# TV VIEWING PATTERNS IN INTERNET ACCESS HOMES

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**The main objective of this paper is to provide new information on the viewing patterns in homes with Internet access. Only the panel methodology is capable of supplying longitudinal information and when more people meter-based results are published, it will be interesting to make international comparisons.**

**This paper is based on the analysis of viewing behaviour in Internet access homes as described by the Finnish people meter panel data. Finnpanel Ltd. has operated the people meter-based audience measurement since its very beginning in 1987. All of the major broadcasters are subscribers. The JIC (joint industry committee) concept is applied as the leading principle of operation, the advertising agencies pay a minor share of the costs, and also advertisers have representation in the control body.**

## FINLAND, LAND OF IT

What do you know about Finland? Lately Finland has become known as a technologically oriented country with one of the highest per capita densities of mobile phones and Internet connections in the world. Internationally known IT companies, such as Nokia and Sonera, have their headquarters in Finland.

National television programmes are broadcast on four television networks. Two of these are public service channels, while the other two are commercial channels funded through advertising. The state-owned Finnish Broadcasting Company (YLE) broadcasts national programmes on TV1 and TV2. Both stations also broadcast the programmes of YLE's Swedish-language section, FST (Finlands Svenska Television). All three broadcasters have obligations in digital terrestrial television. Altogether, there will be twelve new channels on three multiplexes (the YLE channels were already launched August 27, 2001). The overall role of cable and satellite TV has not been nearly as strong as in the other Nordic countries. Cable networks have largely served as distributors for pan-European channels, such as Eurosport, Euronews, MTV Europe and TV5. Just about half of the 2.1 million Finnish households have access to satellite TV, either through cable or private satellite dish. Due to Nordic latitude, only about 40 foreign satellite channels are available in Finland.

## CONVERGENCE?

*"... people overestimate what can be accomplished in the short term and underestimate the changes that will occur in the long term".*

- *By 2009, computers will be embedded in the clothes*
- *By 2019, they will be hidden in our bodies*
- *By 2099, human and machine intelligence will have merged*

(Kurzweil, 1999)

Even if we still have to wait for the real convergence of man and machine, media convergence is happening, perhaps not as quickly as many futurologists would like to see it but the current technological changes give better opportunities for such a development. There is an increasing amount of TV and radio services in the Internet, and with wider bandwidths both availability (enabling more simultaneous users) and technical quality will improve significantly. Digital terrestrial television will also make TV, radio, and the Internet available in those rural regions that are – mainly for economical reasons – not connected to the global electronic village by cable.

An older development – rediscovered only recently – is 'audience convergence'. A significant part of the audience uses TV, radio and the

Internet, and heavy users of any of these three are also heavy users of the other two (Kiefl, 2000).

In the field of research methodologies, have we seen any convergence yet? Even if it is obvious that many people use several media in parallel, we still mostly use separate samples and separate methodologies for each media. It is often a wrong question to ask a TV researcher: "how is it with radio listening among the prime time TV news audience?"

## PARALLEL MEDIA USE

How do the "new media" find their audiences? Maybe the invention of newsprint (enabling mass circulation of newspapers) had an effect on reading books, radio may have had its impact on newspaper reading, and TV is blamed – not fully without reason – for the shrinking of the 'old' radio prime time (i.e. evening) listening. What research evidence, if any, is there of the effects net usage may have on TV viewing? Logically, TV viewing has some effect on the net usage as well, but in most news media it would not pass the news criteria, no more than would "a dog bit a man" as contrasted with "a man bit a dog".

Much of the public discussion on media convergence and media use is based on survey data: Ask people anything, they will answer something! Headlines like "Internet use decreases TV viewing" are based on survey results. However, at the same time when Internet penetration increased rapidly, the minutes spent with TV have increased in most of those sixty countries which use people meter methodology for TV audience measurement (Mediametrie, 2001).

A good source of survey-based information is the Canadian QRS (Media Quality Ratings Survey), also because of its methodology. A total of 3,269 Canadians (18+) were interviewed personally (response rate 45%). During the interview card sorting (prompted awareness) was used to identify TV channels and Internet sites. Some of the key findings were as follows.

*Heavy users of each of the three electronic media have one thing in common – they are also very likely to be heavy users of at least one other medium. (Throughout the remainder of the text, the word, heavy is usually omitted.)*

*About one-half of TV users, for example, are also consumers of radio. Likewise, roughly one-half of radio users are TV users. Even Internet users follow this pattern: slightly less than one-half are TV users and about one-half are radio users. Interestingly, about 5 per cent of respondents are heavy users of all three electronic media. These media junkies are mostly young English-speaking males with above average education.*

> *This analysis reveals that there are a significant number of people who are extremely reliant on the electronic media and that they use more than one medium, rather than concentrating on one to the exclusion of others. That is, from the consumer's perspective the three electronic media – radio, TV and the Internet – have already converged. This has major implications for policy makers and the media industry.* (Kiefl, 2000)

Another large-scale survey was based on telephone interviews of 3,005 Americans (US), 12 years and older. The sample was chosen at random from Arbitron's Fall 2000 survey diary keepers (response rate was not reported). The report "Internet VI study" is available at Arbitron's website. Some of the highlights follow.

- 13% (29.5 million) had used either Internet audio or video in the past month ("streamers");
- 13% had broadband connection;
- 7.3% had listened to online radio;
- the more involved with streaming, the more time spent with radio and Internet. (Arbitron, 2000)

In Europe, the Gartner Group (Cassidy, 2001) has been active in publishing results based on telephone interviews, and the UCLA report "Surveying the Digital Future" is also based on telephone interviewing. Both convey the same message: less time is spent with television viewing in net access homes. For instance, in the United Kingdom the TV share of personal media time budget was 55% in homes without net access, but 'only' 45% in Internet homes. It was learned in the United States that "… Internet users watch 4.5 hours per week less television than non-users. And television viewing decreases as Internet experience increases" (UCLA, p. 32). In Japan, the NHK Broadcasting Culture Research Institute recently published results based on their survey "The Media in Daily Life". According to this survey, the respondents list the following effects (in rank order) caused by home Internet connection: less letter writing, less telephone calls, less sleeping time, and less TV viewing (Kamimura, 2002). The perception of the effects of the Internet may be culturally bound, and thinking mathematically the effects on TV viewing may be greatest in those countries where the share of TV viewing is very large of personal time budget.

Unfortunately, in this telephone interview world, not much was done to describe how the net access homes differ from the rest, or how they behave over time. From a methodological point of view, learning the real media behaviour may actually be too hard a task for telephone interviewing. Therefore, it is easy to understand the success of people meter methodology.

People meters are used in more than sixty countries for similar reasons, among them being accuracy, cost efficiency, and ability to provide a database for longitudinal secondary analyses.

## NET ACCESS HOMES IN PEOPLE METER PANELS

Until convergent, continuous and accurate measurement of Internet use and TV viewing is commonplace, it is worthwhile taking a look at the people meter panellists' viewing patterns. If we cannot measure Internet use and TV viewing in the same panel, perhaps the Internet access as such makes a difference.

Many people meter panels use net access as a background variable, but not much has yet been published. Turner Broadcasting System is among the first to report on net access TV audience as described by several syndicated sources:

- people with net access are typically light TV viewers;
- people who just got the net were light viewers before they went online;
- pre-net access light viewers remained so over time (Turner, 2001).

Another interesting source is the "Nielsen Convergence Lab". According to preliminary results, net access homes are light viewers (as also reported by Turner), and getting net access did not have much influence on their TV viewing. However, a few TV programmes seemed to have a special appeal in the net access homes (ASI, 2001).

Finland is one of the first countries where Internet penetration has developed rapidly. In December 2001, 62% of persons aged 15 - 79 years had used the Internet within the past three months and 52% within the past week; 65% had access in total, and 34% had the access at workplace (Gallup NetTrack, 2001). The penetration, i.e. net access, is still growing and even if access today is still biased towards higher education and younger people, soon the demographics may not differ much from the total population.

In the Finnish people meter panel, net access has been available as a background variable for secondary analyses since January 2001. At the end of 2001, altogether 35% of panel members (population 4+ years) had a home net connection, very close to the official penetration figure (37%) published by the Statistics of Finland. The panel sample is 1,800 persons, and will be expanded further during year 2002. Since the panel has quite detailed background data of its members, it was easy to see the net access concentration: cities or towns, multichannel homes, and multiset homes with children. Therefore, it is easy to expect the net access people to watch TV differently than people without

access. In order to learn the possible influence of net access, the demographic variables must be controlled. Instead of looking at the net access – no access groups as such, we have to look at the same demographics within both access categories. Since age is one of the strongest variables that explains TV viewing, it should be controlled statistically. Do people in the net access homes differ regarding their viewing by channel, type of TV programming, or loyalty of viewing? These were some of the questions answered by secondary analyses of the Finnish people meter data.

## DATA ANALYSIS

The very first question was how many background variables can be included, and how many can be statistically controlled. The current sample size (800 households, 1,800 persons) considered, only four groups were feasible: net access – no access by two age groups, 4 - 44 years and 45+ years. From a sociological point of view these groups may look meaningless, but quantitatively this was the best to be done. These groups were large enough for further analysis. We took a look at reach, viewing time, programme audiences, and viewing patterns (see table 1).

**Table 1**
**NUMBER OF PERSONS IN PEOPLE METER PANEL, JANUARY 2002**

| | *Net access* | *No net access* |
|---|---|---|
| ***4 - 44 years*** | 562 | 509 |
| ***45+ years*** | 262 | 506 |

## MAIN RESULTS

Through the 1990s the minutes of viewing increased, which obviously had to do with the growth of broadcast hours and the start of the fourth national TV channel in 1997. Since the reach has also been growing, it seems TV has become a stronger medium at the time of rapid Internet development. In year 2001, average daily viewing was 2 hours 47 minutes, and the average daily reach of all channels combined was 78%. The average annual shares are shown in table 2 for the major four terrestrial channels.

**Table 2**
**AVERAGE CHANNEL SHARES, YEAR 2001**

| | |
|---|---|
| ***TV1 (YLE)*** | 21.8 |
| ***TV2 (YLE)*** | 19.9 |
| ***MTV3*** | 39.1 |
| ***Nelonen*** | 11.6 |

These general qualities of the TV channels are also reflected in the tables that follow where net access and no access groups are compared with each other. For the sake of comparability, these tables use the same column heads and rows: four major terrestrial channels according to net access – no access in two age breaks, based on full year data for both 2000 and 2001. For computing economy, a 15-minute database was used (instead of minute by minute). This may cause small differences as compared to official figures, but does not affect much the relationships between TV channels.

## Reach

What is the definition of reach? The Group of European Audience Researchers (GEAR) has covered this topic in several of its annual conferences over the past ten years. Even if there are recommendations on calculating reach (GGTAM, 2001), there are still variations from one country to another. In practice, many secondary analysis systems give the freedom to use several definitions (5 or 15 minutes, consecutive or non-consecutive). The Finnish calculation convention is one minute for both daily and weekly reach.

In the tables 3-4 it is easy to see differences between TV channels. Channel shares are reflected also in channel reach.

**Table 3**
**AVERAGE DAILY REACH BY CHANNEL, YEAR 2000**

| | ***Total*** | ***Net access*** | | ***No net access*** | |
|---|---|---|---|---|---|
| | ***4+ years*** | ***Age 4 - 44*** | ***Age 45+*** | ***Age 4 - 44*** | ***Age 45+*** |
| ***TV1*** | 57.7 | 48.4 | 63.3 | 49.5 | 72.5 |
| ***TV2*** | 52.7 | 43.9 | 55.2 | 46.5 | 65.2 |
| ***MTV3*** | 64.2 | 57.7 | 64.0 | 60.1 | 74.3 |
| ***Nelonen*** | 38.1 | 38.2 | 36.6 | 39.8 | 37.6 |

It is interesting, though, to look at the net access vs. no access groups. In no access categories channel reach is clearly higher than in the net access categories. However, in the younger no access category (age 4 - 44) reach is lower than in the older (age 45+) net access category, except for Nelonen (Channel Four Finland). This clearly implies that age matters more than the net access as such, shown here by Nelonen which is targeting its programming to younger audiences. A year later (table 4) the relationships between audience groups have not changed, only the level of reach is slightly higher. The exception is TV1 with lower reach in the younger net access category.

**Table 4**
**AVERAGE DAILY REACH BY CHANNEL, YEAR 2001**

| | *Total* | *Net access* | | *No net access* | |
|---|---|---|---|---|---|
| | *4+ years* | *Age 4 - 44* | *Age 45+* | *Age 4 - 44* | *Age 45+* |
| ***TV1*** | 58.3 | 45.9 | 63.4 | 50.4 | 75.3 |
| ***TV2*** | 54.8 | 45.1 | 55.4 | 49.9 | 67.9 |
| ***MTV3*** | 65.9 | 57.9 | 65.0 | 63.2 | 76.0 |
| ***Nelonen*** | 40.5 | 38.2 | 38.7 | 42.9 | 41.2 |

## Viewing Time

The average daily viewing time has increased clearly during 1990s. In 1995, it was 140 minutes, in 2001 just about half an hour more, 167 minutes. When the access groups are compared, the differences are very similar to those in tables 3 and 4. However, the differences between TV channels may look more striking. Especially the older (45+) no net access group seems to watch MTV3 much more than any of the other audience categories, but still the relationship between younger (age 4 - 44) no access group and older net access group remains as before: age matters more than the Internet access as such. The exception is again YLEs TV1: both of the younger groups spent exactly the same number of minutes with the channel. (See table 5.)

Again, a year later the numerical relationships remain as before, but the general growth of viewing minutes did not happen to all of the channels, and the MTV3 viewing actually decreased slightly. The same happened to TV1 in both of the younger age groups. (See table 6.)

**Table 5**
**AVERAGE DAILY MINUTES OF VIEWING BY CHANNEL, YEAR 2000**

| | *Total* | *Net access* | | *No net access* | |
|---|---|---|---|---|---|
| | *4+ years* | *Age 4 - 44* | *Age 45+* | *Age 4 - 44* | *Age 45+* |
| ***TV1*** | 36 | 23 | 43 | 23 | 57 |
| ***TV2*** | 32 | 20 | 32 | 24 | 49 |
| ***MTV3*** | 64 | 47 | 58 | 52 | 91 |
| ***Nelonen*** | 18 | 18 | 15 | 21 | 17 |

**Table 6**
**AVERAGE DAILY MINUTES OF VIEWING BY CHANNEL, YEAR 2001**

| | *Total* | *Net access* | | *No net access* | |
|---|---|---|---|---|---|
| | *4+ years* | *Age 4 - 44* | *Age 45+* | *Age 4 - 44* | *Age 45+* |
| ***TV1*** | 36 | 19 | 43 | 22 | 62 |
| ***TV2*** | 34 | 20 | 34 | 25 | 54 |
| ***MTV3*** | 62 | 44 | 56 | 52 | 91 |
| ***Nelonen*** | 19 | 17 | 15 | 21 | 18 |

## Average Ratings

One of many standard indicators to compare 'channel performance' is using average annual ratings. These ratings (tables 7 - 8) are calculated from the 15-minute database.

**Table 7**
**AVERAGE RATINGS BY CHANNEL, YEAR 2000**

| | *Total* | *Net access* | | *No net access* | |
|---|---|---|---|---|---|
| | *4+ years* | *Age 4 - 44* | *Age 45+* | *Age 4 - 44* | *Age 45+* |
| ***TV1*** | 5.7 | 3.3 | 3.2 | 7.6 | 9.6 |
| ***TV2*** | 5.6 | 3.5 | 4.1 | 5.8 | 8.6 |
| ***MTV3*** | 10.5 | 7.3 | 8.0 | 9.9 | 15.4 |
| ***Nelonen*** | 3.2 | 3.1 | 3.5 | 2.8 | 3.1 |
| ***Total*** | 26.3 | 18.3 | 20.4 | 27.3 | 37.8 |

*Time: 17-24 hrs*

Without exception the ratings in older groups are higher. For TV1 and MTV3, the ratings in the older no access group are just about twice as high as in the younger group, but in the case of TV1, the younger access group has a slightly higher rating than the older access group.

In year 2001, the major change was decreasing ratings for MTV3, but mostly growth for other channels. Generally the older age groups have higher ratings, also in table 8. However, in the older access group (45+), the average rating was now higher for all channels, TV 1 included, than in the younger access group.

**Table 8**
**AVERAGE RATINGS BY CHANNEL, YEAR 2001**

| | *Total* | *Net access* | | *No net access* | |
|---|---|---|---|---|---|
| | *4+ years* | *Age 4 - 44* | *Age 45+* | *Age 4 - 44* | *Age 45+* |
| ***TV1*** | 5.7 | 2.9 | 3.1 | 7.5 | 9.9 |
| ***TV2*** | 5.7 | 3.3 | 4.2 | 6.0 | 9.2 |
| ***MTV3*** | 10.2 | 6.9 | 8.2 | 9.8 | 15.2 |
| ***Nelonen*** | 3.3 | 2.9 | 3.6 | 2.9 | 3.3 |
| ***Total*** | 26.2 | 17.3 | 20.5 | 27.8 | 38.8 |

*Time: 17-24 hrs*

## Programme Audiences

By scanning through the programme audience database it was easy to see there were TV programmes which appealed to the net access group. Not only did ratings differ but there was also a difference in the nature of viewing. A relatively simple description of TV programme based audience loyalty is “net fraction”. It describes how long all the viewers of the programme spent with the programme on average, calculated as a percentage of the programme length. The longer the programme, the shorter the average net faction tends to be. Table 9 shows a few prime time programmes of just about equal length.

It is not unusual to realise the older audience being more loyal. However, it is quite interesting to discover that the younger no net access group has the lowest net fraction for the news. With the foreign series it seems to be just about the opposite. The older groups (whether net access or not) show a lower loyalty. *Frazier*, however, was followed with the same loyalty by both net access groups. *Men Behave Badly* differs from the other three programmes, the level of net fraction is lower, and especially low in the older non-access group.

This may have to do with the general audience profile and viewing patterns of the channel (Nelonen).

**Table 9**
**AUDIENCE LOYALTY AS DESCRIBED BY AVERAGE NET FRACTION**

| | *Net access* | | *No net access* | |
|---|---|---|---|---|
| | ***Age 4 - 44*** | ***Age 45+*** | ***Age 4 - 44*** | ***Age 45+*** |
| TV News (15 min)<br>TV1 20.30<br>Sat 5.1.2002 | 64.4 | 68.1 | 49.6 | 69.0 |
| Frasier (21 min)<br>TV1 22:06<br>Sat 26.1.2002 | 62.5 | 61.9 | 64.7 | 49.3 |
| Friends (27 min)<br>MTV3 19:59<br>Tue 15.1.2002 | 64.8 | 45.4 | 73.1 | 44.2 |
| Men Behave Badly (37 min)<br>Nelonen 20:56<br>Sun 27.1.2002 | 41.3 | 34.2 | 39.4 | 17.8 |

*% of programme length*

In the remaining two tables (tables 10 - 11), only those demographics are shown which discriminate strongly between different volume (of viewing) groups. This, in turn, may explain a little more about the viewing behaviour of the net access groups.

The earlier published studies support the hypothesis of light viewers being a dominant subgroup within net access homes, and being a light viewer as such would explain the viewing behaviour of the net access group. (See table 10.)

The heavy-medium-light analysis (HML) by the discriminating demographics for week 7/2002 is shown in table 10. The viewers were ranked according to their total number of minutes viewed, and then divided into three groups of equal size. In table 10 we can seen the most distinctive demographic characteristics of heavy, medium, and light viewers. The main conclusion is simple: the age of the respondent is an important discriminator: 71% of light viewers were under 45 years in contrast with 70.9.% of heavy viewers being over 45 years of age. Light viewers tend to be younger, which may explain most of the findings described in tables 3 - 8. Among light viewers, there were slightly more persons in executive position than in other groups, and also more students (see table 11).

**Table 10**
**COMPOSITION OF HEAVY-MEDIUM-LIGHT VIEWER GROUPS**

| | *Total* | *Light* | *Medium* | *Heavy* |
|---|---|---|---|---|
| | ***100.0%*** | ***100.0%*** | ***100.0%*** | ***100.0%*** |
| ***Net access*** | 44.3 | 60.1 | 44.7 | 29.0 |
| ***4-44 yrs*** | 56.1 | 71.0 | 56.1 | 29.1 |
| ***45+ yrs*** | 43.9 | 29.0 | 44.0 | 70.9 |
| ***Executive*** | 8.7 | 11.5 | 9.4 | 7.9 |
| ***Student*** | 21.0 | 33.4 | 15.1 | 6.4 |
| ***Retired*** | 20.4 | 8.1 | 16.2 | 16.2 |

*Week 7/2002*

**Table 11**
**COMPOSITION OF LIGHT VIEWERS WITH NET ACCESS**

| | *Age 4 - 44* | *Age 45+* |
|---|---|---|
| ***Executive*** | 9.6 | 25.6 |
| ***Student*** | 43.8 | 0.0 |
| ***Retired*** | 0.0 | 18.6 |
| ***University degree*** | 7.6 | 19.9 |

## SUMMARY AND IMPLICATIONS

- Channel reach depends more on age of the viewer than net access.
- Changes in annual viewing time per channel do not coincide with net access.
- Average ratings are higher among no net access viewers, but lower in younger age group regardless of net access.
- A concentration of light viewers was found in the net access audience.

These findings were based on secondary analysis of Finnish people meter data. Differences in TV viewing were found between net access and non access homes. Some differences were related to age of the viewer, and some were also channel specific. Being a light viewer was typical of those living in a net access home. It seems net access as such would not matter as much as the demographics. Having an Internet connection in a people meter sample home does not mean all household members would use it and in any case, we do not know about the extent of their Internet use.

The exploratory results shown in this paper reflect the old and well-known link between demographics and TV viewing. Since the penetration of Internet home access is still less than half of the total audience, it is easy to understand the net access homes differ demographically from the non access homes and therefore, there should be differences in TV viewing behaviour as well. For instance, one of the elementary findings in TV audience research – also worldwide – is that young people watch less news, and their low interest towards news is also shown by programme appreciation studies; there is a positive correlation between programme appreciation and viewing. This brings up another important issue for the future: we should be able to also evaluate the qualitative experience television provides to its audiences.

Instead of analysing media consumption and audience structures only quantitatively, we should also be able to conduct a qualitative assessment: what kind of experiences do different media provide to their audiences? Each medium is capable of fulfilling quite different needs, i.e. in addition to common needs, there can be needs unique to each medium. The old school of "uses and gratifications" has done a lot of work even in the field broadcasting (Katz, 1977), but the work is mostly known only in academic circles. A recent non-academic contribution was made by the Henley Centre (Curry, 2002). According to them, the role and value of viewing time is changing. They divide the time budget in four categories: work, chores (obligations), pottering (to pass the time), and quality time (something you choose to do because you enjoy it). It seems TV is capable of providing quite a lot in "quality time" even if most of TV output may not fall in this category. Most likely there are different qualities for different people, and selective TV viewing has always been there (Kasari, 1985). Thus, in looking forward to quality time, the audience may end up sorting out TV output even more carefully in the near future. When we try to assess the influence of Internet on TV viewing, the nature of the content of both should be evaluated. If television does not provide "quality time", the audience will find it somewhere else. The same applies to Internet content as well.

Quantitative audience measurement is also under pressure for change. There is a growing need of methodological convergence, i.e. we should get reliable enough information on both TV viewing and Internet use from the same sample. Until this happens, we have to live with incomplete information on the parallel use of Internet and television.

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