

Chapter 2

Interpreting ADplus™ Results

Introduction

In Chapter 1 you learned how to evaluate a simple magazine schedule using ADplus™. The chapter put off until now any discussion of where the data used might come from and how to interpret ADplus™ results based on them.

This chapter begins with a brief discussion of where advertisers and their agencies typically obtain data to evaluate media plans. This is followed by a systematic review of the meaning of the commonly used media evaluation factors contained in ADplus™ results tables.

Obtaining Media Data

Advertisers and their agencies involved in developing and evaluating media plans obtain the necessary audience and cost data from a number of readily available industry sources. Audience data are typically obtained from any of the following services.

- Arbitron
- Audit Bureau of Circulation (ABC)
- Bacon's
- Business Publications Audit of Circulation (BPA)
- Marketer's Guide to Media* (MGM)
- Mediamark Research Inc. (MRI)
- Mendelsohn
- Nielsen
- Scarborough
- Simmons Market Research Bureau (SMRB)
- Standard Rate and Data Service (SRDS)

The kind of audience information ranges from circulation or copies distributed, to weekly cumulative half-hour audience ratings, to average

minute ratings. The most useful kind of audience measurement for our purposes is the *rating*, which is the percentage of an audience exposed to a typical issue of a *publication* or an average segment of a broadcast *program* or *daypart*. It would be terrific if we could obtain ratings for actual *advertisements* that we might run, but such data are not readily available. Therefore, advertisement ratings must be estimated using the sources listed above along with methods to be described later.

Using a variety of methods suited to the audiences of the media categories involved, the services listed above provide advertisers with mountains of data. Depending on the company, the reports are issued as manuals or electronically on a weekly, monthly, quarterly, semi-annual or annual basis, and they can cover the entire U.S. or they can be broken down into hundreds of local markets. The information can be quite expensive as well, putting much of it out of the reach of many small advertisers and agencies.

No matter where the data might come from, they are of limited use if an advertiser cannot convert them into percentages of a desired population or *target audience* typically reached by the group of vehicles carrying the advertisements.

Advertising media cost data also can be obtained from numerous sources. These might include the following.

- Advertising agency media guides
- Marketer's Guide to Media* (MGM)
- Media Market Guide*
- Media representatives
- Standard Rate and Data Service (SRDS)

Published sources of cost data are merely starting points since they may not fully reflect costs that an advertiser might actually pay after quantity or volume discounts are taken into consideration or the results of the negotiation process. This book is not intended to explain how to obtain and use each of the services mentioned above. Many other sources attempt this task if you want additional information. Also, most of these companies will flood you with information on their services if you call, write or visit their website.

A useful compromise is *Marketer's Guide to Media* (MGM). This service summarizes important and useful audience and cost characteristics of vehicles in all major advertising media categories. The nearly 300 pages of information that it contains is derived from all of the services listed above, among others.

MGM is now published annually in April by ASM Communications. At this writing the U.S. cost is \$85 per single copy. Campus bookstores can order multiple copies for \$30 each. If you wish to obtain a copy, contact the Customer Service, P.O. Box 2006, Lakewood, NJ 08701, or call (800) 468-2395.

Except where noted otherwise, audience and cost data presented in this book are obtained from MGM 98-99. The audience data used for the simple magazine schedule shown in Chapter 1 are obtained from pages 169-171, where the adult audiences for *People* and *TV Guide* are shown to be 38.297 and 44.118 million respectively, for a base of 192.031 million adults. Dividing each magazine audience by the base yields the ratings of 19.94 and 22.97 that were shown earlier.

Using these ratings in a complete sentence, you would say that 22.97 percent of all U.S. adults are exposed to the typical issue of *TV Guide*, while 19.94 percent see the typical issue of *People*. Of course, the percentage of these adults who see the typical advertisement in the typical issue is considerably lower. You'll learn how to estimate this later.

The cost data are obtained from pages 158-159 of MGM and correspond to one-time, full-page, four-color costs of \$131,500 for *People* and \$155,200 for *TV Guide*.

The two publications are weeklies as indicated by the yearly frequency (*Yrly. Freq.*) columns on pages 158-159 of MGM. Therefore, as an example, it is assumed that one advertisement will be placed in each publication each of four weeks in a typical month, for a total of eight insertions.

Reading Results Tables

Returning to the ADplus™ results that were obtained in Chapter 1, you can now come to understand what all of the numbers mean and how they were obtained. The table is repeated below, but this time it includes *Frequency (f) Distributions*, obtained by selecting *Display/Distributions* from the ADplus™ menu bar.

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-----
ADplus(TM) RESULTS:  MAGAZINES
-----
Kent Lancaster
Media Research Institute
Typical Month
-----
Frequency (f) Distributions
-----
Vehicle
-----
Message
-----
Target: 192,031,000
Adults
-----
f      % f      % f+
-----
0      45.5    100.0
1      12.1    54.5
2      9.5     42.4
3      9.5     33.0
4      14.6    23.4
5      3.7     8.9
6      2.3     5.2
7      1.6     2.9
8      1.3     1.3
-----
% f      % f+
-----
61.5    100.0
17.2    38.5
10.0    21.4
6.3     11.3
3.7     5.0
0.9     1.4
0.3     0.5
0.1     0.2
0.0     0.0
-----
Summary Evaluation
-----
Reach (1+) (%)
Reach (1+) (000s)
-----
54.5%
104,662.2
-----
38.5%
73,960.2
-----
Reach (3+) (%)
Reach (3+) (000s)
-----
33.0%
63,310.8
-----
11.3%
21,778.3
-----
Gross rating points (GRPs)
Gross impressions (000s)
Average frequency (f)
-----
171.6
329,602.0
3.1
-----
78.3
150,298.5
2.0
-----
Cost-per-thousand (CPM)
Cost-per-rating point (CPP)
Cost-per-net reach point (CPRP)
Cost-per-response (CPR)
-----
$3.48
$6,681
21,041
0.01
-----
$7.63
$14,652
29,776
0.02
-----
Vehicle List  Rating  Ad Cost  CPM-MSG  Ads  Total Cost  Mix
-----
TV Guide      22.97  $155,200  $7.72    4    $620,800  54.1%
People        19.94  131,500   7.53    4    526,000   45.9
-----
Totals:      $7.63    8    $1,146,800  100.0%
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The vehicle list section at the bottom of the printout should be largely familiar to you by now. You'll notice the vehicle names, ratings and cost per full-page, four-color insertion, and the number of ads per vehicle. The remaining numbers in this section are fairly intuitive, including the total cost for each vehicle, which is four times the single insertion cost at \$620,800 and \$526,000 for *TV Guide* and *People* respectively. Combined, the two vehicles together will cost \$1,146,800. The last column under *Mix* shows that 54.1 percent of this total is accounted for by *TV Guide*, while the remaining 45.9 percent is attributable to *People*.

The *CPM-MSG* column lists cost-per-thousand *message* impressions for each vehicle. This is one of the most useful concepts in the media planning process. It allows you to compare the relative efficiency of different vehicles and plans. In this case, the column is based on estimated *message* (MSG) delivery and not merely vehicle delivery. This leads to the next major feature of the printout.

Vehicles versus Messages

Notice that all of the remaining factors are shown under the *Vehicle* column or the *Message* column. The vehicle column is based on the estimated potential delivery of the magazines themselves, which will overstate the delivery of the typical messages in the magazines, because there are many opportunities for audience members to miss the advertisements. How do advertisers estimate advertisement audience within vehicle audience? They have numerous tools, including recognition and recall scores, for example, provided by such companies as Gallup and Robinson, Harvey Research Organization, Readex®, and Starch. These scores provide advertisers with norms for the publication or program, product category, or for the particular advertiser's messages over the past year or more. These can be used to determine what proportion of a vehicle's audience can remember having seen, heard or viewed a particular advertisement. Another way of saying this is that the scores help determine approximately what percent of the audience probably missed an advertisement.

The particular message/vehicle ratio used will depend on the media category and vehicles, and especially on the ability of the advertisement to deliver its intended message to the selected audience. You should use whatever tools you have available to help estimate this ratio. For example, here are some typical indices for six media categories.

Media Category	Message/Vehicle Ratio
Direct mail	70.0%
Magazines and business press	45.6
Network, spot, and cable TV	32.0
Outdoor posters	16.0
Network and spot radio	16.0
Newspapers and supplements	16.0

You can use these if you have no additional information, or you can supply your own ratio. Whatever message/vehicle ratio that you select, it will be printed in the top section of the ADplus™ results table as shown in the printout for the sample magazine schedule: *Message/vehicle = 45.6%*.

Vehicle CPM

Now you are in a position to see how the *CPM-MSG* column is determined in the vehicle list section of the ADplus™ results table. For each vehicle you simply divide vehicle cost by the total number of *message* impressions delivered by the vehicle. Message impressions can be estimated by multiplying the rating times the target audience size in thousands, to get vehicle impressions in thousands. Then multiply this times the message/vehicle ratio, to get message impressions in thousands. Using *TV Guide* as an example, you would follow these steps.

$$\text{CPM-MSG}_{\text{TV}} = \$7.72 = \$155,200 \div (.2297)(192,031)(.456)$$

Using this value in a sentence you would say that it costs \$7.72 to expose 1,000 adults to the typical full-page, four-color advertisement in *TV Guide*. This method of computing CPM is particularly useful when multiple media categories are being considered, each with a different message/vehicle ratio. More will be said about this advantage in Chapter 3.

Frequency Distribution

Notice that the total message CPM for the entire media plan, \$7.63, is not a simple average of CPM-MSG for the two vehicles. This is because the schedule CPM-MSG takes into account advertising repetition effects of up to eight ads (insertions) in this instance. The message/vehicle ratio discussed so far pertained only to a *single* vehicle exposure. But in this, as in most media plans, target members potentially can be exposed to vehicles more than once in a given time period. ADplus™ takes this into account when estimating media evaluation factors based on vehicle repetition.

In order to evaluate advertising repetition effects, media programs such as ADplus™ must generate a frequency distribution. This distribution is an estimate of the percentage of the target audience likely to be exposed to a schedule 0, 1, 2, 3, and so on times, up to the total number of insertions in the schedule. A variety of procedures can be used. ADplus™ is driven by a *BBMD* model, which is a *beta binomial matrix exposure distribution* procedure.

Notice the four frequency distributions presented at the top of the ADplus™ printout. Let's begin with the two under the *Vehicle* heading. The frequency or *f* column shows the number of times a given target audience member might be exposed to the schedule, zero through eight times in this instance. For each of these possibilities, the % *f* column shows the percentage of the target audience estimated to be exposed at that frequency level. For

example, it is estimated that 45.5 percent of the target audience will not be exposed to any of the vehicles in this schedule, 12.1 percent will be exposed once, 9.5 percent will be exposed twice, and so on, up to eight exposures, which will include just over one percent of the target audience.

The % *f*+ column shows the proportion of the target audience estimated to be exposed at a particular frequency level or higher. Some advertisers set minimum or *effective* frequency levels for their advertisements below which they are thought to be less likely to have the intended effect on members of the target audience. The % *f*+ column allows them to see how a schedule fairs given different effective frequency levels. For instance, 54.5 percent of the target is likely to be exposed one or more times to the eight vehicle insertions in this schedule, 42.4 percent will be exposed two or more times, while 33.0 percent will be exposed three or more times.

Effective Reach (*n*+)

Notice that the first two numbers under the *Summary Evaluation* banner and under the *Vehicle* column repeat information contained in the % *f*+ column. *Reach 1+* then is simply an estimate of the percentage of the target audience exposed one or more times to the vehicles in a schedule. Likewise, *Reach 3+* is the percentage exposed three or more times. Since these are the most common measures of reach and effective reach used throughout the industry, they are shown with their usual labels. Nevertheless, the % *f*+ columns presented by ADplus™ allow advertisers to examine other definitions of effective frequency and reach that may be more fitting with their situation including, for instance, effective frequency and reach of 4+ or 3-10. The latter, for example, assumes that exposures beyond ten in a given time period are likely to be wasted.

The two *Message* frequency distribution columns are interpreted in a manner similar to the two *Vehicle* frequency distribution columns. However, the message frequency distributions take into account the proportion of the target audience likely to be exposed to the messages at a given vehicle exposure frequency. For instance, while 12.1 percent of the target audience are estimated to be exposed once to the vehicles in the schedule, 17.2 percent are likely to be exposed once to the advertisements in these vehicles. Although the percentage of the target audience exposed to messages is sometimes higher than the percentage exposed to vehicles, at low frequency levels, message frequency tends to drop off rapidly after that. For example, while 14.6 percent of the target audience is likely to be exposed four times to the vehicles in the schedule, only 3.7 percent will see the advertisements four times.

Interpreting the message exposure distributions, you would say, for example, that 61.5 percent of the target audience is not likely to see any of the advertisements in this schedule, while 17.2 percent will see one, 10.0 percent will see two, and so on. The message cumulative frequency distribution (% f+) suggests that 38.5 percent of the target audience is likely to see one or more messages, while 11.3 percent will see three or more. These two percentages are also repeated as part of the *Summary Evaluation* as *Reach 1+* and *Reach 3+* for reasons that were explained earlier.

ADplus™ printouts also display *Reach 1+* and *3+* in thousands as well as in percentages. Using vehicle reach 1+, for example, 104,662.2 is obtained by multiplying the target audience size in thousands by *Reach 1+* as a decimal (e.g., $104,662.2 = (192,031,000 \div 1,000) \times (54.5 \div 100)$). In a sentence you would say that 104,662,200 US adults will be exposed to one or more of the eight weekly magazine issues in the schedule.

Using message reach 3+ as another example, 21,778.3 is calculated by multiplying the target audience size in thousands by message reach 3+ as a decimal (e.g., $21,778.3 = (192,031,000 \div 1,000) \times (11.3 \div 100)$). In a sentence you would say that 21,778,300 US adults will be exposed to three or more of the eight full-page, four-color advertisements in the plan.

Gross Rating Points

Gross rating points (GRPs) are the sum of all of the ratings in a schedule. In this simple magazine schedule, four insertions in *TV Guide* are to be purchased with a rating of 22.97 points each for a total of 91.88 *TV Guide* GRPs ($91.88 = (22.97)(4)$). Likewise, four insertions in *People* at 19.94 points each yields 79.76 total *People* GRPs. Together, the eight insertions in two vehicles account for 171.6 GRPs.

GRPs are a crude measure of schedule delivery because they do not account for audience duplication from one insertion in a single vehicle to another, or from one insertion in a particular vehicle to one insertion in another vehicle. Using this schedule as an example, with GRPs each individual can be counted up to eight times, while with reach (1+) each individual is counted only once, regardless of the number of vehicle exposures.

Since the proportion of target members exposed to messages depends on the proportion that are exposed to vehicles, message GRPs is a fixed proportion of vehicle GRPs. Message GRPs are estimated by multiplying the message/vehicle ratio times vehicle GRPs. For example, 78.3 message

GRPs is the product of 45.6 percent times 171.6 vehicle GRPs (e.g., $78.3 = (.456)(171.6)$).

In a sentence, this number indicates that the magazine schedule is estimated to deliver 78.3 gross or duplicated message rating points.

Gross Impressions

Gross impressions provide an alternate way of looking at GRPs--as a raw number rather than as cumulative percentage points. Vehicle or message gross impressions in thousands are obtained by multiplying GRPs in decimal form by the target audience size in thousands. Therefore, vehicle gross impressions in thousands of 329,602.0 are obtained by multiplying 1.716 times 192,031 (e.g., $329,602.0 = (171.6 \div 100)(192,031)$). Similarly, message gross impressions in thousands of 150,298.5 are determined by multiplying 0.783 times 192,031. Since ADplus™ rounds the GRPs that it presents, but not those used in computations, these hand calculations may not always equal the gross impressions shown on the results table.

Average Frequency

Average frequency is simply the mean number of times target members reached (Reach 1+) by a schedule are exposed to vehicles or messages. Average frequency is obtained by dividing either vehicle or message GRPs by corresponding levels of Reach 1+. For example, vehicle average frequency of 3.1 for the magazine schedule can be obtained by dividing 171.6 by 54.5 (e.g., $3.1 = 171.6 \div 54.5$). Likewise, message average frequency of 2.0 is obtained by dividing 78.3 by 38.5.

Plan CPM

Now the unfinished discussion of plan CPM can be completed. Plan CPM for all vehicles is determined by taking total plan cost and dividing by plan gross impression in thousands. For instance, plan CPM for all vehicles of \$3.48 is obtained by dividing total schedule cost of \$1,146,800 by vehicle gross impressions in thousands of 329,602.0. In a sentence this means that it costs \$3.48 to obtain 1,000 vehicle exposures against adults using this plan. Likewise, message CPM of \$7.63 is determined by dividing total schedule cost of \$1,146,800 by message gross impressions in thousands of 150,298.5.

In a sentence this means that it costs \$7.63 to obtain 1,000 advertisement exposures against adults using this plan.

You'll notice that the message CPM shown under the *Summary Evaluation* banner is also repeated on the last line of the ADplus™ results table under the *CPM-MSG* column heading. And now you should understand that, because of differences in vehicle gross rating points, total message CPM is not a simple average of the *CPM-MSG* column. The value of presenting CPM in terms of potential message delivery, rather than mere vehicle delivery, will become more apparent in the next chapter when procedures for evaluating and optimizing multiple media category plans are discussed.

Cost-per-rating Point

Another useful measure of plan efficiency is cost-per-rating point or CPP. Unlike vehicle CPM, which divides vehicle or plan cost by corresponding gross impressions delivered, in thousands, CPP divides cost by GRPs. In the sample schedule, vehicle CPP of \$6,681 is determined by dividing total plan cost of \$1,146,800 by vehicle GRPs of 171.6 (e.g., $\$6,681 = \$1,146,800 \div 171.6$). It will therefore cost \$6,681 to expose one percent of U.S. adults to the vehicles in this schedule. Likewise, the cost of exposing one percent of adults to messages in this plan is \$14,652, nearly double the cost of exposing them to vehicles (e.g., $\$14,652 = \$1,146,800 \div 78.3$).

Cost-per-net Reach Point

Plan CPM and CPP, discussed previously, are measures of plan efficiency, but ones that do not take into account audience duplication within and between vehicles and media categories. Cost-per-net reach point (CPRP) is a measure of plan efficiency that does take into consideration audience duplication. This measure divides total plan cost by plan reach 1+ expressed in terms of percentage points, not as a decimal.

In the example magazine plan, vehicle CPRP is \$21,041 and is estimated by dividing total plan cost of 1,146,800 by vehicle reach of 54.5 (e.g., $\$21,041 \approx \$1,146,800 \div 54.5$). It therefore costs approximately \$21,041 to reach one percent of US adults with the typical magazine issue in this plan. Similarly, the cost of reaching one percent of adults with the typical full-page, four-color advertisement in this plan is approximately \$29,776 (e.g., $29,776 \approx \$1,146,800 \div 38.5$). The “approximately equal” signs are used in the vehicle and message calculations because both reach estimates presented on the

ADplus™ results table are rounded down in this instance to one place to the right of the decimal.

Cost-per-response

Another measure of plan efficiency is Cost-per-response (CPR). ADplus™ uses the most optimistic response measure in this calculation, namely vehicle and message reach 1+ as a raw number.

The vehicle CPR then is approximately one cent (0.01) and is determined by dividing total schedule cost of \$1,146,800 by vehicle reach 1+ as a raw number of 104,662,200 (e.g., $0.01 = \$1,146,800 \div 104,662,200$). Plan reach 1+ as a raw number is obtained simply by multiplying plan reach 1+ in thousands (104,662.2) by 1,000 (e.g., $104,662,200 = 104,662.2 \times 1000$). In a sentence you would say that it costs one cent to reach one US adult with the typical magazine issue in this plan.

Message CPR is two cents and is determined by dividing total schedule cost of \$1,146,800 by message reach 1+ as a raw number of 73,960,200 (e.g., $0.02 \approx \$1,146,800 \div 73,960,200$). The “approximately equal” sign is used because CPR is rounded up on the ADplus™ printout in this instance two places to the right of the decimal. In this example you would say that it costs approximately two cents to reach one US adult with the typical full-page, four-color advertisement in this plan.

Online Help

Chapter 3 goes into some detail on ADplus™ help facilities. For now it may be helpful to note that you can review the concepts discussed in this chapter using the ADplus™ *Help* file. Whenever a results table has the focus within the ADplus™ main window, you can get help interpreting tables by pressing <F1>. Simply click the results table with the mouse, or <Tab> to it with the keyboard, then press <F1>. The Windows™ help engine will be launched and it will display the header: *Interpreting ADplus™ Results*. Scroll down to the sample table similar to the one shown previously in this chapter. Select any underlined term or number in the table to get a pop-up window that uses the item in a complete sentence. On a color monitor, responsive, underlined items will also appear light green. This is a fast and easy way to learn and reinforce what you know about the meaning of ADplus™ results tables without leaving the table and sifting through pages of text.

Summary

In this chapter you have considered how to interpret ADplus™ results which include standard media evaluation factors used throughout the industry. You have been exposed to a brief definition of each concept, shown how they were calculated, and you have been given a sample of how to use them in complete sentences. Nevertheless, you will find this discussion missing one further dimension. Is this a good schedule? Of course, such a question can only be answered in light of an advertiser's unique circumstances, including the nature of the consumer, and marketing and advertising goals, strategies and tactics. The real value of ADplus™ is not merely your ability to analyze a schedule and understand how the concepts were estimated. Rather, the power comes from your ability to generate dozens of feasible schedules quickly and easily and to compare the alternatives in light of marketing and advertising circumstances. That is, ADplus™ frees you to concentrate on the strategic strengths and limits of alternative schedules rather than the mere mechanics of developing and evaluating plans. To do this, of course, requires that you have the ability to read and understand the printouts.

Now that you are acquainted with the terminology used throughout the remainder of this book, it is time to turn your attention to learning the full capability of ADplus™. The next chapter shows you how ADplus™ can quickly and easily help you develop comprehensive media plans designed to solve marketing communication problems.

References

Marketer's Guide to Media 98-99, New York: ASM Communications, Inc., 250 pages.