

MULTI-MEDIA OPTIMIZERS: THE NEW COUTURE?

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INTRODUCTION

Media planners have always ‘integrated print’ (as the title of this session reads) into the planning process – or at least that is what they are paid to do. The question is how do they do it. Do they give print proper consideration? Does print get its ‘fair share’ of advertising budgets (whatever that is)?

Given recent developments in fusion techniques and their application to the process of optimising media schedules across different surveys, this paper addresses how a new generation of multi-media optimisers are likely to affect the US media planning and buying environment over the next few years. Already, Nielsen and MARS (a media survey for the pharmaceutical industry) are looking at fusing their data, Telmar have introduced ‘multi-basing’ and OMD is pioneering Gilles Santini’s ‘fusion-on-the-fly’ methods in the market.

We begin by examining how the last ‘breakthrough’ technology of television optimisers arrived in the United States with a bang and left with a whimper, trying to ascertain why this might have been the case.

TELEVISION OPTIMIZATION

The television optimisation fashion began when, in the spring of 1997, Procter & Gamble announced that it was putting its \$1 billion television business up for review – a review that would encompass not only traditional buying of airtime, but also what was termed ‘tactical’ planning. Of course this had no relevance to the role of print in the P&G planning process, but it certainly served to focus attention even more onto the company’s major advertising medium. It seemed, in effect, that by introducing a new way of looking at the medium, more and more attention was paid to it – possibly at the expense of other media. Perhaps there was a lesson here...

Tactical planning – a role traditionally played by the buyer in Europe and by the planner in the United States – defined the process of determining the right daypart, channel mix and program genre for a television campaign in order to maximize campaign effectiveness (however defined) for a given budget. Interestingly, it is fairly common in the US for print planners and buyers to be one and the same person, unlike their television equivalents. Thus selection of titles is made by the person booking the space.

Two systems – X*Pert and SuperMidas - were imported from the UK and pushed to the centre of agency media pitches, starting with P&G, but spreading to most major advertisers as they became more fashionable.

In fact the *process* of optimizing media schedules had been pioneered in the US as long ago as 1961, when David Learner of BBDO had presented to the Eastern Annual Conference of the American Association of Advertising Agencies on this very subject. (Learner, 1961)

A book published a few years later by two professors of American universities went into great detail about the optimization procedure. Much of what they said is as relevant for all media today as it was then:

“Mathematical programming is a systematic approach to problems and represents one of the primary tools or techniques which are grouped loosely under the name of ‘operations research.’ The essential steps are as follows:

1. A clear statement of definitions and philosophy relating to the problem;
2. Careful formulation of the problem, indicating relationships and weights of the various factors involved and the kinds of data required;
3. Assembly of appropriate data of sufficient accuracy for solving the problem;
4. Choosing or developing a mathematical model or formula which is capable of being solved, with all the variables indicated in the problem formulation;
5. Turning over the materials to a technician to program and solve the problem, usually by means of a high-speed computer;
6. Applying human judgment to examine the outcome to make substitutions or alterations and to arrive at a solution which meets with human judgment and experience.” (Lucas & Britt, 1963)

With exception of point five – computers are far more powerful today than they were then, and can easily be used by media planners rather than specialist technicians – little has changed.

The key breakthrough at the time came when Nielsen released partial audience research datasets, starting with national broadcast and later extending to national cable information. If the optimisation revolution of the late 1990s achieved anything, this will surely be remembered as one of the most important breakthroughs. The data were partial in the sense that full minute-by-minute data was not (and still has not been) released. Instead, the 'mid minute' of each quarter hour was released as a surrogate for the full dataset.

For many reasons related both to the buying environment in the USA and to technical issues related both to the data and to dated optimisation algorithms, television optimisers are no longer the focus of agency new business pitches.

On the other hand, the optimisation process undoubtedly remains useful as a way of making transparent the inevitable price and quality trade-offs involved in media planning – does higher reach lead to higher costs-per-thousand or lower 'quality' of programmes? Will the resultant daypart or channel mix be acceptable to the trade distribution partners of the big advertisers?

THE OMD TV OPTIMIZER STUDY: 1999 VS. 1996

Late last year, OMD took a look at the overall experience of the top television advertisers and their use (or not) of TV optimisers. We tested two hypotheses which we felt could, if true, offer at least circumstantial evidence that the systems would have had an impact on the way television campaigns were planned and bought:

Hypothesis One: *Advertisers would lower weekly weight and add weeks to their annual campaigns.* The rationale behind this hypothesis was the popularisation of 'recency' theory – the idea that the number of net weekly reach points (as opposed to Gross Rating Points) should be maximised across a year in order to generate the greatest number of potential opportunities to deliver a message close to purchase. (Ephron, 1997 & 1998). The role of optimisers would be to show advertisers how to do this.

Hypothesis Two: *Money and campaign ratings would be dispersed across a wider number of channels and dayparts.* The basis of this idea is that such a schedule – a reach strategy - would lead to higher reach at lower cost. Conversely, schedules that concentrated on a few channels and dayparts would tend to reach the same people more often – a frequency strategy.

THE STUDY

In order to test these hypotheses, we carried out an analysis of CMR's advertising expenditure database. between 1996 and 1999. 1996 was the last full year before optimisers were introduced onto the market – our pre-optimiser year.

Because we needed to work with a manageable database, we settled on the top 76 brands advertising on national television in 1999. This number represented the number of brands in the top 100 rankings in 1999 that were also present in the top rankings in 1996.

These brands accounted for a surprisingly large 21% of total national television spend in the later year and became our base. Schedules for this same set of brands were aggregated for both years and compared according to four criteria:

- Number of active weeks out of 52 (national and local TV)
- Average weekly household ratings delivery (national and local TV)
- # of different channels used during the year (national TV only)
- % of household ratings delivered by standard daypart (national and local TV)

NO CHANGE?

As Table One shows, there was evidence that top television advertisers had extended their presence by 1999 to virtually year-round, with almost no weeks off-air.

In and of itself, the fact that many brands extended their weeks on air does not prove that optimisers were suddenly adopted by the industry; however the strong resonance being provided by the recency planning debate at the time and the fact that optimisers could show advertisers *how* to maximize the number of weekly reach points over a period of time, provides at least circumstantial evidence in its favour.

There was no evidence, on the other hand, that advertisers needed to lower weekly weight in order to achieve greater continuity. The average top-ranking brand actually increased its weekly weight by more than 20% at the same time as adding weeks over this short period.

As for our hypothesis on dispersion, the evidence shows that advertisers were using more channels than before to reach their target audiences. This trend was in line with the kinds of recommendation suggested by the optimisers for achieving the highest reach for the lowest amount of money.

The average number of national channels used by the top 76 brands in 1999 was 23, up from 18 in 1996. This trend was apparent however the numbers are looked at. The median number of channels was up from 17 to 23 and the mode from 17 to 25. Only 15 brands from both years used fewer channels in 1999.

The evidence on daypart dispersion was a mixed picture. The prime component of both local and national network schedules declined slightly overall from 44% to 42% between 1996 and 1999.

40 out of the 76 brands studied increased their primetime allocation; 36 reduced it. About half the changes were fairly minimal.

On the other hand – as also illustrated in Table One – perhaps both these trends would have occurred anyway.

The total number of hours viewed changes little over the years and so, if people change how they disperse their viewing across the channels and dayparts available to them, advertisers must follow.

Households tuned into more channels in 1999 than they had done three years previously. Table Two illustrates what has been a long running trend: by the end of last year the average US home could receive almost 75 channels, compared with just 45 in 1996. They tuned into just under 14 different channels per week last year versus 11 in 1996, a smaller increase compared to the widening choice available to them, but nevertheless significant.

By daypart, audiences also shifted viewing to some extent. (Table Three) Ratings delivery (defined as average hourly program GRPs, not weighted by commercial load) in the evening prime time hours fell from 30% of the total to 28% between 1996 and 1999. The main beneficiaries of this were the late night and overnight segments, which delivered a higher share of the ratings total in the later year.

So while it is true that our sample of top brands reduced their reliance on primetime to reach their target audiences – as would have been recommended by the optimisers – this was very much in line with the overall trend in viewing.

WHAT DOES THIS MEAN FOR PRINT?

There is very limited objective information on the extent to which television optimisers have actually been used in the industry. Given that most media agencies make some use of them in pitches, few would admit to never using them, although some agencies no longer subscribe to the main industry systems in the US. A whole host of objections have been raised by US practitioners against the upstart foreign optimisers, many of which are doubtless true, although perhaps they miss the point:

For example:

1. The technical limitations of existing optimisers prevent them from defining truly optimal solutions;
2. Historical audience data is particularly unreliable in the US market compared (say) with markets like Australia and the UK, where optimisation has been widely adopted;
3. They often yield what are seen as 'illogical' results such as recommending an advertiser put all his money onto the Cartoon Channel;
4. 75-80% of national buying dollars have traditionally been placed – at least in the two decades preceding the 2001 'Upfront' - in a frenzy of activity during a few days in May. Optimisers are too slow to play an important role in this process.

The point is that no media decision-support systems should be treated as 'plug and play.' Media planning is invariably about more than numbers. Subjective criteria can easily be incorporated into an optimisation decision either formally as 'weights' built into the system or later on when the buyer is analyzing the output. It is also ultimately about more than maximising reach. Planning is the process of managing trade-offs, not the pursuit of a single number – reach, in short, is a uni-dimensional answer to a multi-dimensional question

MULTI-MEDIA OPTIMISATION

There are lessons in this experience for all media planners and buyers. Any 'system' touted by an agency or media specialist in a media pitch is ultimately about making decision-making more efficient or more effective. But they are not about making *new* decisions.

Planners have *always* had to make decisions on how much to spend to generate the best return on marketing investment, how best to allocate resources between marketing and media types, how to choose media vehicles and how to position advertisers' messages within them.

There are many trade-offs. Trade-offs between GRPs, costs-per-thousand, reach, quality and so on. Often these will conflict with one another, leaving media planners to make the calls. But an optimiser should not be made responsible for bad or 'illogical' media decisions. These are the responsibility of the planner alone.

Many of these objections can be overcome and worked around if planners and buyers are truly concerned about optimising reach. However for many advertisers, this is not their only or even their principal goal.

The particular issue multi-media optimisers are being developed to address is how best to allocate investment resources between traditional media forms such as print, television and radio. The goal – as with television optimisers – is to optimise against reach.

A typical challenge could be as follows: taking as a start point a television campaign, would an additional budget of (say) \$100,000 be better spent on additional television airtime, on magazines or on radio – or on some combination of the three - in order to add the greatest number of reach points to the campaign?

SINGLE-SOURCE SURVEYS

This is the kind of decision that needs to be made daily. There are already tools to help US planners make these decisions – MRI for example covers all three media to some extent, although it is primarily a print survey. SRI's Multi-media Mentor is another example of single-source research that can guide planners into maximizing opportunities for their messages to reach a target audience.

The main drawback with these kinds of survey is their inability to probe media habits in depth. Respondents answering SRI's telephone survey outline how they use media in general terms by time of day. But the limitations of a telephone interview mean that specific media vehicles – programmes, stations, and titles – cannot be asked about.

Recent work by MRI shows some promise in being able to match television program viewing claims to Nielsen's on-going meter measurement. The survey has the added advantage of being able to match respondents' media exposure habits to product consumption.

DATA FUSION

The idea of 'fusing' or merging surveys designed to measure individual media has been practiced in several European countries for some years. Although there are a variety of techniques for doing this mathematically, in its simplest form fusion starts by defining respondents on two or more surveys according to common characteristics and then 'matching' them.

For example, it may be possible to find male respondents on the Nielsen panel between the ages of 18 and 24 living in a household earning \$50,000+ in the north-east. Respondents sharing these and other characteristics might also then be located on the MRI and RADAR databases. Making the assumption that these kinds of characteristic will define how people consume media and brands, media information from one survey can be 'fused' onto that of another.

In this example, the magazine readership and radio listening habits of the 18-24 year old MRI and RADAR respondents will be fused onto the closest fitting Nielsen respondent, allowing planners to make judgments about how best to combine the three media to maximize reach.

There are pitfalls-a-plenty in this approach. The various mathematical techniques involved will generally come up with different answers. Fusion can also come up with strange results such as the apocryphal story of the fusion exercise that ended up finding heavy dog food consumers who didn't own a dog!

MULTI-BASING

Another approach which eliminates the need to actually fuse surveys together, but yet combines elements from two surveys in order to provide multi-media solutions has been developed by Telmar. Known as 'multi-basing', the idea is that both demographics and television viewing behavior can be used to 'link' Nielsen and MRI.

A series of steps allow users to uncover the television viewing habits of specific product user targets from MRI and to re-produce them as Nielsen audience figures, without actually having to combine the surveys.

FUSION-ON-THE-FLY

OMD's preferred approach, operational in several European countries and now testing in the United States, is known as 'fusion-on-the-fly'. (Santini & Raimondi, 1997). In effect, like multi-basing but in considerably greater depth, this technique avoids fusion as such.

Instead, it uses sophisticated mathematics to combine separate frequency distribution calculations from different media surveys against specific target audience groups into an optimal multi-media solution.

WILL PRINT BE MAXIMISED?

As with television optimisation, there is more to planning than maximising reach for a given cost. There is also the issue of comparing media: can a colour page in a magazine be compared equally to a 30-second television or radio commercial? Can the exposure probabilities of one medium be directly compared with those of another? What about program and editorial environments?

As noted earlier, one clear effect of the television optimiser craze was to focus everybody on the television medium. Regardless of the fact that much of the television audience research on which optimiser analysis was based could be criticised from a variety of technical standpoints, as could the nature of 'respondent-level' data (merely the middle minute of a quarter hour), the focus was not on this, but on the magic of what came out the other end of the systems.

Arguably, what was *really* important in new business pitches was how the process worked. It looked so technical, so scientific and so precise! Print research seemed to disappear from view in the excitement.

The lesson from all this is that multi-media optimisers must be discussed, showcased, debated and criticised. Publishers must cry out for detailed attention to be paid to their treatment in the process. MRI and Nielsen can battle it out over how to compare audience estimates. Maybe in the process, both services will be enhanced and improved, just as television audience research was. Of themselves, multi-media optimisers need have no impact at all on print's share of spend. It is up to the media themselves to ensure they don't suffer any loss in share of mind.

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TABLE 1

	1996	1999	Index
Average weekly when-in weight* (HH GRPs)	141	170	121
Average # of weeks on air*	42	48	114
Average # of national channels used	18	23	128
Average # of channels viewed/week	10.6	13.1	124
% of GRPs delivered in primetime*	44%	42%	95
Prime HH audience share (national)	30%	28%	93

*Includes local (spot) TV

Source: OMD analysis of top 77 television brands in 1999 and 1996/CMR

TABLE 2

	Avg # of Channels Received	Avg. # of Channels Watched*
1990	33.2	8.8
1994	40.4	10.2
1995	41.1	10.4
1996	45.1	10.6
1997	49.2	12.1
1998	57.0	12.8
1999	62.0	13.1
2000	74.6	13.6

* For at least ten continuous minutes over a one-week period. Survey based on August of each year

Source: Nielsen Media Research: Television Audience 2000

TABLE 3

Share of National GRPs By Daypart (All Viewing)		
	1996	1999
Early Morning	7%	7%
Daytime	14%	14%
Early Fringe	15%	15%
Evening News	7%	6%
Prime	30%	28%
Late Night/Overnight	18%	19%
Weekend Morning	4%	5%
Weekend Daytime	5%	5%

Source: Nielsen Media Research. Based on national network and cable average household GRP delivery weighted by daypart length in hours