree, 14% to a high degree, 11% agree somewhat, 13% disagree somewhat, 8% to a low degree, 33% to a vey low degree.

To send and receive emails

5% don't know, 19% answered to a very high degree, 17% to a high degree, 5% agree somewhat, 5% disagree somewhat, 13% to a low degree, 37% to a vey low degree.

To use excel and powerpoint

9% don't know, 13% answered to a very high degree, 5% to a high degree, 5% agree somewhat, 13% disagree somewhat, 5% to a low degree, 51% to a vey low degree.

4.4 Summary the age group 25-39 years old

The majority in this group answer that it is easy to use every-day technology such as PC and online services. The exceptions are; information on monitors (digital signage), information on monitors during travel, queue systems (kiosks), ticket kiosks, to read instructions and pdf files. Also many of the members of this group has high ITC literacy as for the members of the youngest age group.

In this age group there has been an increase in the percentage of access to a PC from 69% to 90%. This is good news, but as a consequence it is hard or not recommended to compare any improvement in skills or ability to use online services from 2008 to 2010 because the changes could be attributed to this increase.

5 The age group 40 – 59 years old

5.1 Number of respondents in the age group

2008

There are 51 respondents in this age group.

Gender: 67% female and 33% male.

Blind: 47% (80% braille and 20% magnifier)

Severely VI: 31% (88% magnifier and 12% braille)

VI, low vision: 22% (95% magnifier and 5% braille)

2010

There are 49 respondents in this age group.

Gender: 50% female and 50% male.

Blind: 47% (74% braille and 26% magnifier)

Severely VI: 22% (73% magnifier and 27% braille)

VI, low vision: 31% (93% magnifier and 7% braille)

Access to and use of PCs

2008

The use of PC's (36 of 51 respondents have access to PC)

36% (13) have access to PC through magnifier

61% (22) have access to PC through speech software

58% (21) have access to PC through Braille

3% (1) without any tool

2010

The use of PC's, (43 of 49 respondents have access to PC)

37% (16) have access to PC through magnifier

70% (30) have access to PC through speech software

58% (25) have access to PC through braille

14% (6) without any tool

To use a PC

For you, to what degree is it easy or difficult to use the following? Scale 1 to 6, 1 very difficult to 6 very easy

2010

16% don't know, 30% answered to a very easy, 29% easy, 6% somewhat easy, 13% somewhat difficult. 3% difficult and 4% very difficult

5.2   Online services

To what degree **can you use a PC** to the following? Scale 1 to 6, 1 very low degree to 6 a very high degree

2008

Internet: 35% answered to a very high degree, 29% high degree, 15% slightly positive, 3% slightly negative, 6% to a low degree, 12% to a very low degree

2010

Internet: 4% don't know, 35% to a very high degree, 26% to a high degree, 18% slightly positive, 13% slightly negative, 4% low degree and 0% very low degree.

2008

Read and send e mail: 84% answered to a very high degree and 7% answered to a high degree, 3% slightly positive, 3% slightly negative, and 3% to a very low degree.

2010

Read and send email: 4% don't know, 60% answered to a very high degree, 20% to a high degree, 13% slightly positive, 4% slightly negative, 0% low degree and 0% very low degree.

2008

Read pdf files: 12% don't know, 20% answered to a very high degree, 10% answered to a high degree, 18% slightly positive, 9% slightly negative, 9% to a low degree and 21% very low degree.

2010

Read pdf files: 24% don't know, 15% answered to a very high degree, 14% answered to a high degree, 9% slightly positive, 6% slightly negative, 12% to a low degree and 21% very low degree.

2008

Fill in electronic forms, for instance from NAV, The Norwegian Labour and Welfare Service:

9% don't know, 12% answered to a very high degree, 9% answered to a high degree, 7% slightly positive, 20% slightly negative, 0% to a low degree and 43% a very low degree.

2010

Fill in electronic forms, for instance from NAV, The Norwegian Labour and Welfare Service:

8% answered don't know, 9% answered to a very high degree, 21% answered to a high degree, 12% slightly positive, 14% slightly negative, 4% to a low degree and 32% very low degree.

2008

Pay bills online (Internet banking)

3% answered don't know, 24% to a very high degree, 9% to a high degree, 11% agree somewhat, 4% disagree somewhat, 6% disagree, and 43% totally disagree

2010

Pay bills online (Internet banking)

31% answered don't know, 15% to a very high degree, 15% to a high degree, 7% agree somewhat, 3% disagree somewhat, 7% disagree, and 22% totally disagree

2010

Online shopping (order or buy something online)

12% answered don't know, 9% answered to a very high degree, 22% answered to a high degree, 17% slightly positive, 12% slightly negative, 9% to a low degree and 19% very low degree.

The next question does not use the phrase (as above) "can you use", but to what degree is it easy or difficult to use the following (the interviewer read? Scale 1 to 6, 1 very difficult to 6 very easy

To send text-messages

2008

2% don't know, 50% answered very easy, 14% easy, 8% somewhat easy, 1% somewhat difficult, 6% difficult and 18% very difficult.

2010

7% don't know, 43% answered very high easy, 14% easy, 13% somewhat easy, 13% somewhat difficult, 7% difficult and 4% very difficult.

In 2010 97% answered that they are using mobile phones for making calls and 92% for reading text-messages and 89% for sending text-messages, 21% mobile Internet and 36% apps.

A search engine such as Google

2010

23% don't know, 23% answered very easy, 18% easy, 15% somewhat easy, 10% somewhat difficult, 10% difficult and 1% very difficult

To chat

2010

46% don't know, 14% answered very easy, 0% easy, 11% somewhat easy, 10% somewhat difficult, 7% difficult and 12% very difficult

Use social media

2010

43% don't know, 11% answered to very easy, 5% easy, 14% somewhat easy, 13% somewhat difficult, 0% difficult, and 14% very difficult

Use the MinID

2010

42% don't know, 4% answered very easy, 20% easy, 3% somewhat easy, 7% somewhat difficult, 8% difficult, and 16% very difficult

Use the Bank-ID online

2010

41% don't know, 7% answered very easy, 4% easy, 8% somewhat easy, 10% somewhat difficult, 1% difficult, and 30% very difficult

Use a PC to pay bills

31% answered don't know, 15% very easy, 15% easy, 7% somewhat easy, 3% somewhat difficult, 7% difficult, and 22% very difficult

Mobile phone and the use of codes

2010

To use a pin code on a mobile phone

13% don't know, 53% very easy, 14% easy, 10% somewhat easy, and 10% somewhat difficult

Use a puk code to unlock a mobile phone (the sim-card)

24% don't know, 10% very easy, 13% easy, 4% somewhat easy, 7% somewhat difficult, 18% difficult, and 24% somewhat difficult.

5.3 Use of tools and devices

The interviewer uses the words "to what degree is it easy or difficult to use the following"? Scale 1 to 6, 1 very difficult to 6 very easy

Use a ticket kiosk

2008

6% answered don't know, 1% answered very easy, 0% easy, 2% somewhat easy, 8% somewhat difficult, 15% difficult and 60% very difficult

2010

22% don't know, 3% answered somewhat easy, 3% somewhat difficult, 17% difficult and 55% very difficult

Use an ATM

2008

2% answered don't know, 8% answered very easy, 4% easy, 8% somewhat easy, 21% somewhat difficult, 13% difficult and 43% very difficult

2010

13% answered don't know, 17% very easy, 11% easy, 10% somewhat easy, 18% somewhat difficult, 7% difficult and 23% very difficult.

In a store, use a payment kiosk

2008

30% answered very easy, 24% answered easy, 16% somewhat easy, 5% somewhat difficult, 8% difficult and 16% very difficult.

2010

7% don't know, 27% very easy, 18% easy, 11% somewhat easy, 17% somewhat difficult, 10% difficult, and 11% very difficult

Information for travelers on digital signage (public displays)

2010

3% don't know, 8% answered very easy, 3% easy, 1% somewhat easy, 27% somewhat difficult, 11% difficult, and 48% very difficult

Information for travelers during travel on digital signage (public displays)

2010

1% don't know, 7% answered very easy, 7% easy, 12% somewhat easy, 14% somewhat difficult, 34% difficult, and 26% very difficult

To use a queue system in a bank, postal office etc

2010

7% don't know, 1% answered very easy, 4% easy, 7% somewhat easy, 15% somewhat difficult, 20% difficult, and 47% very difficult

To read an instruction on something you have bought

2010

4% don't know, 4% answered very easy, 7% easy, 10% somewhat easy, 17% somewhat difficult, 15% difficult, and 40% very difficult

Use a credit card or an ATM-card

2010

17% don't know, 16% strongly agree, 16% agree, 22% somewhat agree, 17% somewhat disagree, 10% disagree, and 4% strongly disagree.

Use a kiosk in a store in combination with information on a mobile phone, for instance a text-message or a voucher

2010

43% don't know, 5% answered very easy, 14% easy, 4% somewhat easy, 17% somewhat difficult, 7% difficult, and 10% very difficult

Use a house alarm system

2010

61% don't know, 12% answered very easy, 8% somewhat easy, 3% somewhat difficult, 7% difficult, 10% very difficult

Use a safe in a hotel

2010

57% don't know, 4% answered very easy, 3% easy, 3% somewhat easy, 7% somewhat difficult, 7% difficult, and 19% very difficult

The survey had a question about whether or not someone had taught the person how to use words, the Internet, to use tools such as braille, magnifier or speech, to send and receive emails, and excel and power-points.

To use words

4% don't know, 18% answered to a very high degree, 9% to a high degree, 27% agree somewhat, 6% disagree somewhat, 9% to a low degree, 28% to a vey low degree.

To use the Internet

4% don't know, 17% answered to a very high degree, 13% to a high degree, 10% agree somewhat, 25% disagree somewhat, 1% to a low degree, 29% to a vey low degree.

To use assistive technologies such as braille, magnifier or speech

1% don't know, 19% answered to a very high degree, 9% to a high degree, 10% agree somewhat, 17% disagree somewhat, 20% to a low degree, 24% to a vey low degree.

To send and receive emails

4% don't know, 27% answered to a very high degree, 14% to a high degree, 4% agree somewhat, 21% disagree somewhat, 14% to a low degree, 16% to a vey low degree.

To use excel and powerpoint

4% don't know, 2% answered to a very high degree, 1% to a high degree, 12% agree somewhat, 14% disagree somewhat, 28% to a low degree, 39% to a vey low degree.

5.4 Reasons for not using a PC (15 respondents)

2010

I am not interested in using a PC; 22% totally disagree, neither disagree/nor agree 59%, and totally agree 19%.

I did not get public funding for buying a PC; 19 % not relevant, 22% totally disagree, and 59% totally agree.

I did not get public funding for assistive tools that I need to use a PC; 22% not relevant, 19% totally disagree, and 59% totally agree.

I don't know how get assistive tools necessary for using a PC for my visual impairment; 39% not relevant, 42% totally disagree, and 19% totally agree.

5.5 Summary the age-group 40-59 years old

In this age group there has been an increase in the percentage with access to a PC from 71% to 88%, for 2008 to 2010. For 201 the majority in this group answer that it is easy to use every-day technology such as PC and online services. This is the group with the lowest percentage with moderate visual impairment, 8% There are many similarities to the 25-39 years old, but the number that reports problems and difficulties increase. The services and technology that the majority (or the largest group) of the 40-59 years old experience difficulties are; to fill in forms from NAV (the national labour and welfare service), information on digital signage, information on digital signage during travel, queue systems (kiosks), ticket kiosks, and to read instructions. Also it is a larges group that find online banking and the us of ATM difficult compare to the group that finds it easy. Due to the fact that this is everyday technology for VIs as for everyone else, these numbers are a clear indication that there is work to be done.

6 The age-group 60-75 years old

6.1 Number of respondents in the age group

2008

There are 31 respondents in this age group.

Gender: 58% female and 42% male.

Blind: 48% (93% braille and 7% magnifier)

Severely VI: 29% (78% magnifier and 22% braille)

VI, low vision: 23% (86% magnifier and 14% braille)

2010

There are 40 respondents in this age group.

Gender: 48% female and 52% male.

Blind: 48% (50% braille and 50% magnifier)

Severely VI: 29% (75% magnifier and 25% braille)

VI, low vision: 25% (70% magnifier and 30% braille)

13% are working full-time, 10% working part-time and 77% are not working. Of the 77%, the majority (58%) is retired.

Access to and use of PCs

2008

The use of PC's (21 of 31 respondents have access to PC)

33% (7) have access to PC through magnifier

71% (15) have access to PC through speech software

48% (10) have access to PC through Braille

5% (1) without any tool

2010

The use of PC's, (22 of 40 respondents have access to PC)

41% (9) have access to PC through magnifier

59% (13) have access to PC through speech software

32% (7) have access to PC through braille

14% (4) without any tool

To use a PC

For you, to what degree is it easy or difficult to use the following? Scale 1 to 6, 1 very difficult to 6 very easy

NR **The use of social media among blind and VIs**

2008

17% don't know, 32% answered very easy, 14% easy, 14% somewhat easy, 12% somewhat difficult. 4% difficult and 67% very difficult

2010

27% don't know, 19% answered to a very easy, 7% easy, 16% somewhat easy, 8% somewhat difficult. 8% difficult and 15% very difficult

6.2 Online services

To what degree **can you use a PC** to the following? Scale 1 to 6, 1 very low degree to 6 a very high degree

2008

Internet: 35% answered to a very high degree, 29% a high degree, 15% slightly positive, 3% slightly negative, 6% a low degree, 12% a very low degree.

2010

Internet: 6% don't know, 13% to a very high degree, 0% to a high degree, 19% slightly positive, 13% slightly negative, 6% low degree and 44% very low degree.

2008

Read and send email: 61% don't know, 11% answered to a very high degree and 16% answered to a high degree, 0% slightly positive, 0% slightly negative, and 12% very low degree.

2010

Read and send email: 25% answered to a very high degree, 31% to a high degree, 12% slightly positive, 6% slightly negative, 6% low degree and 19% very low degree.

2008

Read pdf files: 12% don't know, 18% answered to a very high degree, 0% answered to a high degree, 11% slightly positive, 5% slightly negative, 5% to a low degree and 49% very low degree.

2010

Read pdf files: 43% don't know, 19% answered to a very high degree, 6% slightly positive, 12% to a low degree and 20% very low degree.

2008

Fill in electronic forms, for instance from NAV (national welfare service):

16% don't know, 0% answered to a very high degree, 5% answered to a high degree, 22% slightly positive, 11% slightly negative, 7% to a low degree and 39% very low degree.

2010

Fill in electronic forms, for instance from NAV (the national labour and welfare service):

24% answered don't know, 6% answered to a very high degree, 6% answered to a high degree, 7% slightly positive, 0% slightly negative, 6% to a low degree and 51% very low degree.

2008

Pay bills online (Internet banking)

16% answered don't know, 16% to a very high degree, 0% to a high degree, 5% agree somewhat, 5% slightly negative, 16% to a low degree, and 41% to a very low disagree

2010

Pay bills online (Internet banking)

44% answered don't know, 18% to a very high degree, 24% to a high degree, 12% agree somewhat, 0% slightly negative, 0% to a low degree, and 1% to a very low degree

2010

Online shopping (order or buy something online)

75% answered don't know, 12% answered to a very high degree, 6% answered to a high degree, 6% slightly negative, and 1% to a very low degree.

The next questions do not use the phrase (as above) "can you use", but to what degree is it easy or difficult to use the following (the interviewer read? Scale 1 to 6, 1 very difficult to 6 very easy

To send text-messages

2008

10% don't know, 31% answered very easy, 4% easy, 8% somewhat easy, 4% somewhat difficult, 10% difficult and 32% very difficult.

2010

31% don't know, 16% answered very easy, 8% easy, 7% somewhat difficult, and 38% very difficult.

A search engine such as Google

2010

51% don't know, 8% answered very easy, 11% easy, 0% somewhat easy, 8% somewhat difficult, 7% difficult and 15% very difficult

To chat

2010

73% don't know, 4% answered very easy, 4% difficult and 20% very difficult

Use social media

2010

72% don't know, 8% answered to a very high degree, 0% to a high degree, 4% somewhat agree, 4% somewhat disagree, % disagree, and 12% totally disagree

Use my ID (Min ID)

2010

69% don't know, 8% answered very easy, 4% somewhat easy, 4% somewhat difficult, 12% very difficult

Use Bank-ID online

2010

54% don't know, 8% answered very easy, 7% easy, 4% somewhat easy, and 27% very difficult

Pay bills by using a PC

2010

50% answered don't know, 11% very easy, 7% easy, 4% somewhat difficult, 4% difficult, and 24% very difficult

The next question regards mobile phones.

In 2010 61% answered that they are using mobile phones for making calls and 44% for reading text-messages and 35% for sending text-messages, and 9% for mobile apps.

Mobile phone and the use of codes

2010

Use a pin code for a mobile phone

30% don't know, 36% very easy, 15% easy, 1% somewhat easy, 4% somewhat difficult, 4% difficult, and 11% very difficult

Use a puk code to unlock the sim-card on a mobile phone

30% don't know, 13% very easy, 15% easy, 7% somewhat easy, 4% somewhat difficult, 1% difficult, and 31% very difficult

6.3 Use of tools and devices

The interviewer use the phrase as above to what degree is it easy or difficult to use the following: Scale 1 to 6, 1 very difficult to 6 very easy

Use a ticket kiosk

2008

14% answered don't know, 4% answered very easy, 6% somewhat difficult, and 72% very difficult

2010

27% answered don't know, 4% answered very easy, 7% somewhat difficult, 11% difficult and 51% very difficult

Use an ATM

2008

14% answered don't know, 14% answered very easy, 4% somewhat easy, 8% somewhat difficult, 8% difficult and 53% very difficult

2010

19% answered don't know, 5% very easy, 11% easy, 7% somewhat easy, 4% somewhat difficult, 15% difficult and 39% very difficult

In a store, use a payment kiosk

2008

7% answered don't know, 21% answered very easy, 7% easy, 5% somewhat easy, 0% somewhat difficult, 6% difficult, and 50% very difficult.

2010

16% don't know, 19% very easy, 15% easy, 11% somewhat easy, 15% somewhat difficult, 8% difficult, and 16% very difficult

Information for travelers on digital signage (public displays)

2010

15% don't know, 12% answered very easy, 1% easy, 4% somewhat easy, 11% somewhat difficult, 11% difficult, and 46% very difficult

Information for travelers on digital signage (public displays) during travel

2010

15% don't know, 12% answered very easy, 1% easy, 4% somewhat easy, 11% somewhat difficult, 11% difficult, and 46% very difficult

To use a queue system in a bank, postal office etc.

2010

8% don't know, 12% answered very easy, 11% easy, 4% somewhat easy, 15% somewhat difficult, 19% difficult, and 31% very difficult

To read an instruction on something you have bought

2010

7% don't know, 8% answered very easy, 1% easy, 4% somewhat easy, 19% somewhat difficult, 8% difficult, and 54% very difficult

Use a credit card or an ATM-card

2010

16% don't know, 16% very easy, 22% easy, 4% somewhat easy, 15% somewhat difficult, 4% difficult, and 39% very difficult

Use a kiosk in a store in combination with information on a mobile phone, **for instance a text-message or a voucher**

2010

54% don't know, 4% answered very easy, 7% easy, and 34% very difficult

Use a safe in a hotel

2010

51% don't know, 8% answered very easy, 4% easy, 4% somewhat agree, 5% somewhat difficult, 7% difficult, and 21% very difficult

2010

Use a home security alarm system

2010

65% don't know, 4% answered very easy, 4% answered easy, 8% somewhat easy, and 19% very difficult

The survey had a question about whether or not someone had taught the person how to use words, the Internet, to use tools such as braille, magnifier or speech, to send and receive emails, and excel and power-points.

To use words

0% don't know, 13% answered to a very high degree, 12% to a high degree, 19% agree somewhat, 1% disagree somewhat, 6% to a low degree, 49% to a vey low degree.

To use the Internet

6% don't know, 13% answered to a very high degree, 0% to a high degree, 12% agree somewhat, 7% disagree somewhat, 18% to a low degree, 44% to a vey low degree.

To use assistive technologies such as braille, magnifier or speech

6% don't know, 20% answered to a very high degree, 13% to a high degree, 0% agree somewhat, 18% disagree somewhat, 7% to a low degree, 36% to a vey low degree.

To send and receive emails

0% don't know, 19% answered to a very high degree, 25% to a high degree, 13% agree somewhat, 0% disagree somewhat, 18% to a low degree, 25% to a vey low degree.

To use excel and powerpoint

7% don't know, 6% answered to a very high degree, 0% to a high degree, 12% agree somewhat, 7% disagree somewhat, 6% to a low degree, 63% to a vey low degree.

6.4   Reasons for not using a PC (18 respondents)

I am not interested in using a PC; 29% totally disagree, 10% disagree, neither disagree/nor agree 59%, and totally agree 19%.

I did not get public funding for buying a PC; 11 % not relevant, 59% totally disagree, 10% disagree and 20% totally agree.

I did not get public funding for assistive tools that I need to use a PC; 11% not relevant, 70% totally disagree, 10% disagree and 9% neither disagree/nor agree.

I don't know how get assistive tools necessary for using a PC for my visual impairment; 14% not relevant, 31% totally disagree, and 17% agree.

6.5   Summary the age-group 60-75 years old

For this age group the results are mixed. The percentage with access to a PC decreases from 67% in 2008 to 55% in 2010. It is in this group that, by far, individuals experience most difficulties. However, for following services the

answers for the majority is on the positive side of the scale; to use a PC, to read and send text-messages, to use a credit card or ATM card, to use a payment card in a shop, and to make calls using a mobile phone. There are some interesting figures such as for online banking. Given that someone belong to the 61% that use a PC, about one in three (36%) answer the use of online banking is easy or very easy. On the there hand there are many that find it difficult, but use the service nevertheless. Finally 7t is also important to keep in mind the high percentage that do not use a PC in this age group.

7 Final comment

The overall result of this study can summarized as follows. There are significant differences between the age groups that means that age matters. The visually impaired in the two youngest groups has a high ICT-literacy and are using many ICT tools and online services. Electronic services and technology are used extensively in our society. The majority of the young VIs has adopted and use this technology and services. However, for the older the survey document that there are many problems and challenges. In the 60 plus group many report that they experience difficulties, but also in this group there are individuals with high ICT skills and frequent use of online services. Social media is very popular among the youngest, that is up to 39 years old. Not all technology is accessible for individuals with visual impairment. For kiosks and digital signage the accessibility is low for all VIs regardless of age.

8 Appendix A – Tables from the 2010 survey

	Access to a PC	Not acccess to a PC
Blind	63%	37%
Severe visual impairment	64%	36%
Moderate visual impairment	74%	26%

	15-24 years old	25-39 years old	40-59 years old	60-75 years old
Blind	19%	**42%**	22%	**40%**
Severe visual impairment	33%	50%	19%	39%
Moderate visual impairment	**48%**	8%	**59%**	21%
	100%	100%	100%	100%

Table A - Access to PC (Braille, Magnifier, Speech, No tool)

	Braille		15-24	25-39	40-59	60-75
Blind	**62%**		39%	38%	**65%**	**68%**
Severe visual impairment	33%		37%	**62%**	25%	33%
Moderate visual impairment	6%		25%	-	11%	-
	101%		101%	100%	101%	101%
	Magnifier					
Blind	0.2%		-	2%	-	-
Severe visual impairment	**59%**		40%	**86%**	40%	**88%**
Moderate visual impairment	31%		**60%**	12%	**61%**	12%
	100%		100%	100%	101%	100%
	Speech					
Blind	40%		**56%**	27%	**44%**	39%
Severe visual impairment	**52%**		33%	**64%**	37%	**61%**
Moderate visual	8%		11%	10%	19%	-

NR

impairment					
	100%	100%	101%	100%	100%
	Without any tool				
Blind	-	-	-	-	-
Severe visual impairment	3%	25%	9%	-	-
Moderate visual impairment	97%	**75%**	**91%**	**100%**	**100%**
	100%	100%	100%	100%	100%

To use a PC							
	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6
15- 24 years old	0%	0%	0%	0%	0%	29%	**71%**
25- 39 years old	0%	8%	4%	0%	25%	16%	**47%**
40 - 59 years old	16%	4%	3%	13%	5%	29%	**30%**
60 - 75 years old	**27%**	15%	8%	8%	16%	7%	19%
All (weighted)	11%	6%	9%	14%	15%	25%	21%

To use Internet							
Age	Not relevant / don't know	To a very low degree	2	3	4	5	To a very high degree
15- 24	0%	0%	0%	5%	0%	16%	**79%**
25- 39	0%	1%	4%	5%	9%	14%	**68%**
40 - 59	4%	0%	4%	13%	18%	26%	**36%**
60 - 75	6%	**44%**	6%	13%	19%	0%	13%
All (weighted)	5%	24%	5%	12%	17%	10%	**29%**

To read pdf files

Age	Not relevant / don't know	To a very low degree	2	3	4	5	To a very high degree
15-24	15%	20%	0%	5%	0%	25%	**35%**
25-39	1%	8%	**25%**	19%	18%	9%	21%
40-59	24%	12%	6%	9%	14%	15%	**24%**
60-75	**43%**	**20%**	12%	0%	6%	0%	19%
All (weighted)	**31%**	**19%**	13%	4%	8%	6%	18%

To read and send e-mails

Age	Not relevant / don't know	To a very low degree	2	3	4	5	To a very high degree
15-24	0%	5%	0%	0%	10%	15%	**70%**
25-39	0%	4%	5%	1%	4%	9%	**78%**
40-59	4%	0%	0%	4%	13%	19%	**60%**
60-75	0%	19%	6%	6%	12%	31%	25%
All (weighted)	1%	11%	4%	5%	11%	24%	**44%**

To fill in forms from NAV (The Norwegian Labour and Welfare Service)

Age	Not relevant / don't know	To a very low degree	2	3	4	5	To a very high degree
15-24	5%	10%	0%	15%	20%	15%	**35%**
25-39	9%	22%	13%	5%	11%	17%	**25%**
40-59	8%	32%	4%	14%	12%	21%	**9%**

60-75	24%	**51%**	6%	0%	7%	6%	6%
All (weighted)	17%	6%	6%	9%	12%	10%	**17%**

To pay bills, online bank							
Age	Not relevant / don't know	To a very low degree	2	3	4	5	To a very high degree
15-24	20%	0%	0%	5%	15%	44%	**16%**
25-39	11%	17%	0%	5%	5%	**57%**	**5%**
40-59	28%	4%	12%	0%	17%	23%	**17%**
60-75	**44%**	1%	0%	0%	12%	24%	18%
All (weighted)	35%	4%	4%	1%	13%	28%	**16%**

Online shopping (order or buy something online)							
Age	Not relevant / don't know	To a very low degree	2	3	4	5	To a very high degree
15-24	25%	5%	5%	10%	15%	35%	**5%**
25-39	18%	0%	14%	4%	15%	44%	**5%**
40-59	19%	9%	12%	17%	22%	9%	**12%**
60-75	75%	1%	0%	6%	0%	6%	12%
All (weighted)	49%	4%	5%	9%	9%	12%	**11%**

To use a search engine such as google							
Age	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6
15-24	0%	5%	0%	0%	15%	25%	**55%**
25-39	4%	12%	4%	9%	15%	14%	**43%**
40-59	23%	1%	10%	10%	15%	18%	**23%**

60-75	51%	15%	7%	8%	0%	11%	8%
All (weighted)	38%	11%	8%	8%	6%	14%	16%

To chat							
Age	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6
15-24	5%	0%	0%	5%	15%	20%	**55%**
25-39	10%	12%	8%	15%	12%	21%	**23%**
40-59	46%	12%	7%	10%	11%	0%	14%
60-75	73%	**20%**	4%	0%	0%	0%	4%
All (weighted)	58%	16%	5%	4%	4%	2%	**10%**

To pay bills by using a PC							
Age	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6
15-24	30%	0%	5%	15%	20%	25%	**30%**
25-39	5%	18%	4%	15%	13%	33%	5%
40-59	31%	22%	7%	3%	7%	15%	15%
60-75	50%	**24%**	4%	4%	0%	7%	11%
All (weighted)	41%	22%	5%	4%	3%	10%	14%

Information on digital signage (public displays)							
Age	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6
15-24	10%	10%	10%	10%	30%	5%	**25%**
25-39	7%	42%	15%	24%	0%	4%	9%
40-59	3%	48%	11%	27%	1%	3%	8%

60-75	15%	**46%**	11%	11%	4%	1%	12%
All (weighted)	11%	45%	11%	16%	4%	2%	11%

Information on digital signage (public displays) during travel							
Age	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6
15-24	0%	10%	30%	25%	10%	20%	5%
25-39	4%	27%	21%	20%	8%	8%	13%
40-59	1%	26%	34%	14%	12%	7%	7%
60-75	12%	**36%**	26%	7%	11%	0%	8%
All (weighted)	8%	31%	28%	11%	3%	8%	8%

Qeue systems							
Age	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6
15-24	16%	5%	15%	10%	10%	20%	**24%**
25-39	7%	20%	**35%**	4%	8%	4%	22%
40-59	7%	**47%**	20%	15%	7%	4%	1%
60-75	8%	**31%**	19%	15%	4%	11%	12%
All (weighted)	8%	**33%**	20%	14%	5%	9%	10%

Read instructions							
Age	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6
15-24	0%	30%	15%	20%	20%	5%	10%
25-39	4%	42%	1%	27%	11%	4%	11%
40-59	4%	40%	15%	17%	10%	7%	4%
60-75	7%	**54%**	8%	19%	4%	1%	8%

All (weighted)	6%	49%	9%	7%	3%	8%	6%

Making phone calls on a cellular phone

Age	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6
15-24	0%	0%	0%	0%	0%	20%	**80%**
25-39	0%	1%	0%	4%	12%	1%	**84%**
40-59	7%	1%	0%	7%	7%	20%	**60%**
60-75	11%	0%	7%	1%	0%	19%	**44%**
All (weighted)	0%	5%	14%	3%	18%	52%	9%

To send text messages

Age	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6
15-24	0%	5%	0%	10%	0%	25%	**60%**
25-39	8%	8%	7%	4%	4%	19%	**60%**
40-59	7%	4%	7%	13%	13%	14%	**43%**
60-75	31%	**38%**	0%	7%	0%	8%	16%
All (weighted)	21%	25%	2%	9%	4%	11%	**28%**

To use a pin code on mobile phone

Age	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6
15-24	5%	5%	0%	5%	0%	10%	**75%**
25-39	0%	4%	4%	11%	8%	12%	**62%**

Age	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6
40-59	13%	0%	0%	10%	10%	14%	**53%**
60-75	30%	**11%**	4%	4%	1%	15%	36%
All (weighted)	22%	8%	3%	6%	4%	14%	**43%**

To use a puk code to unlock a mobile phone							
Age	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6
15-24	40%	10%	5%	10%	10%	5%	**20%**
25-39	1%	16%	23%	7%	9%	12%	**32%**
40-59	24%	24%	18%	7%	4%	13%	10%
60-75	30%	**31%**	0%	4%	7%	15%	13%
All (weighted)	26%	27%	7%	5%	7%	14%	14%

Use a ticket kiosk							
Age	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6
15-24	15%	16%	15%	20%	5%	5%	**24%**
25-39	12%	**39%**	19%	12%	11%	0%	**7%**
40-59	22%	**55%**	17%	3%	3%	0%	0%
60-75	27%	**51%**	11%	7%	0%	0%	4%
All (weighted)	24%	**50%**	13%	7%	2%	0%	4%

Use an ATM card, credit card							
Age	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6

15-24	10%	0%	0%	20%	25%	25%	20%
25-39	0%	9%	4%	12%	13%	23%	**39%**
40-59	17%	4%	10%	17%	22%	16%	16%
60-75	16%	**23%**	4%	15%	4%	22%	16%
All (weighted)	15%	16%	5%	16%	7%	21%	20%

Use an ATM

Age	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6
15-24	16%	0%	5%	15%	25%	15%	**25%**
25-39	9%	**28%**	9%	9%	9%	8%	**29%**
40-59	13%	**23%**	7%	19%	10%	11%	**17%**
60-75	19%	**39%**	15%	4%	7%	11%	5%
All (weighted)	17%	33%	12%	9%	9%	11%	11**%**

In a store, to use a payment kiosk

Age	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6
15-24	10%	5%	0%	30%	10%	20%	**25%**
25-39	0%	5%	4%	12%	16%	**32%**	**32%**
40-59	7%	11%	10%	17%	11%	18%	**27%**
60-75	16%	16%	8%	15%	11%	15%	19%
All (weighted)	12%	13%	8%	16%	12%	17%	**23%**

Use a payment card in a shop

Age	Not relevant / don't know	Very difficult					Very easy

		1	2	3	4	5	6
15-24	10%	5%	0%	30%	10%	20%	25%
25-39	0%	5%	4%	12%	16%	32%	**32%**
40-59	7%	11%	10%	17%	11%	18%	**27%**
60-75	16%	16%	8%	15%	11%	15%	19%
All (weighted)	12%	13%	8%	16%	12%	17%	**23%**

To combine payment card with information on a mobile phone

Age	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6
15-24	45%	5%	0%	10%	15%	10%	15%
25-39	22%	15%	12%	4%	19%	13%	15%
40-59	43%	10%	7%	17%	4%	14%	5%
60-75	54%	**34%**	0%	0%	0%	7%	4%
All (weighted)	48%	26%	3%	5%	3%	10%	5%

Use online banking

Age	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6
15-24	25%	0%	10%	5%	10%	20%	**30%**
25-39	6%	18%	11%	4%	15%	17%	**30%**
40-59	28%	**23%**	7%	10%	11%	11%	12%
60-75	54%	**23%**	0%	0%	0%	7%	15%
All (weighted)	42%	22%	3%	3%	4%	10%	16%

Use social media

Age	Not relevant / don't know	Very difficult					Very easy

		1	2	3	4	5	6
15-24	5%	0%	0%	0%	10%	35%	50%
25-39	10%	7%	11%	10%	15%	16%	31%
40-59	43%	14%	0%	13%	14%	5%	11%
60-75	72%	12%	0%	4%	4%	0%	8%
All (weighted)	57%	12%	1%	7%	8%	4%	12%

Use MinID (the Norwegian public sector electronic log in system)

Age	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6
15-24	20%	5%	0%	5%	16%	10%	**44%**
25-39	27%	19%	13%	1%	8%	27%	6%
40-59	42%	16%	8%	7%	3%	20%	4%
60-75	69%	**16%**	4%	4%	0%	0%	8%
All (weighted)	57%	16%	5%	4%	2%	6%	10%

Use Bank-ID online (the electronic identities of Norwegian banks)

Age	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6
15-24	30%	0%	0%	10%	25%	15%	20%
25-39	18%	29%	5%	4%	15%	11%	18%
40-59	41%	29%	1%	10%	8%	4%	7%
60-75	54%	**27%**	0%	0%	4%	7%	8%
All (weighted)	47%	27%	1%	3%	6%	7%	9%

Use a home security alarm system

Age	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6
15-24	80%	10%	0%	0%	10%	0%	0%
25-39	68%	15%	4%	5%	0%	4%	4%

40-59	61%	10%	7%	3%	8%	0%	12%
60-75	65%	**19%**	0%	0%	8%	4%	4%
All (weighted)	65%	16%	2%	1%	7%	3%	6%

Use a safe in a hotel room							
Age	Not relevant / don't know	Very difficult 1	2	3	4	5	Very easy 6
15-24	75%	0%	0%	5%	0%	10%	10%
25-39	42%	24%	1%	12%	7%	11%	4%
40-59	57%	19%	7%	7%	3%	3%	4%
60-75	51%	**23%**	7%	4%	4%	4%	8%
All,	52%	21%	7%	5%	4%	4%	7%

8.1 Types of social media and frequency of use

The use of Facebook

	Daily	Weekly	Monthly	Seldom	Never	Not relevant
15-24	**80%**	5%	5%	0%	5%	5%
25-39	**38%**	19%	15%	4%	20%	5%
40-59	25%	10%	1%	3%	**26%**	35%
60-75	0%	4%	7%	1%	**24%**	64%
N=150						

The use of Windows Messenger, MSN

	Daily	Weekly	Monthly	Seldom	Never	Not relevant
15-24	35%	25%	0%	20%	15%	5%
25-39	9%	21%	0%	12%	50%	8%
40-59	4%	11%	3%	10%	36%	35%
60-75	7%	0%	0%	1%	24%	68%
N=150						

The use of Skype

	Daily	Weekly	Monthly	Seldom	Never	Not relevant
15-24	20%	5%	0%	40%	30%	5%
25-39	10%	4%	8%	4%	66%	8%
40-59	0%	7%	4%	8%	45%	36%
60-75	4%	0%	0%	4%	28%	64%

The use of Twitter

	Daily	Weekly	Monthly	Seldom	Never	Not relevant
15-24	0%	5%	0%	5%	85%	5%

25-39	0%	0%	0%	8%	83%	9%
40-59	0%	4%	7%	0%	53%	36%
60-75	0%	0%	0%	0%	32%	68%
N=150						

The use of You Tube

	Daily	Weekly	Monthly	Seldom	Never	Not relevant
15-24	50%	20%	10%	10%	10%	0%
25-39	12%	38%	12%	18%	12%	9%
40-59	0%	18%	2%	20%	25%	36%
60-75	0%	0%	4%	8%	21%	68%
N=150						

The use of Google docs

	Daily	Weekly	Monthly	Seldom	Never	Not relevant
15-24	15%	15%	10%	10%	35%	15%
25-39	18%	4%	8%	12%	44%	14%
40-59	8%	7%	1%	0%	48%	37%
60-75	0%	0%	0%	7%	17%	75%
N=150						

8.2 ICT and education on ICT tools

The interviewer asked: Has someone taught you how to use <u>word</u> or a similar PC software

Word							
Age	Not relevant / don't know	Not at all/low degree	2	3	4	5	To a very high degree
15-24	0%	15%	0%	10%	15%	**40%**	**20%**
25-39	4%	28%	9%	6%	27%	9%	18%
40-59	4%	17%	9%	17%	13%	30%	11%
60-75	0%	**49%**	6%	1%	19%	12%	13%
All (weighted)	2%	35%	7%	7%	18%	18%	13%

Someone has taught me how to use Internet

Internet							
Age	Not relevant / don't know	Not at all/low degree	2	3	4	5	To a very high degree
15-24	0%	35%	0%	15%	10%	15%	25%

25-39	4%	41%	9%	10%	9%	2%	26%
40-59	4%	29%	1%	25%	10%	13%	17%
60-75	6%	**44%**	18%	7%	12%	0%	13%
All (weighted)	5%	39%	11%	13%	11%	5%	16%

Someone has taught me how to use braille, magnifier or speech software for a PC

Tool such as braille, magnifier, speech						
Age	Not relevant / don't know	Not at all/low degree	2	3	4	5	To a very high degree
15-24	0%	25%	5%	40%	25%	5%	0%
25-39	12%	33%	8%	13%	11%	14%	10%
40-59	1%	24%	20%	17%	10%	9%	19%
60-75	6%	**36%**	7%	18%	0%	13%	20%
All (weighted)	5%	32%	11%	18%	5%	11%	18%

Someone has taught me how to send and receive emails

Email						
Age	Not relevant / don't know	Not at all/low degree	2	3	4	5	To a very high degree
15-24	0%	40%	0%	20%	15%	5%	20%
25-39	5%	37%	13%	5%	5%	17%	19%
40-59	4%	16%	14%	21%	4%	14%	27%
60-75	0%	**25%**	18%	0%	13%	25%	19%
All (weighted)	2%	24%	16%	8%	9%	20%	22%

Someone has taught me how to use excel or powerpoint

Excel or PowerPoint							
Age	Not relevant / don't know	Not at all/low degree	2	3	4	5	To a very high degree
15-24	0%	20%	10%	10%	35%	10%	15%
25-39	9%	51%	5%	13%	5%	5%	13%
40-59	4%	39%	28%	14%	12%	1%	2%
60-75	7%	**63%**	6%	7%	12%	0%	6%
All (weighted)	6%	52%	13%	10%	12%	1%	6%

NR⬙ **The use of social media among blind and VIs**