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# METERED TELEVISION AUDIECE MEASUREMENT IN FINLAND

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## 1. Background: the need for a metered measurement

The Nordic countries are fairly small on the European map concerning their population, financial resources, and media business. Therefore, for many years the costs of introducing a metered system for TV audience measurement were felt to be prohibitive. However, developments in broadcasting have been just as rapid as elsewhere in the world, and the need for meters eventually became unarguable. Why this happened in Finland much earlier than in the other Nordic countries, may have many inherent reasons, one of them being the early start of TV advertising already in 1957. It might have been thought that it would have been more economical to turn to one of the existing systems, but in fact a consortium of the two broadcasting organisations and the Finnish Advertising Agencies came to the conclusion that it would be better to build a domestic system, especially in a situation where the inspection standards and rules of using electronic appliances were extremely restrictive. Thus, it made more sense to make a meter according to the national standards than trying to import a foreign system. Today such problems with the technical inspection would have been much smaller.

Continuous television measurement was started in Finland in 1960. The joint audience measurement was based on a diary panel and the original subscribers to the service were Oy Yleisradio Ab (the state broadcasting service, YLE for short), Oy Mainos-TV-Reklam Ab (the commercial service, later renamed MTV Oy), and The Finnish Association of Advertising Agencies (MTL). The continuous panel was run by the Finnish Gallup and an advanced feature at the time was including also children's viewing in a diary, filled out by the mothers. This early joint industry attempt failed, however, in 1966 when YLE decided to rely on a few sample weeks to monitor the eventual changes in viewing from one year to another. MTV and MTL changed the research contractor, but stayed with a continuous diary panel

methodology.

After twenty years of separation a new metered measurement system brought all three organisations together as subscribers to joint audience measurement. The contract of the new joint industry measurement was signed in August 1985, the experimental panel run during 1986, and the first overnight reports from a national panel were available in December 1986. Officially the metered service started in March 1987.

The reasons for abandoning the diary based research came also from the actual audience behaviour. Until the late 1970's television viewing was very simple concerning the options available to the viewer: only two national channels ( in 1993, the average number of channels available was 5.9, average usage 3.7 channels), no VCR's, hardly any remote controls or multi-set homes, and the cable and community antenna systems in their infancy. By mid-80's the situation was quite different. A new regional on-air channel (TV3) was started ( later a fusion with MTV Oy), satellite channels were distributed by the cable and community antenna systems, VCR penetration was over 30% (today over 60%), one third of the homes had a remote switcher, close to 30 percent were multi-set homes, and 16% of homes were hooked to a cable system (today over 35%). In net figures, already in mid-80's almost half of the Finnish households had other options than just the two national channels.

It was obvious that the nature of TV viewing would also change in Finland. However, the specialists disagreed on the time table. Video penetration and the availability of satellite channels were faster than expected. In any case, with such future expectations, a new television audience measurement was needed. When the viewing situation becomes complicated, diary filling is more difficult and the completion rates easily fall. Telephone interviewing offered some promise, but the problem there is that short-interval changes cannot be tracked - and who knows whom those people who can be reached by telephone represent? If you ask today about yesterday's viewing, you automatically miss those people who were viewing yesterday but are not at home today.

Preliminary inspection of the meter systems available in the world market was started in 1979. At the time, hardly any meters were sold separately. The major international suppliers were selling only "full service" which - in a small market like Finland - would have been too expensive. In 1981 the threat of the VCR was no longer just theoretical, also the advertising agencies had developed a keen interest in commercial break viewing. The first discussions with Finnpanel on the feasibility of a domestic alternative were held, and in 1983 it was decided to proceed: Finnpanel started a development project to make a meter prototype. Meanwhile, there were also new developments in the international meter market. Telecontrol meters were tested in Switzerland, the Australian research company, Roy Morgan, was using meters manufactured somewhere in far East, and a domestic meter project was just about to start in Spain. In general, the metered measurement was gaining in popularity; the French were making also their own meter, and RAI in Italy had decided to buy a meter system from the British AGB. Towards the end of 1983 a Finnmeter prototype was available for demonstration, and during Spring 1984 several demonstrations were held. Meanwhile, YLE had developed an interest in a metered measurement that resulted in a demonstration of the Swiss Telecontrol system in Finland. A working party was formed among the potential subscribers to sort out a huge number of details involved in starting a metered measurement.

The workload was heavy, and the task not easy. A decision was made to operate a test panel using the Finnmeter that resulted in the final decision to go ahead with national measurement in Autumn 1986.

## 2. Sampling: selection of households

Although television viewing is not a minority activity, audience measurement is sensitive to sampling - the selection of households to represent the whole nation. In continuous methods, where the same households remain in the sample for a considerable time, the problems are two kinds: initial selection of the households, and sample maintenance and quality control. The establishment surveys have been done in various ways depending on the national circumstances. In Finland the decision was to use The Finnish National Readership Survey (KMT), instead of a new separate survey. This kind of collaboration between the printed and electronic media may be unusual, but a permission was given to use the respondent information - no media use information, however - as the frame of sampling. Persons interviewed (usually 5000, occasionally 10 000 a year) were asked how likely they would be to agree to become a meter household. Using KMT thus served two purposes: information was gained both of the kind of households /persons who would not be willing to become meter households and of those who would be likely to agree. At the initial stage of sampling, a register of those households who volunteered was used for sampling. At a later stage, information about those who did not volunteer to become meter panel members was used to correct the total meter sample. About 14 percent of the persons interviewed in the KMT said absolutely no, 17 percent were hesitant, 15 percent were not sure, 14 percent had a positive attitude, and 33 percent said they would very likely become a meter household. Later it was found out, that sometimes this initial questioning caused bad PR; some people who were willing to join the meter sample were disappointed if there was no immediate meter installation!

Selecting the communes, towns, or cities had to be considered very carefully. First, there are over 400 communal districts in Finland, and the net sample size was set at 350 households only (today 475 & a 60 HH additional Swedish language sample). Secondly, to represent the total population, the meter sample had to concentrate on the most densely inhabited areas, but nevertheless the sample had to be spread around the country to represent geographical differences. A statistical principle of PPS (probabilities proportionate to size) was applied in the geographical sample selection which results in a poor representation of geographical areas of low population density (such as Lapland). Basically the population is very homogeneous through Finland, but the number of TV channels available varies, and is also changing fairly fast. At the time when initial sample was drawn only 300 000 households (15%) were hooked to a community antenna or cable system. Today the number of homes of close to 700 000, and the selection and number of channels in each system has changed over the years. A continuous follow up of cable developments is needed in sample maintenance and it was agreed that cable penetration would be one of the sample quality criterias. A similar 'after the event' constraint has been the decision of establishing so-called TV4 which - as a cultural exchange programme agreed between the Swedish and Finnish governments - is retransmitting Swedish originating TV programmes in Southern and South-Western part of Finland. Another one is maintaining regional advertising breaks at MTV3. The former TV3

concept was to create a possibility for regional advertising, and this being successful it was not feasible to abolish it when the fusion of TV3 to MTV Oy happened. Today the main regions, i.e. those with heaviest population concentration, can be analysed reliably enough. Lately there have been discussions of changing the whole sampling structure to a more regional one. When this is done, also the statistical weighting has to renewed, because the national ratings would be based on regional over/undersampling. If - as it seems - also the main cable operator (PTV, Helsinki Media, a daughter company of the main newspaper publisher, Sanoma Oy) is willing to join the subscribers, the sample structure has to be rethought anyway.

## 3. Meter Technology: a description of main principles

At the initial stage when a metered audience measurement is consired for the first time, there is heavy load of technical information discussed up to madness. It should be kept in mind, that since the technical part of a metered measurement system is only replacing the data collection of a sample based methodology, still the rules of sample statistics will apply. On the other hand, if the technology is unreliable, the whole idea of audience measurement can be ruined.

The most common technical principle was ten years ago so called "oscillation probe", which required the installation of a probe inside the TV set to find out which channel the set is tuned. Another common practice was using the household electrical wiring to communicate between the main meter and the slave units (meters used in multi-set homes to monitor all the sets used). It turned out that neither of these principles could be applied in Finland without major difficulties. This was one of the major arguments to favour a domestic meter. The Finnmeter (developed by Finnpanel) has the channel selector (tuner) built in inside the meter - not in the TV set. At times, there was dogmatic criticism from abroad saying that such principle would be old fashioned, and didn't work reliably in Germany (the old Teleskopie, developed in mid - 70's). However, today the thinking has changed; for instance, the new Telecontrol XL meter to be used in the new German system has an built-in tuner. The Finnmeter principle brought two advantages: meter installation was easy, and no separate remote controls for TV channels and people viewing were needed.

The meter system is composed of four parts which are used within the household: 1) central unit, 2) sub-units for multiple sets, 3) power source, 4) remote control unit. The central unit is the meter, which has memory and a built in modem for telephone data retrieval. The information collected by sub-units is transferred by cable to the central unit for telephone access.

The Finnmeter itself is microprocessor which scans its status continuously - not only every 30 seconds which is the case with some other meters. The meter stores in its memory a status which has lasted for at least 10 seconds. Based on the 10 second data, minute audiences are calculated at a later stage of data processing. All of the channel selections (up to 99 channels) are registered automatically. Other information collected by the meter is based on an "electronic diary", a remote control unit with push buttons. Thus, the Finnmeter belongs to the family of "people meters". Where the family already has a remote switcher, channel selection can be done with the meter's remote control unit.

Otherwise, channel selection has to be made by pushing buttons at the front panel of the meter. Today this option doesn't have much usage, because there are very few TV sets without a remote switcher (remote control penetration is over 90%). The Finnmeter remote control unit has push buttons for family members, guests (number, adult vs. child), programme appreciation, video, and teletext. The meter has an interactive display - actually five of them - and the remote control has yes/no buttons to answer questions asked by the meter. When the VCR is on, the meter automatically gets information of the electric current being used by the VCR, and starts asking questions about the usage. From the answers, it is possible to know whether the VCR was used for taping or viewing, if broadcast or other sources were viewed or taped, and for whom the taping was done. TV programme information, however, is not available. It was thought that at a later stage - supposing video usage is high enough - a fully automatic VCR meter would be added, using the VPS (or EBU's PDC) code in the broadcast, or so called fingerprinting techique to code the tape at the time of taping in the household.

Both the guest measurement and VCR measurement options were advanced at the time (1986), but only after the results were available from a national panel, it was discovered that the options were not a great benefit. The VCR usage was quite low, and spread widely between different times of the day and programmes. In a sample of 350 homes it was possible to trace the number of minutes spent with the video, but no breakdowns. Over the years there have been special video surveys based on a diary circulated among the meter panel members to trace the content of video viewing. No decisions yet, however, to make the VCR measurement more sophisticated. The idea of "consolidated ratings", applied in the UK has raised some interest in broadcasting organisations, but the estimated benefit would be low and the costs very high. Measuring the guest viewing has had just about the same fate.

Based on some experimental work made in the UK and Germany, it was decided that using the programme appreciation buttons should be voluntary. Otherwise, the viewing measurement would distorted. In practice the level of button usage has remained low. A special study of the influence of encouraging the panel members to give their appreciation was conducted in 1992. It turned out that even with the encouragement, only a fraction of the panel was using the buttons and the appreciation scores were dispersed so widely between different programmes that no reliable enough analysis could be conducted, not even in the current sample size of 475 households (over 1200 persons).

Originally Finnpanel was owned by two major Finnish research bureaux: Gallup and Marketindex, each had a 50% stake. When the Marketindex company was sold to A.C. Nielsen a few years ago, a know-how link was established between Nielsen TV meter development and Finnpanel. As a result a new meter , "Eurometer", was developed which is used for instance in Sweden. Also in Finland all of the new meter installations are based on Eurometer technology. Thus the new Swedish language supplementary panel (established in 1994) is using the Eurometers only. With these new technical developments, quite many details have to be decided on when the eventual continuation of the present extended contract period is discussed. The original contract of 1987-92 was extended by four years and therefore, we should have a new system operating - or at least a new contract - by April-96. If there is an open tender, has not been decided yet.

## 4. Reporting of meter data

At the very early stage a special working party was set up to decide on the reporting, i.e. system and the actual reports. This was done early Spring 1986, just about a year before the official start of metered measurement. Thus, compared for instance to the Swedish situation in 1993, the software programming had been done at the beginning of the service for all of the standard reports, such as overnight ratings, weekly reports, and advertising campaign special analyses. At the time, all these were mainframe applications.

The most significant changes is the Finnmeter service have happened in the contents of reporting, software, special analyses, as well as in using electronic mail at the clients end. The clients are using ever more PC applications either their own, or software supplied by Finnpanel. Still many advertising agencies are using the research company's mainframe on-line services. Broadcasting companies have their own internal development of new software. YLE is distributing the overnight ratings through the company's electronic mail (2000 users), and further development to satisfy the programme makers daily needs is on its way. In 1994 an interesting trial (with lots of errors in the beginning) has been using software automation for sending the corrected transmission logs early in the morning to Finnpanel, to be used in the production of overnight ratings. Thus, eventually the overnight ratings would we accurate also when there are changes (and delays) in programming. The YLE research department has been using an IBM mainframe system (AS/SQL) for analysing aggregated weekly tables and ad hoc weekly respondent based data. During 1994-95 it is being replaced by PC network which is using windows software (SPSS, for instance).

## 5. Comparison of diary and meter data

Many countries that have switched from diary based measurement to meters used the opportunity to compare the two methods by having a few overlapping weeks or months. This was done in Finland for two months, April-May 1987. The overall results were similar to those reported early 1990's by ORF in Austria and CBC in Canada. The prime time peak programme ratings were lower as measured by the meter, but off-peak ratings higher. Still the statistical correlation between diary and meter ratings was very high (0.9) which results from the rating curves being similar in shape. Also, in the Finnish data there was more fluctuation from one episode to another of series type programmes. Most likely these differences have to do with the habits of filling up the diary more than with the differences in diary and meter panel samples. We should remember, however, that the name of data collection method does not tell much of the actual way how the survey is conducted. In Finland the concrete example was the possibility to compare meter data to two different diary surveys: one subscribed by YLE (ad hoc diary weeks), another one by MTV and MTL (continuous, 52 weeks a year). In general, the YLE diary showed higher ratings than the MTV/MTL diary. The meter data

were inbetween these diary systems and therefore, was an acceptable compromise to decision makers in each organisation.

## 6. Quality control

The total financial investment to a metered TV audience measurement is heavy, although individual subscribers save money in a JIC arrangement. Thus it is only natural that there has to be an assurance of the quality of the research service. The traditional way of thinking of quality control has been quite simple: the JIC asks for periodic reports of the sample structure (demographics, regionality, cable connections, etc.), sample renewal (voluntary vs. involuntary) and its influence on the sample structure, results of coincidental telephone surveys to discover errors in button pushing, and a comparison of heavy-light viewers share in the meter sample as compared to an independent sample. This is how the Finnish quality control has operated within the JIC. Of course, on a daily basis there is a constant flow of information between the parties involved to double check information that by sight looks doubtful, sometimes only because it differs from earlier results.

In practice, what is more important than printed quality reports, is the transparency of the research operation; something the research companies don't always fully understand. There should be open access to all information which is relevant for a successful research operation. One of the few examples, when the subscriber has full access to sample information comes from Switzerland, where the Swiss Broadcasting Company has an on-line access to meter household data. In some other countries, like the UK, the subscribers make periodic checks on the raw data by household. This ad hoc checking has given a chance to make relevant questions to the research company regarding the internal quality of the data.

From a wider angle, the changes over time in the meter panel should be looked very carefully. In the US - one of the discoveries of the large CONTAM (Committee on National Television Audience Measurement) report in 1990-91 - the button pushing of people meter buttons decreased over time. Therefore, it was decided to renew the whole panel in two years. In Finland the renewal rate is 20% a year; so far there hasn't been any evidence to indicate that any faster rate would be needed. On the contrary, it is possible that - as the situation is in Germany - a slower turnover would be sufficient.

## 7. The present organisation of the JIC

From the very beginning, the benefits of a joint industry structure were recognized. Having several subscribers the costs of the service could be shared, and in addition the representation of advertising agencies had a balancing effect. Not only broadcasting organizations, but also those who buy commercial air time would have the opportunity to influence the research operation and its development. The first version of the JIC lived from 1985 until the renewal of the contract in 1992. It was composed only of those persons who actually do the reseach work in each organization. This was very important at first, when many of details had to be sorted out in setting up the sample, experimental panel, reporting standards, and practices in data transfer systems. Thus, at the time there was no need for a separate management and technical committees. Personally I had the unusual experience of presenting both the

commercial channel (MTV-Finland, currently MTV3) and also the public broadcaster, after starting to work at YLE's research department in 1989.

When the contract renewal negotiations were started after a short tendering process, apparently all subscribers were looking for cost efficiency. In this situation, the higher management had grown an interest in being more aware of the details of metered audience measurement and - of course - being part of the prestigious decision making at the JIC! Therefore, a double structure of management board and technical subgroup was agreed on. However, in practice the researchers from the technical subgroup had to be invited to the management board, and little by little separate meetings of the subgroup became obsolete. A new complication was now caused by the too large size of the JIC, which has made it hard to agree even on the time of meetings. Short meetings with exhaustive agendas don't always result in best possible solutions, especially in the case of such a complicated systems as the people meters are. At the time of the forthcoming contract negotiations, most likely also the JIC -principles have to be reconsidered.

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**METERED TV AUDIENCE MEASUREMENT IN FINLAND**

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| **Metered TV audience measurement started in 1987** | **Finnpanel Ltd. operates the system**<br><br>**The ownership of Finnpanel:**<br>**- A.C.Nielsen Finland 50%**<br>**- Suomen Gallup 50%** |
| **<u>Meter</u>:**<br><br>**Finnmeter (developed by Finnpanel)**<br>**Eurometer ( " " A.C. Nielsen)**<br><br>**<u>Establishment survey:</u>**<br><br>**The National Readership Survey (based on population register)**<br><br>**<u>Sample quality control</u>**<br><br>**households characteristics:**<br>**- number of TV sets (in use)**<br>**- remote control**<br>**- teletext**<br>**- VCR**<br>**- cable**<br>**- satellite dish**<br><br>**<u>TV viewing control:</u>**<br><br>**- comparison of the volume (H/m/l-groups) between meter panel and the National Readership Survey**<br>**- coincidental surveys to validate buttons pushing** | **<u>Sample size</u>:**<br><br>**475 households, 1200 persons (3 yrs+)**<br><br>**Additional 55 household Swedish language sample (since June-94)**<br><br>**<u>Sampling Method</u>:**<br><br>**PPS (Probabilities proportionate to size)**<br><br>**demographic quota:**<br>**- age, sex, family size, place of residence, communal district, mother tongue**<br><br>**<u>Definition of a viewer:</u>**<br><br>**present of the room (and viewing; this was added to the definition in 1994)**<br><br>**<u>Definition of viewing:</u>**<br><br>**the last ten second period within a clock minute is the basis for calculating minute audiences**<br><br>**<u>Definition of programme audience</u>:**<br><br>**the average of minute audiences**<br><br>**<u>Definition of commercial audience:</u>**<br><br>**minute audience (not the average break audience, as in some countries)** |

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| **<u>Reporting systems at Finnpanel:</u>** | **<u>Reporting systems at YLE</u>:** |

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| **In addition to the production of regular reports, Finnpanel has an on-line system and several PC-software applications for secondary analyses.**<br><br>**Production system for overnight report, daily report (final figures with demographics), and weekly report. These reports are available both electronically and on paper.**<br><br>**Special analyses of advertising campaigns: CPT, schedule and optimisation, forecasting**<br><br>**Special analyses of programme audiences: cross-tabulation, duplication, programme and channel loyalty, audience flow, net fraction, minute-by-minute audience, heavy-medium-light viewers.**<br><br>**Database services for both aggregated and raw data; a new (-94) database for rating, reach & frequency forecasting and schedule optimisation** | **- overnight reports circulated through electronic mail (2000 users)**<br><br>**- special analyses based on IBM/AS/SQL-mainframe system; research department will have SPSS/WIN in full use 1995 (both aggregated and raw data based)**<br><br>**- new electronic reporting and analysing systems under development for the TV-channels at the moment** |
| **<u>Reporting systems at MTV3:</u>**<br><br>**-Advertising campaign planning and forecasting supplied to the clients via on-line access**<br><br>**-internal mainframe and PC-based reporting system** | **<u>Reporting systems at advertising agencies:</u>**<br><br>**- international agencies have their own software**<br>**- electronic reporting of weekly aggregate data, mostly PC-based** |