6

Collecting Ratings Data for Cable Channels

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Introduction

The purpose of this chapter is to examine alternative methods for collecting rating data for cable channels. If one wishes to make this task more difficult, one could specify obtaining information in *local* markets, as was the purpose of the Cable Audience Methodology Study (CAMS) conducted for the Cablevision Advertising Bureau and the National Cable Television Association by the A. C. Nielsen Company (Nielsen, 1983).

The task would not be difficult if there were no financial constraints. Indeed the methods used now could simply be adopted with much larger samples. Unfortunately, finances are the heart of the problem. The users of cable measurement services would probably be unwilling to spend as much as current users of the national ratings services spend, let alone spend much, much more.

The reasons for this have nothing to do with the sophistication of cable television researchers, or with their desire for high-quality research. The reasons are purely economic. Although cable researchers would like to have research that matches or exceeds the quality of current research, they just do not have the market shares and revenue to afford it. Of course, the situation could change if cable market shares rose sharply, or if new technologies are developed; and some discussion of this is given in the next part. In the rest of this chapter it is assumed that current conditions will continue.

A useful analogy can be made with efforts to improve radio measurement services. Several years ago, two of the largest market research suppliers proposed new and improved methods for measuring radio audiences. De-

spite the clear need for such improvements, user demand was insufficient to get them off the ground because the costs were too great.

It is always the role of the research supplier to offer the best methods that exist within constraints of likely costs. This is what I shall attempt to do, recognizing that these procedures would not be the best ones if more money was available.

The Use of Meters

The CAMS study that I referred to did not consider meters as one of the possible alternatives, probably because of cost, but also because people meters were not yet perfected and tested when the study was conducted. I would agree that the cost of meters at this time precludes their use everywhere, but it is possible that there will be technological or other developments that may make meters a feasible alternative for measuring cable viewing.

The basic development necessary is the reduction of the cost of the meters. This is not at all impossible given the drop in costs that we have already seen. Another highly desirable development would be the development of a meter which either required no wiring or was so simple to wire that it could be done without sending a technician to the home. This would eliminate the expensive personal visit since households could then be recruited by telephone or possibly even by mail. None of this will happen tomorrow, but it does not seem unduly optimistic to anticipate that this may happen in the next decade. Even today, it may be possible to use meters in some of the largest cities by combining results from competing firms in those sites and possibly by supplementing with additional meter households. While the results in the largest cities cannot be used to directly generalize elsewhere, they can be used as a measure of the deficiencies in the collection procedures used in smaller areas. It is also possible that as network shares of total audience shrink, the current measuring services will need to increase their sample size to maintain current accuracy levels. This would, of course, simultaneously improve the accuracy of measures of cable viewing.

There are two major drawbacks to the use of meters, even if the technology reduces their cost. The first, and most obvious, is that even with major cost reductions meters will always be more expensive than other methods to buy, service, and mail. While meters are less costly to process, the net advantage will still be with the current procedures. For local cable measurement in smaller markets, a meter service with greatly reduced costs might still be too expensive.

It must also be recognized that although people meters are the standard by which alternative procedures are evaluated, people meters are also subject to possible survey biases and errors of measurement. The first bias

Table 6.1
Percentage of Households using Television among Nielsen Panel for Cooperation and Total Sample

Time	Nielsen Panel Cooperators	Total Sample
Total all hours	45.3	43.9
Total daytime hours	29.2	27.8
10-11 a.m.	23.8	22.1
2-3 p.m.	25.1	24.7
5-6 p.m.	38.6	36.7
Total Nighttime hours	61.4	60.1
7-8 p.m.	57.3	56.8
8-9 p.m.	63.8	61.9
9-10 p.m.	63.3	61.4
Sample Size	18,843	18,228

source is caused by the fact that only about half the households recruited to participate in meter panels agree to do so. (I have not seen comparable data for people meters, but it is likely that similar results would be observed.) It has generally been found that there are no significant biases in the channels or types of programs watched when panel households are compared to those who will not cooperate. The bias that is observed is that meter panel households are slightly more likely to watch television than are households who refuse to cooperate (see table 6.1) (Cordell and Rahmel, 1962). Since the bias is only about 1.5 percentage points it has generally been ignored by the industry.

The use of people meters intuitively would appear to be more accurate than other methods that require the household to keep written records. Nevertheless, there will be some individuals who will sometimes forget to press their buttons when they enter or leave the viewing area. The reports to date would suggest that the net effects of such errors will be small and will be ignored by the industry.

It has not been clear whether there will be a people meter for every television set in the household, or only a single people meter per household.

This will be an important issue for the cable industry, since there is the possibility that viewing of cable stations will be higher in multiple-set households. This is not really a flaw of people meters unless their construction makes it impossible to have multiple meters in the same household because of interference problems.

I also recognize that my suggestion that meter services be combined with diary methods would cause difficulties among users of these services. While statisticians have no difficulty in designing and using complex estimates from multiple sources, most users of cable ratings will prefer procedures that are straightforward and easy to understand and explain. There is also a strong desire for standardized services in each local market so that users do not need to be concerned with differences caused by alternative data collection methods.

To summarize, there are obvious methodological advantages of the use of meters and people meters for measuring cable viewing, but the costs make this unrealistic at this time. Even with likely technological developments that will reduce meter costs substantially, it is unlikely that meters will become cheap enough to replace the current method used in local markets to measure cable viewing.

Household Diaries

The standard procedure in areas where meters have been too expensive to use has been to use written diaries. It would seem logical to use these for measurement of cable services as well. The CAMS study shows a distressing finding, however, for those who wish to measure cable accurately. Compared with telephone coincidental data collection, reports of the use of cable in the household and by persons within the household are understated by about 50%. (See tables 6.2 and 6.3, which reproduce tables 11 and 19 of the CAMS report.) Table 6.2 presents data for persons age 12 and over while table 6.3 presents data for households. The results are very similar. This is for the standard seven-day diary; much better results for cable, but worse for other stations, are reported for half-hour personal diaries that we will discuss later.

What is going on? Why do these differ? First, it should be noted that these are based on ratings of 5% or less and shares of 25% or less. Some of this could be sampling variability. If there are real methods differences, however, they could be the results of deficiencies in the telephone coincidental or diary methods or a combination of both.

People responding on the telephone could simply mistake a network situation for a cable station, or they might be overreporting a cable station

Table 6.2
Ratings Analysis of Persons 12+ Monday-Friday 9:00 A.M. - 11:00 P.M.

Category	Coincidental	7-day unaided recall	1-day aided recall	Personal diaries half-hour diary	Household diaries NSI diary
Broadcast networks					
Rating	10.1	12.0	12.4	19.7	9.9
Share	52.7	63.6	61.3	63.5	65.1
Broadcast independents					
Rating	3.0	3.1	2.6	5.2	2.6
Share	15.8	16.2	13.0	16.8	16.5
Basic cable					
Rating	3.1	1.8	2.5	4.4	1.4
Share	16.4	9.3	12.2	14.3	9.3
Pay cable					
Rating	2.0	1.1	1.7	2.1	1.0
Share	10.3	5.9	8.3	6.7	6.9
PUTS	19.1	18.9	20.2	31.0	15.4

because that is a more socially desirable answer than the station they are actually listening to. Similar patterns have been observed with other media, such as public broadcasting. Relatively few people would need to err to cause the patterns seen in this report.

On the other hand, the diary panel could also be in error. Three major reasons suggest themselves—memory error, conditioning, or sample bias.

Memory Error

If the diary keeper always kept the diary at hand and made entries as the event occurred (the program was being watched) there would be perfect reporting. Probably some diary keepers do follow such an immediate entry system. Others, however, forget or choose not to make immediate entries,

Table 6.3
Household Rating and Share Estimates Monday-Friday 9:00 A.M. - 11:00 P.M.

Category of Programming	Coincidental	Standard NSI
Broadcast Networks		
Ratings	17.6	21.5
Share	53.1	66.0
Broadcast Independents		
Ratings	6.2	6.0
Share	18.7	18.5
Basic Cable		
Ratings	5.4	3.4
Share	16.3	10.4
Pay Cable		
Ratings	3.0	1.9
Share	9.1	5.8
Homes Using Television (HUT)	33.2	32.6

but to construct their household's viewing behavior at the end of each day or sometimes at the end of the seven days. Thus memory error becomes a real possibility.

We shall discuss two kinds of memory error: simple omissions and incorrect recall. Simple omissions are caused by forgetting that an event occurred, which is related to several factors. The first is simply time. If a diary keeper waits until the end of seven days, it will be far more difficult to remember specific events than if the diary keeper records at the end of each day or every few hours.

A second factor is that it is far easier to remember things that have happened to us than to others in the household. If all members of the household are doing the same thing, then this is not a problem; but if some members are watching television while others are not, or if some are watching a different program than the diary keeper, this will be more difficult

to remember. The task is made still more difficult if other household members are not visible and do not report their television viewing behavior to the person keeping the diary. This is a major advantage of personal diaries that are discussed in the next section.

When the memory task of remembering all the details of specific events becomes too difficult, people use estimation procedures based on typical behavior. Cognitive psychologists have studied the mechanisms that are used. See, for example, Strack and Martin in Hippler et al. (1987). In addition to memory, some diary keepers may assume that they should report their typical behavior although they are watching something else at that time period during the diary week. If cable viewing is unusual and sporadic, it is likely that it will be underestimated.

The diary used in the CAMS methodology did not list the possible stations for the respondent. If the stations had been listed, the memory task might have been made easier for the diary keeper, and more cable stations might have been reported.

Conditioning

For diary keepers, conditioning refers to changes in behavior as a result of keeping the diary. It is certainly possible that keeping a diary reminds the diary keeper about the behavior, and may thus increase the behavior. This has been noted in the initial period for several different types of diary data collection:

1. In the 1972–73 Consumer Expenditure Survey conducted by the U.S. Bureau of the Census with 20,000 households, a diary record of food and beverage expenditures was kept for a two-week period. Expenditures in the first week were 10% higher than those in the second week. There was no evidence that this was due to any special product classes. The same results were seen for all of the food and beverage categories.
2. In a 1969 pilot study conducted by the Survey Research Laboratory that preceded the 1972–73 Consumer Expenditure Survey, expenditures in the first week were 8% higher than in the second week.
3. In a 1973–74 study conducted by the Survey Research Laboratory on the use of diaries in reporting medical events, a sample of Illinois and Wisconsin residents kept records for three months. The total number of events recorded was 14% higher in month one than in months two and three (Sudman and Ferber, 1979: 86).

There is no comparable evidence of such an effect on television viewing, because the standard period used for diary keepers is one week. Nevertheless, one might well expect the same kind of effect, although its magnitude would be impossible to estimate. The effect would be greatest if the diary keepers reported only their own behavior, and would be dimin-

ished if household viewing was reported since the determination of what to watch would not be entirely that of the diary keeper. PBIBIP

Sample Bias

It is well-known that asking households or individuals to keep written diaries substantially increases the noncooperation level over that found on a single interview. The current diary methods that recruit households by mail and request them to keep a diary for a seven-day period obtain cooperation rates of around 50%. Interestingly, this is about the same rate of cooperation obtained in the long run in meter households that are recruited in person. That is, the sample biases of meters and diaries are of the same magnitude.

The key question, of course, is what the effects are of the sample biases on the data. Since reading and writing are required for diary keeping, one would expect that education would be a factor, as it is for most mail surveys. This is the case for households where the head has eight grades of school or less, but the percentage in this group continues to drop.

Another bias found in all diary samples is a shortage of small households consisting of one or two members, but especially of single-member households. While diary keeping is easiest for such individuals, they are least likely to be found at home. The obvious corollary is that diary samples have too many households with children and too few without.

For other demographic variables, no differences are seen between those willing and unwilling to keep diary records. The key question is whether there are behavioral differences. The answer is that those to whom the behavior is most salient are most willing to keep diary records of that behavior.

For purchase panels, there is weak evidence to suggest that those willing to keep diaries are more concerned about shopping than are those unwilling to keep diaries. Among diary keepers, 41% considered themselves to be more price conscious than average, compared to 33% of those unwilling to keep diaries (Sudman and Ferber, 1979: 34).

The same pattern has been observed for television viewer panels. That is, participants in viewer panels are more interested in television and watch slightly more than do those who are unwilling to participate in viewer panels, as was seen in table 6.1. While this is a study of the meter panels, results for the diary panels are similar.

There is no evidence that sample biases cause any distortion in the distribution of channels watched by those who are watching television. This is also the case in purchase panels where there is little evidence of distortion in brands purchased.

To summarize, sample biases do exist in diary panels of viewing or any other behavior. For television viewing, the effect of the biases is to slightly

increase total viewing while not affecting the distribution of programs and channels watched. Since the sample biases exist for meters, this is not a defect that is unique to diary methods.

Personal Diaries

The major problem with household diaries is that they may miss viewing by others in the household, particularly teenagers. The personal diary solves this problem, as may be seen in tables 6.2 and 6.3. However, CAMS data suggest that this method substantially overreports all forms of viewing. Again there are two alternatives. It may be that the diary is correct, and the telephone coincidental method omits viewers who are watching second sets and do not answer the telephone. The other possibility, as discussed in the previous section, is that individual television viewing is being conditioned by the diary keeping and that unusual behavior is occurring as the result of an individual keeping the diary.

There are two other format differences that may account for some of the differences between the personal and household diaries. In the personal diaries, the time periods used were half-hour rather than quarter-hour segments. Also in the personal diaries, the diary keepers were given a list of the local channels to aid their memory, while this was not done in the standard household diary.

I know of no evidence that would suggest that there should be major changes in level of viewing because of the difference between quarter- and half-hour segments, although this is a possibility. The use of a list of all local channels may well improve the recall of cable stations, although again there is no supporting evidence. What is clear is that the use of personal diaries would be expected to improve reporting based on our earlier discussion of reporting errors and, indeed, it does.

The fact that conditioning may be causing increased viewing by persons who keep the personal diary does not necessarily mean that this method cannot be used. As suggested earlier, using a two-week instead of one-week period, as is done for consumer expenditures, would probably provide more valid information. From my perspective, the use of personal diaries is sufficiently promising to warrant additional testing.

All else equal, cost considerations favor household over individual diaries. The advantages of personal diaries for measuring cable watching may be strong enough to justify their added cost. A compromise solution is the use of household diaries with sufficient supplementation of personal diaries to make it possible to measure special channels such as MTV.

In summary, the point I wish to stress is that it would be premature to eliminate diaries from consideration as a method for measuring cable usage in local markets. There may be methods for improving the diary such as adding checkboxes at the top to remind the diary keeper to include cable

stations, or additional instructions in the material that is sent to households. I understand that diaries now being used in local areas do list the stations in that area, so that respondents have an easier memory task.

There is also a sense of déjà vu in the comparisons between coincidental telephone and diary procedures. Several decades ago such comparisons were made in early issues of the Journal of Advertising Research and by CONTAM (The Committee on Nationwide Television Audience Measurement). See for example Ehrenberg (1962), Hooper (1966), and CONTAM (1971). Almost every study found some differences between methods. These differences were sometimes attributed to faults in the diary/meter procedures and sometimes to faults in the telephone coincidental methods. Thus, for example, the CONTAM findings were as follows:

1. Home rating levels were caused to be understated by the assumptions usually made in conventional coincidental rating surveys.
2. The CONTAM and simulated conventional methods produced virtually identical Viewers Per Tuning Household estimates. Audience composition was essentially the same for the two methods.
3. The two telephone coincidental methods produced virtually the same results for program share of audience.
4. Nielsen Viewers Per Tuning Household were slightly below the levels attained from the carefully conducted coincidental. Young adults, teenagers, and children in particular tended to be lower in the diary estimates.
5. Share of audience estimates produced by CONTAM were very close to those made by Nielsen.
6. In general, the findings for daytime confirmed in every instance the findings for prime time.

Eventually the cost advantages of diaries overcame methodological concerns. The same thing may well happen again.

Telephone One-Day Recall

Both telephone methods tested involved the use of one-day recall. The difference between the two procedures was that in one case respondents did this for only a single day, while in the other procedure they were called on seven consecutive days. Not surprisingly, the cooperation rate was much higher for one than for seven days. The seven-day cooperation rate was comparable to that obtained with diaries.

The differences in sample cooperation do not appear to have any general effect on the results, however. To my eyes, the differences between the one and seven-day recall groups are not consistent and probably reflect sampling errors.

There are no clear-cut advantages of recall versus diaries in the quality of results, but there are substantial cost differences. Daily telephone in-

terviews are more expensive than weekly diaries whether a respondent is called once or seven times. Thus, as with the current television ratings services, diary methods dominate recall procedures for continuous measurement of viewing.

Sampling Issues

There are no major new sampling issues that arise from a need to measure cable ratings. The sampling issues are similar to those raised in obtaining radio and magazine ratings. That is, it is necessary to measure small percentages with reasonable accuracy. Unlike magazines, but similar to radio, it is also necessary to measure these small percentages in many different geographic areas separately.

The obvious solution is to obtain information from very large samples. This, of course, becomes very expensive, especially if measurement is continuous or even frequent. One obvious solution is to reduce the frequency of measurement. Annual—or even less frequent—measurements may become affordable.

The wide variability in the availability of cable services by community, and advertiser strategies that require local information, lead to multi-stage designs with much larger clusters than are used even in current local television measurement. For ratings, no alternatives are likely.

It does seem possible that one would like to measure attitudes toward a cable station and uses of its services. For this purpose, one needs a sample of users of that station, perhaps split by intensity of use. Obviously, the users of pay supplementary services such as HBO and The Disney Channel can be identified from the billing records of local cable operators. Assuming reasonable cooperation from these operators, list samples would be easy to generate.

On a broader scale, it would be possible to send mail surveys to cable subscribers to obtain information on general usage of cable television and to screen for users of specific cable stations. One would expect reasonably good response if the survey is well executed, similar to the careful studies of readers that have been conduced by the print media.

The use of cable subscriber lists would also make it possible to identify households who have recently added, cancelled, or changed their cable services so they could be questioned about the reasons for the changes. Again, all of this assumes that there are sufficient resources and interest to conduct such research. At the final stage of sampling, that is, within the household, the respondent(s) should be the viewers of the specific cable channel studied.

Earlier in this paper we discussed panel methods for collecting ratings data for cable channels. There is a need, however, to understand detailed patterns of viewing of cable channels that probably will not be met by the

more general ratings services. For this purpose, it would be appropriate to identify viewers of specific channels and to recruit these viewers into a panel, using either meters or diaries.

These panels could consist of either households or individuals, depending on the needs of the research. For measuring channel viewing of teenagers or children, it would be critical that all household sets be metered or that personal diaries be kept by individual household members. One difference from the current procedures that obtain one week's viewing is that it will probably take a longer period—a month or possibly even longer—to get accurate viewing patterns for some cable stations.

Summary

In this chapter, we have discussed alternative methods for collecting cable station ratings data. There is really very little that is new in this discussion. Essentially the problems faced by cable researchers are the same as those faced by researchers attempting to measure radio listening and magazine reading. The audience is very fragmented; therefore, sampling variances for any collection method are large, unless very large and costly samples are selected.

Because of this cost problem it may not be economically feasible to obtain continuous measures of cable viewing. Rather, as with radio and magazines, researchers may have to be satisfied with periodic, perhaps annual, studies. Field work for these studies could be conducted continuously, but the data reported only when the sample becomes large enough.

At this point in time, the use of meters for a sample large enough to measure cable stations does not seem to be economically viable. What would be necessary to even consider meters would be the continuing development of inexpensive meters that require no special installation. Even in this case, however, the use of meters for large local samples may still be too expensive relative to the diary methods now used.

These diary methods will continue to receive wide use for the measurement of cable viewing, not because they are perfect, but because they provide an economically feasible data collection method. Even with potential sample biases and possible reporting errors, diaries dominate telephone recall methods because of their lower costs.

Personal diaries are more accurate than household diaries because individuals know more about their own behavior and are better able to remember it. The use of a two-week period may help reduce some of the high levels of viewing caused by keeping the diary. Personal diaries are especially important for measuring viewing of children and teenagers of channels such as MTV, on second or third sets.

In the final part of this chapter, we discuss alternatives to simple ratings measures that would be similar to the studies ofsubscribers that are con-

ducted by magazines. These studies would first locate viewers of specific cable channels using subscriber lists and mail screening. These viewers would then be requested to report on attitudes toward and uses of the specific channel. In some cases, these viewers might be recruited to a panel to obtain detailed viewing information over time. Such studies provide information that cannot be obtained from simply looking at ratings. As with large magazine subscriber studies, however, the cost and difficulty of such special studies would limit their frequency.