Remaining divides:
Access to and use of ICTs among elderly citizens

Tobias Olsson and Dino Viscovi

Abstract

The ambition to make all kinds of societal services, public as well as commercial ones, more effective and accessible via online applications is reoccurring all over the western world. To a large extent, such ambitions hold the promise to make citizens' everyday lives easier, but they are, however, also problematic in that they presuppose a number of important prerequisites. They presuppose widespread access to ICT-applications of a standard that is fast and solid enough to manage to make users actually make use of these services. They further presuppose that all citizens and consumers, who are the inscribed users of these applications, have enough competences and skills to make use of them. Hence, there is an obvious risk that people who do not have access are being left behind in the transformations of these services from analogue to digital.

In this chapter we attend to these risks by paying attention to contemporary patterns of access to, and use of, digital applications. The chapter is inspired by domestication theory and looks into and analyses different patterns of ICT access and use among Swedish senior citizens, with the following questions in mind: What ICT-devices do various groups of senior citizens have access to? To what extent do they make everyday use of them? For what purposes do they use these devices? The empirical material has been derived from a pilot survey which was conducted from August to September 2015.

Keywords: ICT-access; ICT-use; senior citizens; domestication; pilot study

Olsson, T./Viscovi, D. (2016) 'Remaining divides: Access to and use of ICTs among elderly citizens', pp. 273-288 in L. Kramp/N. Carpentier/A. Hepp/R. Kilborn/R. Kunelius/H. Nieminen/T. Olsson/P. Pruulmann-Vengerfeldt/I. Tomanić Trivundža/S. Tosoni (Eds.) *Politics, Civil Society and Participation: Media and Communications in a Transforming Environment*. Bremen: edition lumière.

1 Introduction

According to international statistics, Sweden is one of the world's most Internet-connected nations (World Internet Project, 2013). This has in fact been the case ever since the 1990s, when computers with Internet connections started to become widespread in people's everyday lives all over the western world. The most recent statistics reveal that approximately 90 per cent of all Swedes have online access through various devices, such as computers and mobile phones (Findahl, 2014, p. 10).

The fact that online access is widespread has been interpreted as a very useful opportunity in different contexts. Among governmental agencies, it has been referred to as an opportunity to make public services more effective (Abalo et al, 2012). By offering citizens online access to information and services is thought to make citizens better able to take care of their own matters, which – in turn – would save both time and money for governmental agencies, such as the social insurance agency and the tax agency. In the Swedish context, these processes have been referred to as "*E-governance*" (ibid.). Healthcare has also become a part of this. With the advent of online portals for health information and communication, Swedish healthcare agencies hope to be able to provide better services, but also to make their contacts with care seekers and patients more effective (SKL, 2014).

With reference to the widespread access to and use of online devices these are reasonable ambitions. Why would it not be an attractive offer better – and cheaper – services with the help of online applications? The ambitions are, however, also problematic, both as visions and in practice. The ambition to make all kinds of social services, public as well as commercial ones, more effective and accessible via online applications presupposes a number of important prerequisites. It presupposes widespread access to ICT-applications of a standard that is fast and solid enough to make users actually make use of these services. It further presupposes that all citizens and consumers, who are the inscribed users of these applications, have enough competence and skills to actually make use of them. Hence, there is an obvious risk that people who do not have access are being left behind in the transformation of these services from analogue to digital. The same equally holds true when it comes to citizens without the necessary competence and skills to make use of such online based services.

In this chapter we attend to these risks by paying attention to contemporary patterns of access to, and use of, digital applications. More specifically, the chapter looks into and analyzes different patterns of ICT access and use among Swedish senior citizens, with the following three questions in mind: What ICT-devices do various groups of senior citizens have access to?; To

what extent do they make everyday use of them?; For what purposes do they use these devices? The analysis below is founded on a pilot study with survey data (n = 310) on the elderly and ICTs.

2. ICTs, senior citizens and everyday life: Theoretical considerations

Research into the everyday use of ICTs among senior citizens has not only been an area of interest for scholars specialized in media studies. The research field has instead had a great deal of influence from a large variety of disciplines, which have in common an interest in how elderly people make use of, and understand, digital technologies and applications. As a consequence, previous analyses within the area have, for instance, often been derived from medical and health sciences, which have had a specific interest in ICTs as resources for elderly people as patients, or potential patients (Torp et al, 2008; Harrefors et al, 2010; Berner et al, 2013). Very often these analyses start from an overarching ambition to better understand how specific digital applications can be made use of in order to improve health care. The field of informatics has also brought empirical insights to the area, for instance, with analyses of how and to what extent senior citizens manage to make use of the conversion of analogue services into digital ones (Choudrie et al, 2013).

Within the field of media studies Olle Findahl's research into access to, and use of, ICTs is an ambitious attempt to map access to, and use of, digital devices (Findahl, 2011; Findahl, 2013), which is also of importance for our understanding of the position of elderly people. These studies reveal, on the one hand, that Swedish households are among the world's most digitalized: 89 percent have home access to the internet, 65 percent have smart phones, more than one third of Swedish households have access to electronic tablets. On the other hand, they also reveal that elderly people are less likely to have access to – and use – these ICTs. They are also more likely than other groups to have a sense of themselves being left outside of the so-called "*information society*".

These reports reveal interesting overall trends, but cannot offer much detail regarding variations within the specific group of elderly users (and non-users) due to their ambition to offer a lot more overarching data on access to and use of ICTs among all age groups. Hence, it is of importance for research within the area to test and develop new explanatory factors and variables in order to nuance and complement our understanding of the to which elderly people have access to and make use of ICTs in everyday life.

The ambition to test and develop new explanatory factors and variables is inspired by established research concerned with domestication of new ICTs. Domestication research can be perceived as a media studies branch of research

on the social shaping of technologies (Williams, 1974; Mackenzie/Wajcman, 1999). To put it simply, it is based on a specific analytical interest in what becomes of ICTs in everyday life, i.e. how they are made sense of, used, and become parts of daily routines. Domestication research had its big take off in the early 1990s (cf. Silverstone/Hirsch, 1992; Lie/Sørensen, 1996), and during the initial phase domestication research was dominated by its interest in television as an everyday technology (Silverstone, 1994). However, the approach has been under continuous development and has come to include analyses of emerging media technologies such as computers/the internet (cf. Bakardjieva, 2005; Berker et al, 2006; Olsson, 2006) and mobile phones (cf. Green/Haddon, 2009) and further, its analyses of users' social and cultural shaping of these technologies as everyday artefacts and communicative opportunities.

As the everyday ICTs have become technologically more complex, users' competence and skills have become increasingly important when trying to understand how users domesticate them. Within research inspired by the notion of domestication this was made evident earlier, when home computers started to become common elements in western households. It immediately became apparent that both access to, and use of, home computers were related to factors such as people's income and level of education. These insights were usefully conceptualized by Murdoch et al. (1992), who suggested that the ways in which people access and make use of ICTs could be conceptualized with reference to people's (and their households') degrees of access to three categories of resource – material, social and discursive resources (see Olsson, 2007 for further elaborations). The concept *material resources* refers mainly to economic resources – and according to Murdoch et al. (1992) – they are important predictors of access to ICTs. Which devices does the household have (everyday) access to, and what are their standards? In this conceptualization of resources the notion *social resources* refers to the user's social network. What is the quality and intensity in various users' networks with family, relatives, friends, and what is the participation in associations, etc.? A more specific angle to the concept in this context is that it also incorporates ICT competence in the network. To what extent do individual users have access to help with ICT-related matters within their social networks? The notion of *discursive resources* pays attention to the users' varying access to intellectual resources (educational, cultural, language) and how such resources – or the lack of them – help shape people's access to and use of ICTs.

3 Methodology & data material

The empirical material has been derived from a pilot survey which was conducted from August to September 2015. The design of the questionnaire was preceded and informed by eight, hour-long, interviews with course instructors at *SeniorNet* in Gothenburg, Malmö and Växjö. *SeniorNet* is a non-profit organisation in which the elderly train other elderly persons in ICT-skills.

Survey data were collected by e-mail and by telephone interviews. The questionnaire was distributed by e-mail to members of *SeniorNet* Växjö (a city of about 60,000 inhabitants in southern Sweden). *SeniorNet* Växjö has at least 550 members. 210 members answered the questionnaire, which means a 38 percent response rate. In order to get a sample that also includes non-members, 100 randomly selected persons, living in the city, 65 years or older, answered the very same questionnaire in telephone interviews.

In total, 310 responses were registered. The sample as a whole is obviously not a correct, simple random sample, and not representative of the older Swedish population. Firstly, neither *SeniorNet's* register of e-mail addresses, nor the telephone directory, are optimal sampling frames. Secondly, neither the members nor the non-members correspond to the elderly Swedes of the same age in general.

The respondents are, for instance, slightly better educated than average. 32 percent have studied at university level (compared to 26 percent of the same age group in Sweden). The telephone interviews revealed that people without ICT, or with limited digital competence, are less willing to participate. Moreover, 96 percent have Swedish as their mother tongue, indicating a low proportion of foreign-born participants (15 percent in the country as a whole). It may be added that the respondents' ages vary from 63 to 89, only 8 people are younger than 66. The average age is 73.2 years, and finally, 59 percent are women and 41 percent men.

Overall, we can conclude that the sample as a whole consists of people who are somewhat better educated than the age group at large. They are, in addition, through their membership and their willingness to participate in the survey probably more interested and skilled in digital technology than average. The figures that we report, therefore, must be considered as relatively high (in terms of access, use, etc.) in comparison to the population of elderly Swedes in general. When we, for example, claim that 94 percent have some kind of technological device, as we will do in the next paragraph, then this should be interpreted with caution. An actual value would probably be several percentage points lower.

Hence, it is important to repeat that the figures presented in this chapter are not representative for Swedish senior citizens in general. That is not our intention with the pilot survey, as it has been conducted in order for us to test

and develop indexes and measures that will be applied in a forthcoming, large scale Swedish survey (national SRS) covering ICT access, use and literacy among senior citizens. Nevertheless, even this sample offers some analytical opportunities as it allows for comparisons between people within the sample.

4 Results and analysis

If we, to begin with, look at the sample as a whole, we can state that 94 percent of the respondents use some form of technological device which potentially gives them access to the Internet. In fact, the vast majority, 70 percent, have two or more devices, which means an average of 2.3 devices per person. The distribution between different types of technology looks as follows:

Table 1. Technological devices, access (percent), years (mean)

	access	years
Laptop	71	2.9
Smartphone	54	1.8
Tablet	45	1.8
Desktop	39	3.9
Smart TV	16	2.4
E-book reader	6	2.5
	n = 310	

Percentage refers to the proportion of the sample with access to the technology in question. Mean indicates how old the devices are, calculated from the date of purchase.

The table reveals that nearly three out of four respondents have laptops, 71 percent to be precise. Slightly more than half of the sample has smart phones, 54 percent, and almost half of it has electronic tablets, 45 percent. 39 percent are noted for desktops, while relatively few hold Smart TVs, and very few e-book readers, 16 and 6 percent respectively.

The table also specifies how old the devices are. These data can – apart from informing us that most of the equipment has relatively recently been purchased – also be utilized as a form of trend indicator. They would then suggest that the desktop, with a mean age of 3.4 years, and maybe the laptop, mean:

2.9 years, are in a downward trend, while the tablet and the smart phone are in an upward trend.[1] Finally, we can add that 72 percent of the respondents have a wireless network installed in their homes.

Furthermore, the devices are regularly used: 86 percent state they use the Internet five to six days a week or more often. The average use is 6.2 days a week (standard deviation, 1.68). Thus, altogether our data seems to suggest that assumptions saying that varying resources structure the access to, and use of, ICT, are less plausible. At least at a first glance, the data rather support the idea that digital technology has become a part of nearly everyone's daily life; additionally, we could emphasize the fact that non-use must not necessarily be understood as involuntary exclusion, it may also be the result of individual's conscious choice (cf. Sourbati, 2009; Weaver et al, 2010; Hakkarainen, 2012).

However, before we reject the initial idea that users' varying access to material, social and discursive resources influence ICT access and use (cf. Murdoch et al., 1992; Warschauer, 2002;), let us first take a closer look at the material, and put it in relation to three different resources. In Table 2 below, material resources has been operationalized as level of income, social resources as family relationships, and discursive resources as level of education, which gives the following results:

Table 2. Resources and Access to Devices. Percent. Mean.

	No device	One or more	Two or more	Three or more	Four or more	Mean	(n)
Material resources -income							
low	12	88	50	27	5	1.7	(67)
medium	4	96	75	42	26	2.4	(129)
high	0	100	78	56	33	2.7	(72)
n=268							

1 Our analysis here is also informed by our interviews with SeniorNet-instructors, who claim that beginners, unlike five years ago, rarely buy PCs; they instead prefer smart phones and/or tablets. Furthermore, SeniorNet's range of courses has changed in the same manner. Today, SeniorNet offers fewer conventional PC courses; smart phones and tablets are prioritized.

	No device	One or more	Two or more	Three or more	Four or more	Mean	(n)
Social resources -relationship							
single	10	90	58	31	10	1.9	(198)
couple	3	97	87	48	21	2.5	(98)
n=284							

	No device	One or more	Two or more	Three or more	Four or more	Mean	(n)
Discursive resources -education							
low	15	85	54	34	12	1.9	(74)
middle	4	96	69	40	19	2.3	(126)
high	1	98	77	48	20	2.6	(95)
n=295							

Income: low ≤ 200.000 SEK/year, medium = 201.000-400.000 SEK/year, high: > 401.000 SEK/year.
Relationship. Single: Widow, widower, single. Couple: Married, cohabiting.
Education: according the standard of Statistics Sweden cf. Gilljam et al (1988).
Access to device, per cent: Tau-c < .005 regardless resource.
Number of devices, mean. Material and discursive resources, one way anova: .99.
Number of devices, mean. Social resources, Independent-samples T-test: .99

Differences in access to devices may at first glance seem small, but if we draw attention to material resources and the low-income group, we can note that twelve percent are completely lacking ICT and access to the Internet. In the middle income group only four per cent, one-third as many, have been registered in the category of non-users, and finally, in the high income group, everybody, 100 percent, has at least one device. We can also note that one in three in the high income group, 33 per cent, has four devices or more, whereas the corresponding figure for the low income group is only five percent. Formulated in another way, on average, those belonging to the low income group has 1.7 devices, while those in the high income group have 2.7.

Moreover, social resources[2] also affect access, and in a somewhat paradoxical way. Limited social resources could be assumed to increase the willingness to have ICT, however, the data rather suggest the opposite. Ten percent of the singles are lacking devices, which is slightly three times more than those who are in a relationship, three percent.

Finally, of the three types of resources, discursive resources, operationalized as education, appear to have the greatest impact on the propensity to have or not have a device. 15 percent of those with lower education levels lack devices, in the middle group only four, and in the group with the highest educational level, only one percent state that they do not have access to any devices.

One objection near at hand is that age may be an underlying variable, as those who are older generally, and, in particular, women who have not been gainfully employed, have a little less income/pension than those who are younger. The oldest also have on average a lower educational level. But the differences in age between the groups are negligible. For the entire population the average age is 73.2 years, and in all groups in Table 2 (above) the average age is 72 or 73 years. Thus, it seems more than reasonable to argue that material, social and discursive resources affect the propensity to both have digital technology and the number of devices.

The next step is to investigate usage. For this reason, non-users have been excluded from the analysis, and we will from now on only look at those who have digital technology. To get a comprehensive picture of use – and statistically significant results – an index has been constructed. The index consists of 15 items that capture the frequency of five different aspects of Internet use, that is, Internet use for *consumption, communication, production, mass media consumption* and finally internet use for *welfare service*[3] (cf. Hartmann 2010). The index ranges from zero to fifteen. A respondent who reports the maximum frequency of use for each particular item, receives 15 points on this scale, while, a respondent with no registered use, does not receive any points at all. The higher the score, the more frequent and varied these uses are, and vice versa.

2 The operationalization of social resources used here, may seem simple, but has proved very effective in our tests of various measures of such resources (these other measures have included items such as "participation in clubs and associations", "meeting with friends and family"). If we assume that all individuals have about the same number of social relationships, it means that the number of relationships increases when individuals become couples, although some relationships are partly overlapping.

3 Consumption includes items covering: information search about products, price comparisons, buying of goods and services. Communication includes items covering: SMS, e-mail, Facebook. Production includes items covering: photography, blogging, web forum writing. Mass media includes survey items: radio, TV, news. Welfare service includes items covering: Swedish Pension Agency, Social Insurance Agency, Health care.

Table 3. Resources and Usage-Index

	Material resources income			Social resources relationship		Discursive resources education		
	low	middle	high	single	couple	low	middle	high
	4.1	5.0	5.4	4.4	5.2	4.2	4.5	5.4
n =	(59)	(124)	(72)	(88)	(180)	(62)	(77)	(139)

Cronbach's Alpha: .810. Material and discursive resources, One Way Anova: .95 resp. .99. Social resources, Independent-samples T-test: .95,

The first impression is probably that the spread between the groups is limited. But this is only a result of how the index has been constructed; with higher values, differences became larger. Nevertheless, the main purpose is to discover a pattern and reveal whether there are significant differences between the groups in the sample. And as Table 3 reveals, we can state that this is the case: with reduced resources, follows a lower degree of use, in frequency and variation, no matter whether we are considering material, social or discursive resources. Thus, even if those with lower resources acquire ICTs, a gap or a divide persists between groups with varying degrees of access to material, social and discursive resources.

Finally, we can display a table showing figures of non-use. Table 4 is based on the same items that were included in the index. None of the items are statistically significant per se, but as they are parts of the index we have used (which is significant), they reveal insights into the index, and also show some overall trends within our sample. They also help anticipate trends that probably will be revealed (or at least searched for) within our forthcoming, larger survey (including 2000 respondents).[4]

Table 4. Resources and proportion of non-users. Per cent.

		Material income			Social relationship		Discursive education		
	All	low	medium	high	single	couple	low	middle	high
E-mail	4	10	3	0	8	3	10	7	1
SMS	8	14	7	6	*8*	*8*	10	9	7
News	12	20	11	10	15	11	16	15	10
Product information	14	23	16	7	22	11	*25*	*30*	*21*

4 With a larger sample the expectations for significant data are much higher.

		Material income			Social relationship		Discursive education		
	All	low	medium	high	single	couple	low	middle	high
Photography	20	25	21	14	24	18	24	23	15
Web-TV	22	22	23	19	27	20	32	22	20
Price information	23	35	25	13	33	20	*15*	*21*	*12*
E-commerce	30	51	27	20	38	27	44	37	22
Facebook	43	51	43	34	*42*	*44*	49	45	40
Web-radio	46	56	48	39	53	43	*39*	*58*	*44*
Pension Agency	57	68	59	48	63	53	*52*	*60*	*55*
Health care	58	75	56	52	75	53	*58*	*57*	*61*
Social insurance	71	77	69	71	76	69	73	74	68
Web forum	74	77	78	69	79	74	81	82	70
Blogging	93	92	95	89	92	94	*87*	*96*	*95*

All: n=240-286. Material resources: n=216-260. Social resources: n=223-264. Discursive resources: n=223-271.

If we look at the left column, which reports all respondents, and compare it with the three columns for those with the lowest resources, we can again see that with the column covering limited resources, with very few exceptions (in italics), has the largest proportion of non-users.

It is also worth noting that the kinds of usage that we relate to as e-services, especially public ones (social insurance, pension agency, health care), have a specifically large share of non-users. This is an important fact to bear in mind for a society that aims at increasingly basing such services on online applications – this is obviously not elderly users' preference, as they are expressed through their practices. The share of non-users is also large for applications such as web forums and blogs, which is a specifically interesting observation

as both commenting and blogging position the users as content producers. It is rather evident that such practices are not among the most common ones among the elderly users in this sample.

5 Conclusion

In light of data and analyzes presented above, we can return to the research questions. On the question "*What ICT-devices do various groups of senior citizens have access to?*" the answer is, that a large share of the respondents has access to at least one ICT-device that allows them to connect to the internet, and that laptops and smart phones are the most common devices. Meanwhile, we also have to conclude that access to ICT-devices varies according to the senior users' resources. Hence, users with a higher income (material resources) generally have access to more devices than users with less income. Nevertheless, the difference between groups of users becomes particularly obvious with reference to education (discursive resources) – better educated users are better equipped with ICTs than those with lesser education.

The second question – "*To what extent do they make everyday use of them?*" – generates similar results, suggesting that material, social as well as discursive resources are important in shaping senior users' ICT-practices. Overall, user groups with larger resources (material, social, discursive) have a more frequent and multifaceted Internet use than user groups with less resources.

This is also related to our third research question: "*For what purposes do they use these devices?*" The overall most common practices are e-mailing, texting (SMS) and news consumption. These are very widespread user practices among all groups of users. Nevertheless, also in this regard, users varying access to material, social and discursive resources has a big impact. With very few exceptions, users with larger resources appear to be both more frequent and varied ICT-users than users with lesser resources.

Such differences between groups of senior ICT-users potentially matters in terms of who gets "included into" or "excluded from" increasingly digital services – both public and private ones. These patterns need further analyses. As the data presented here are drawn from a pilot study, we are so far only talking about tendencies within a small sample, but these tendencies need further elaboration with the help of a larger and representative sample.[5] In our view such data are becoming increasingly vital as ever more public and private services are being offered mainly online. The ICT access and capabilities, as well

5 This is in fact also the case as we – during the autumn/winter 2015/2016 – conducted a survey based on a nationwide sample of elderly Swedes (+ 65 years). With the help of data from this sample we will be able to substantiate our observations regarding the role played by material, social and discursive resources in shaping access to use of ICTs.

as willingness to use these devices, among different groups of senior citizens will become decisive for the extent to which they are able to benefit from the development, both as consumers and citizens.

6 References

Abalo, E., Danielsson, M., Johansson, H., Olsson, T. (2012) 'Emerging patterns in the era of e-governance: A study of users of "Swedish public employment service" on the Internet', pp. 114-125 in R. Dhar and P. Rana (Eds.) *Media in the swirl*. New Delhi: Pentagon Press.

Bakardjieva, M. (2005) *Internet society*. Thousand Oaks: Sage.

Berker, T., Hartmann, M., Punie, Y., Ward, K. (2005) *Domestication of media and technology.* Maidenhead: Open University Press.

Berner, J. S., Rennermark, M., Jogréus, C., Berglund, J. (2013) 'Factors associated with change in internet usage of Swedish older adults (2004-2010)', *Health Informatics Journal*, 19(2): 152-162.

Choudrie, J., Ghinea, G., Songonuga, V. N. (2013) 'Silver surfers, e-government and the digital divide: An exploratory study of UK local authority websites and older citizens', *Interacting with Computers*, 25(6): 417-442.

Findahl, O. (2011) *Äldre svenskar och Internet: 2010*. Stockholm: Stiftelsen för Internetinfrastruktur. Downloaded on 18. November 2015 from https://www.iis.se/docs/Aldre_svenskar_och_internet_2010.pdf.

Findahl, O. (2013) *Svenskarna och Internet 2013*. Stockholm: Stiftelsen för Internetinfrastruktur.

Findahl, O. (2014) *Svenskarna och Internet 2014*. Stockholm: Stiftelsen för Internetinfrastruktur.

Green, N., Haddon, L. (2009) *Mobile communications: An introduction to new media.* Oxford: Berg.

Hakkarainen, P. (2012) '"No good for shoveling snow and carrying firewood": Social representations of computers and the internet by elderly Finnish non-users', *New Media & Society,* 14(7): 1198-1215.

Harrefors, C., Axelsson, K., Sävenstedt, D. (2010) 'Using assistive technology services at differing levels of care', *Journal of Advanced Nursing,* 66(7): 1523-1532.

Hartmann, M. (2010) 'Media literacy/competence, participation and youth. Conceptual reflections 2.0', pp 107-126 in P. Dahlgren and T. Olsson (Eds.) *Young people, ICTs and democracy: Theories, policies, identities, and websites*. Göteborg: Nordicom.

Lie, M., Sørensen, K. (1995) *Making technology our own*. Oslo: Scandinavian University Press.

MacKenzie, D., Wajcman, J. (1999) *The social shaping of technology*. Maidenhead: Open University Press.

Murdoch, G., Hartmann, P., Grey, P. (1992) 'Contextualizing home computing: Resources and practices', pp. 82-91 in R. Silverstone and E. Hirsch (Eds.) *Consuming technologies: Media and information in domestic spaces.* London: Routledge.

Olsson, T. (2006) 'Appropriating civic information and communication technology: A critical study of Swedish ICT policy visions', *New Media & Society*, 8(4): 611-627.

Olsson, T. (2007) 'An indispensable resource: The internet and the young engagement', pp. 187-204 in P. Dahlgren (Ed.) *Young citizens and new media: Learning democratic engagement.* New York: Routledge.

Silverstone, R. (1994) *Television and everyday life*. London: Routledge.

Silverstone, R., Hirsch, E. (1992) *Consuming technologies: Media and information in domestic spaces.* London: Routledge.

SKL (2014) 'Invånartjänster'. Downloaded on 18. November from http://skl.se/halsasjukvard/ehalsa/invanartjanster.1741.html.

Sourbati, M. (2009) '"It Could Be Useful, but not for me at the Moment": Older people, internet access and e-public service provision', *New Media & Society*, 11(7): 1083-1100.

Torp, S., Hanson, E., Hauge, S., Ulstein, I., Magnusson, L. (2008) 'A pilot study of how information and communication technology may contribute to health promotion among elderly spousal carers in Norway', *Health & Social Care in the Community*, 16(1): 75-85.

Warschauer, M. (2003) *Technology and social inclusion: Re-thinking the digital divide*. Cambridge: MIT-Press.

Weaver, K., Zorn, T. (2006) 'Goods not wanted: Older people's narratives of computer use rejection', *Information, Communication & Society,* 13(5): 696-721.

Williams, R. (1974) *Television: Technology and cultural form*. London: Fontana/Collins.

World Internet Project (2013) *International report. Fifth Edition*. Downloaded on 18. November 2015 from http://www.worldinternetproject.net/_files/_//307_2013worldinternetreport.pdf

Biographies

Tobias Olsson (PhD) is a professor of Media and Communication studies at Lund University. He has extensive research experience within the areas of media and citizenship, internet culture, and mediated participation. His current publications include articles in journals such as Communication Research and Social Media+Society.

Contact: tobias.olsson@kom.lu.se

Dino Viscovi (PhD) is a senior lecturer in Media and Communication studies at Linnæus University, Växjö. His research has dealt with news journalism, journalists and media audiences.

Contact: dino.viscovi@lnu.se