

People-Meter

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A people-meter is an electronic device that records when media are being used and who is using them. It is the preferred method of audience ratings companies that provide “third-party” estimates of audience size and composition to various clients (→ Audience Research; Rating Methods), and the principle means of national television audience measurement around the world. People-meters are constantly being enhanced and adapted to capture other forms of media use.

People-meters, like the German “Teleskopie” system, were first developed in Europe during the 1970s. They improved on earlier household meters that recorded set use but failed to capture information about who was actually watching the set. In 1987, the A. C. Nielsen Company adopted people-meters as the standard method for measuring national television network audiences in the United States (→ Nielsen Ratings). Advertisers, who were increasingly interested in reaching specific target markets, found reliable, quickly gathered demographic information to be desirable. For the media, people-meters were a mixed blessing. Older networks that had sold time to advertisers based primarily on audience size found no advantage in the technology. Newer cable networks that catered to smaller, more demographically homogeneous audiences benefited from a measurement technology that better demonstrated their value to advertisers. People-meters of various designs are now in use in dozens of countries.

TECHNOLOGY AND APPLICATION

In their most common incarnation, people-meters are small boxes that attach to each television set in a sample household. They record when the set is on and what is being watched. They also feature a set-top box with a series of lights that serve as prompts and person-specific buttons that allow individuals to indicate they are watching. To encourage viewers to “log in,” the lights flash when the set is turned on, when the channel is changed, or when there is no button-pushing activity for an extended period of time. Most people-meters offer respondents a remote hand-held device so they can press their button without walking to the set. The data collected by the people-meters are retrieved via telephone lines on a daily basis, combined with other previously gathered viewer information (e.g., age, gender, etc.), and turned into audience ratings that can be accessed the next day.

People-meter data are typically gathered from a panel of television-equipped households selected through some form of probability sampling. As such they suffer from the same kinds of sampling and nonresponse errors that occur in all → survey research (→ Sampling, Random; Sampling, Nonrandom). People-meter measurement, however, presents some novel problems and solutions.

Button-pushing requires the active participation of audience members. It is, therefore, a relatively obtrusive form of measurement that is subject to respondent fatigue. Further, some types of viewers, like children, are not particularly vigilant button-pushers. Ratings firms combat these problems by training respondents and offering various incentives for

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cooperation. They will also limit how long a household can be in the ratings panel – in the US, it is a maximum of two years. Ideally, more “passive” technologies would identify who within the household was watching. To that end, ratings firms have experimented with facial recognition software, or having respondents wear small “tags” that would signal if they are in the room.

Newer video technologies that offer an abundance of choice and the ability to time-shift consumption present the challenge of accurately identifying what is being watched. The problem is addressed in one of two ways. Ideally, the companies that provide media content will embed inaudible codes or “watermarks” into the audio portion of their offerings. Detecting these codes allows meters to record what content and delivery platform is being used, as well as calculate the extent of time-shifting. Media that are not encoded can still be identified by capturing an audio “signature” that is later matched to a library of material.

Conventional people-meters are expensive to manufacture, install, and maintain. This places a limit on the size of the market that can be economically measured. Local broadcasters in small cities simply do not generate enough revenue to justify adequately sized people-meter samples. Newer, less expensive technologies are being developed. These might involve smaller, lightweight meters that could be mailed to respondents, installed simply without hard-wiring, and returned to the ratings company.

PORTABLE PEOPLE-METERS

Other forms of portable electronic media, like radio, are ever more commonplace. The diary-based measures that are still the principal means for measuring radio audiences, however, are problematic, and conventional people-meters that are anchored to a particular location are ill-suited to the task. This has given rise to newer, portable people-meters (PPM) that are carried by respondents and are capable of capturing exposure to multiple sources of media.

At this writing, the most fully developed PPM technology is being deployed by the Arbitron Company, the major supplier of radio ratings in the US. It is being introduced in major American markets, and is being used in several countries, either as the “currency” for buying and selling media, or as a supplement to more conventional metering.

Arbitron’s PPM requires a sample of respondents to carry or wear a pager-sized device that is capable of detecting inaudible watermarks embedded in the audio signal of either radio or television. Thus, the PPM can capture information on exposure to either or both media. Portable media using earphones can be measured using special adapters. In the future, it might also be possible to measure proximity to print media by seeding them with tiny RFID chips, or outdoor advertising by building in some sort of GPS technology. At the end of the day, respondents are instructed to place their PPM in a docking station that recharges the meter and retrieves the data. PPMs are designed with motion-detectors to determine whether they are being carried. If they are not, the ratings company can contact the respondent.

Though they are less expensive and more easily deployed than conventional hard-wired people-meters, PPM technology is not cheap. Having PPMs accomplish both radio and television measurement would greatly improve the economics of deployment. However, in the US Nielsen has shown qualified interest, in part, because optimizing the device for

“hearing” a radio receiver (e.g., in a car with the windows open), may make it too sensitive for television measurement (e.g., picking up a TV set in another room).

An alternative to PPMs that might further drive down costs and encourage greater compliance is under development. This approach takes advantage of “smart phones” already being carried by prospective respondents. Such phones have an operating system that can be programmed to take audio “snapshots” at 30-second intervals, recording an audio watermark or signature. At various times during the day, the phone transmits its data via GPRS to a data center, where it is interpreted, cleaned, edited, and aggregated into audience estimates that could be reported in near real time.

The thought is that since many people already use mobile phones, they would be more likely to carry them than a dedicated device. This strategy might enhance compliance among difficult-to-measure demographics like young males or minorities. For those who did not have the requisite smart phone, one could be provided. Investing less in collection technology might permit bigger sample sizes, or measurement of smaller markets. It remains to be seen whether people who may view their mobile phones as a repository of personal information will make them readily available to a research company, whether giving someone a powerful new phone will alter their behavior, and whether it is feasible to develop and test the software needed for each new kind of smart phone that reaches the market.

THE POLITICAL ECONOMY OF PEOPLE-METERS

Beyond the technical attributes of people-meter measurement, there are economic and political forces that affect their deployment. Though there is variation in the hardware used to create people-meters, they are all relatively expensive. Large national markets usually generate enough advertising revenue to justify the cost. Unfortunately, sampling error is independent of population size, so even the smallest local market needs a sample of roughly 500 people-meter households to estimate audiences with acceptable accuracy. To finesse this limitation, it is possible to have people-meter households do double duty in both national and local markets. As long as household data are properly weighted, this has the dual benefit of increasing the size of the national panel and extending measurement to smaller markets. This is one reason Nielsen is replacing household meters and diaries with “local people-meters” (LPM) in the US.

All forms of audience measurement have potential biases. Audience ratings, however, constitute a currency worth billions of dollars in the US alone. Any change, even an improvement, in the underlying measurement technology is likely to benefit some and disadvantage others in nontrivial ways. Hence, Nielsen’s introduction of well-established people-meter technology into local markets was met with fierce opposition by some broadcasters and public interest groups who claimed it would undercount minorities. This, in turn, triggered hearings in the US Congress. One can only imagine the difficulties in introducing more radical changes in audience measurement.

SEE ALSO: ▶ Advertising ▶ Audience Research ▶ Audience Segmentation ▶ Media Marketing ▶ Nielsen Ratings ▶ Qualitative Methodology ▶ Rating Methods ▶ Sampling, Nonrandom ▶ Sampling, Random ▶ Survey

References and Suggested Readings

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