3 8006 10020 7755

Marketing Communications Research Centre

MEASURING ADVERTISING EFFECTIVELY

David Corkindale

Report No. 16

October, 1978

102086

CONTENTS

		Page
1.	INTRODUCTION	1
2.	WHY MEASURE?	2
3.	THE ESSENTIALS OF MEASUREMENT	4
4.	ADVERTISING PROCESS MEASUREMENT	8
	Advertising Management Decision Making	8
	Advertising Process Measurement	9
	Exposure	10
	Attention	10
	Communication	12
	Measures Combined with Media Exposure	13
	Change in Information for Decisions	14
	Change in Behaviour	15
	The Overall Process	17
	- Why is it difficult to relate Advertising to Sales?	17
	- How is it possible to relate Advertising to Sales?	20
	- Testing in the Market Place	23
5.	PRE-TESTING ADVERTISEMENT MEASURES	26
6.	CORPORATE IMAGE MEASURES	28
7.	CALCULATING THE VALUE OF MEASURING	29
8.	CONCLUSIONS	31

PREFACE

When do you *know* something?

Is it:

When you recognise it when you see it?
When you can describe it?
When you can use it?
When you can explain it?
When you can improve it?

The measurement of the results of advertising are to help you know something about the advertising. The measurement procedure that is appropriate for you can depend upon which of the above type of questions you seek to answer. This report tries to explore these issues in a practical way.

MEASURING ADVERTISING EFFECTIVELY

1. Introduction.

This report examines the key issues that should be considered by advertising management before decisions are made concerning the measurement of advertising performance.

The report is in the form of concise statements on the various issues for consideration. These statements encapsulate current knowledge, practice and ideas.

The report aims to provide a clear guide to the use of the various methods of measurement that are available. It aims to put into context many of the arguments for and against particular methods, by demonstrating their relevance to advertising management.

Lastly, the report provides a checklist and summary of the main requirements for measuring advertising performance. Most of the material and examples are drawn from advertising in the mass media but it is believed that many of the principles and concepts that are advocated are equally relevant to other channels of marketing communications.

2. WHY MEASURE?

1. There are many things that we can measure that will tell us something about the effects of our advertising. Before deciding what to measure, or indeed accepting the measures someone else provides, we must be clear on several questions:

    a) what information do I want?
    b) what am I going to do with it when I get it?
    c) what will it tell me that I do not already know?
    d) how will I, or someone else, make better decisions with it?

2. Some companies set 'Action Standards' for the measurements they make of their advertising activities.

    In other words, they set a criterion *beforehand* by which to judge whether something is good, bad or indifferent, and so whether the result of the measurement needs to be brought to managerial attention.

    A company contacted us to ask whether 11% awareness for a new campaign on TV was good or bad. They had no criterion - some people in the company were alarmed, others satisfied. They had not asked the question 'what should we expect?' until after the campaign! Had they thought of this earlier, their preparatory work and survey could have gathered some more helpful information.

3. So, we must be clear on the managerial *purpose* of any measurement.

    Broadly there are four reasons for the collection of information for advertising decision making, which often involve measurement of some sort:

    1. Analysis of the market situation and the changing need/role for advertising;
    2. Planning the detail of a campaign to meet the need;
    3. Implementing and controlling the campaign
    4. Evaluating the campaign.

4. Different information tends to be collected for each of these stages. For example, at stage 1 we tend to collect/measure information on the past performance of advertising in macro terms; we may try to understand consumer behaviour and the way advertising appears, or is believed, to effect this. At stage 2 we may seek measures of audience sizes and relative, apparent performances of different media vehicles. At stage 3 we take measures which monitor the current performance of the campaign on those items that respond immediately, e.g. media performance, advertising awareness. This hopefully would enable us to make tactical decisions during the campaign and to ensure it follows the plan or takes advantage of new opportunities. Stage 4 is usually, in practice, conducted as part of stage 1, i.e. advertising campaigns are usually a continuing activity where what has happened in the past year or so is reviewed and taken into account when

planning for the next year. At this stage one usually tries to assess the target audience's reactions to the past campaign and the reasons for their various reactions.

5. Should advertising be measured by *sales results* or *indirect, non-sales related* items?

   The simplest answer to this usual cause of controversy is that it depends on whether you wish to gain some understanding *why* sales results do, or do not, occur as planned.

   People tend not to buy, or to do, things they do not like. Hence measuring sales results related to an advertising campaign does indicate how much people like the product; it does not tell you:

   a) how much of their liking of the product is due to the advertising;
   b) whether those people who did not buy did not like the advertising, and what it was about it they did not like, and
   c) whether there are aspects of the advertising that could be improved.

   So, sales measures do not give you sufficient information to answer questions of *WHY*; they are not usually diagnostic measures.

6. In summary, then, some examples of the specific reasons one may be wishing to undertake some measurement activity in connection with advertising are:

   a) to try to determine the overall effect on sales
   b) to further understand, or check ones beliefs, on how advertising 'works'
   c) for diagnostic purposes, i.e. why is the marketing and/or advertising not producing the desired outcomes
   d) where one believes one has the right marketing strategy and advertising objectives,
      i) to detect whether a new creative treatment is an improvement,
      ii) to detect the relative effects of different media weights or patterns of exposure.

Later in the report, specific measurement techniques will be specified against specific needs but it must be stressed that specification if needs and purposes must be stated by management before the researcher can apply his skills.

"First define your problem"

3. THE ESSENTIALS OF MEASUREMENT

The MCRC has long stressed that in order to measure the results of advertising one must clearly state the *objectives* of the advertising. These objectives must be defined in terms of things that can be directly attributable to advertising activity and which are *measurable*.

There are other, practical pre-requisits for achieving the conclusive measurement of the results of some activity. In many circumtances one is looking to measure the *change* in the level of some item as the result of advertising. Has awareness increased? Do more people believe our service is best? The need to measure changes in key variables brings with it extra considerations when planning and undertaking measurement.

1. Measurement of *changes* in responses to advertising requires:

    1. Specification beforehand of the *Advertising* Objectives and target audiences.

    2. Specification of measurement instruments *appropriate* to the advertising objectives.

    3. *Benchmarks* i.e. the level of responses before the advertising takes place.

    4. A sufficiently *sensitive* enough measuring instrument i.e. the measurement method used must be accurate enough to detect the magnitude of change expected.

    5. A *control* i.e. measurement of changes in an independant sample not subjected to the advertising.

    6. *Money* and committment sufficient to carry through the exercise.

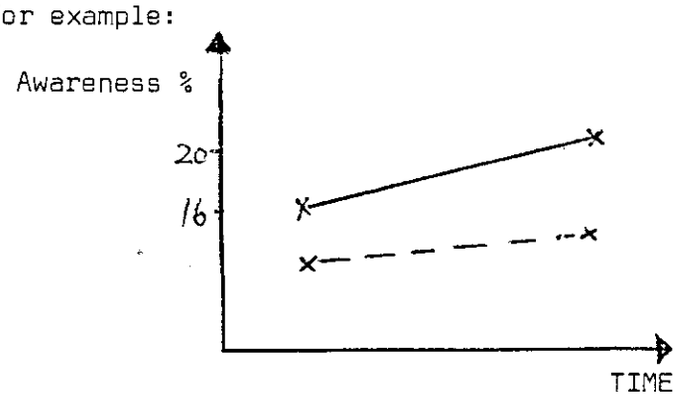
    7. A research *plan*, specified before the advertising is undertaken.

    8. *Time* enough to undertake the measurement but results available before decisions requiring them are made.

2. The provision of a '<u>control</u>' is possibly seen by some as a luxury but it can allow the effects to be taken into account of such things as:

    a) competitive activities
    b) environmental changes
    c) other market mix elements

For example:

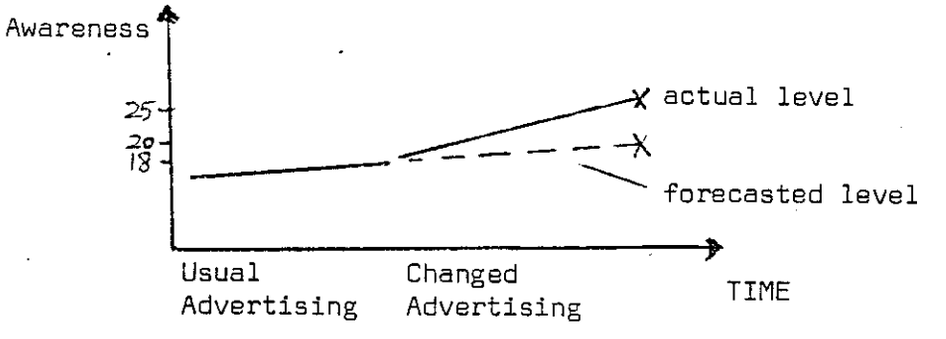


In the above diagram awareness would seem to have increased from 16-20% but in the 'control' area it increased too, by 1%. Hence the 'real' increase due to advertising is probably only 3 per centage points, not 4.

The 'control' area, or sample, should be identical in all ways to the one to which the advertising is applied.

A partial substitute for an independant 'control' is to forecast what would be expected without any advertising. The actual result recorded after some advertising is then assessed in the light of what was forecast, to estimate the effect of advertising.

For example:



Hence the estimated change in response due to a change in advertising is <u>not</u> (25-18) but (25-20).

3. How Long is sufficient <u>time</u>?

There are two conflicting requirements when deciding when to take measurements:

a) one must allow sufficient time for the effects of the advertising to work their way through the system, i.e. the full effects to be felt. Long re-purchase intervals and trade effects may delay the full impact of any advertising.

b) management may wish to take decisions regarding advertising soon after it has finished.

There are also long term advertising objectives, such as company/ manufacturer image, and short term ones, such as awareness of a special offer.

Hence the timing of measurements must be decided appropriate to i) when some information is required in the planning cycle and, ii) when it is expected much of the advertising effect will have come through on specific advertising objectives.

It must be realised that different sorts of objectives may have different ideal times for measurement, after the advertising.

For frequently purchased packaged goods there is some evidence that the retention of advertising effects in a target audience from one month to the next, is of the order of 80-90%. Hence if a campaign during April caused awareness to rise to 60% it would, at the end of May, be expected to be at a level between 48% (60 x .8) and 54% (60 x .9).

It must be stressed that the 'carry-forward' effect varies among product/service types and, more particularly, among advertising objectives.

4. Lord Kelvin, the 18th. C. panjandram of British science, has often been paraphrased as saying that "You can not understand something until you can measure it".

The heated debates over the worth of 'Group discussions' for advertising research are inspired on one side by adherence to Kelvin's dictum. It has even lead at least one company to conduct 67 group discussions in a fit of conscience over not being 'scientific'.

If you are worried about the 'correctness' of group discussions please read the earlier section WHY MEASURE. In other words, what is your purpose in undertaking some investigation? If it is to establish whether the particular response level to advertising has changed in a population, then group discussions will not, in anything but a scanty fashion, measure this change. That is not to say that group discussions have no use. However, they are usually useful for other purposes than measuring the effects of advertising.

Group discussions can suggest a variety of ideas, observations and hypotheses about a topic, be it our latest advertising, a new product idea or whatever. To substantiate these ideas, observations. hypotheses or whatever, we need hard evidence to help us make decisions on the topic at issue. This means we must undertake appropriate measurement of some sort.

Sometimes group discussions can help us understand other information which has already been collected: it can act as the catalyst in our deductive processes by alerting us to possible ways of interpreting

the information we have. However, the other information, or measurements, must be in existence: we can not sensibly make something out of nothing.

4. ADVERTISING PROCESS MEASUREMENT

This section is necessarily more lengthy and detailed than the previous ones, It attempts to cover the range of methods that are used and available for measuring the range of effects of advertising.

The structure of the section tries to relate methods of measurement, or assessment, to the purpose for undertaking the measurement and the nature of the advertising objectives involved.

4.1. Advertising Management Decisions

The basic decisions that have to be taken in advertising management are:

- What role does advertising play in the marketing strategy?
- What are the specific objectives for advertising?
- Who are the target audience?
- What are the most appropriate media channels to reach the target audience?
- How shall we present our 'message'?
- When shall we display our advertisements?
- How much money should we spend?
- How could we assess the response to our advertising?

All the questions are inter-dependant. For example, one can not divorce the media choice from the creative 'presentation' required and both of these could be influenced by the amount of money available. As was stressed in 'WHY MEASURE?' the need for information on advertising effects is related to the cycle of advertising management : Planning Development Implementation.

Much of the preparatory, planning information which is used in advertising decisions is gained from studies of the market and the consumer is general. It is gathered not solely for advertising decisions but for marketing planning. In the schema below the types of market research measurement which are undertaken are shown against the cycle of advertising management decisions.

CAMPAIGN PLANNING BACKGROUND
- Market position audit of product/service
- Previous communications performance
- Beliefs on buyers' motives, needs, wants, behaviour

CAMPAIGN DEVELOPMENT
- COPY/THEME DEVELOPMENT
  - Concept, ideas testing
  - Pre-testing during creation
  - Pre-testing finished material
- MEDIA RESEARCH
  - Media audience size, behaviour data
  - Target audience media consumption data
  - Media/other promotion co-ordination

CAMPAIGN IMPLEMENTATION

- Benchmark establishment
- During campaign monitoring
- Post campaign assessment

4.2 Advertising Process Measurement

The table below categories the main types of objectives, or requirements, for advertising to achieve. Against each category is stated the main form of approach for assessment of the achievement of the type of objective.

For convenience, and to conform with most managers' beliefs, the table lists the categories of objectives in order of the stage in which they occur - in the process of advertising.

Broad Objectives, or Stage of the Advertising Process	Measurement Approach
1. Exposure	Media Research
2. Attention/Communication	Recall and Comprehension
3. Change in Information used in buyer's decision process	Beliefs and attitudes Research
4. Change in Buyer Behaviour	Sales Data, Panels, Validated questions
5. The Overall Process	Statistical/econometric analyses; Experiments, model building; ADLABS

In general, the *ease of measurement* decreases down the stages, whereas the *relevance* to difficult management decisions increases.

In the next section each stage will be examined in greater detail. The categorisations of objectives is not meant to be absolute.

4.3 Exposure.

. For planning purposes in the main media, much information is available to estimate the number of people who will have the opportunity-to-see (O.T.S.) an advertisement.

. Since media consumption patterns by target audiences are very regular, in general, it is possible to calculate the expected performance of a campaign in terms of total audience, coverage and frequencies of O.T.S. Coverage and frequency guides exist for T.V. as do forecasting procedures such as PREFACE (J.W.T.) For the Press easily accessible computer programmes can impose a proposed schedule onto historic data to estimate expected performances.

. 'Single source data' does exist on both product and media consumption. This is only of use for overall planning purposes.

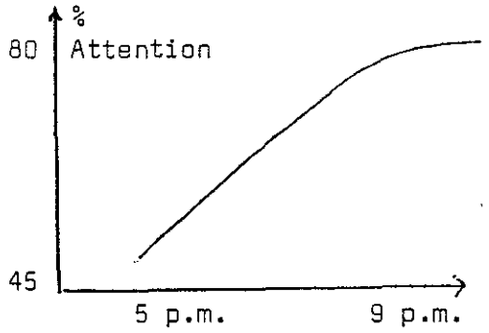
. BBC 'audience' data for BBC TV and radio programmes, although extensive, is not available for commercial use. It is based upon recall measures as opposed to the set-diary method.(JICTARS)

. 'Day-after-recall' surveys are a method of monitoring achieved exposure levels as are questions on 'Omnibus' surveys. Since both rely on the memory of respondents they are most useful if used consistently and for measuring changes in levels of responses rather than absolute levels. It is generally found that the use of 'Omnibus' surveys for monitoring exposure gives lower figures than a 'tailor-made' survey.

4.4 Attention to Media

. Media research monitors O.T.S. An additional piece of information, namely the proportion of a target audience actually paying attention, would turn O.T.S. data into something closer to reality.

. "Attention" surveys for TV advertising have been conducted occasionally. It is generally found that attention and/or the number of people viewing - even when the set is switched on - varies with time of day. For example:



Attention paid to serials is an exception to the pattern.

. 'Reading & Noting'surveys can be conducted for advertising in the press. They were originally conducted for monitoring the creative content of advertisements. More recently they have been used to attempt to establish 'attention' levels, among other things.

Experiments and analysis of extensive data tend to show that:

a) claimed reading and noting are not strict reflections of what the eyes pass over

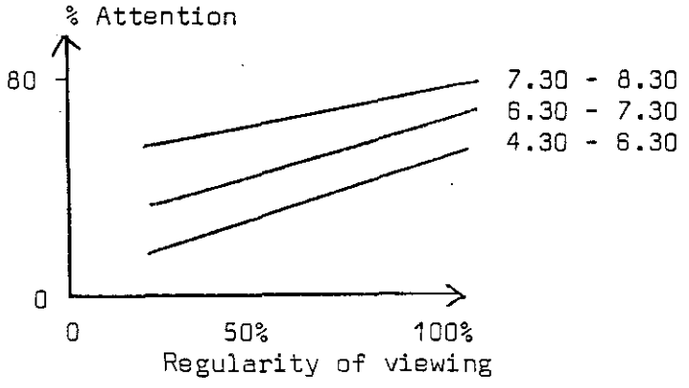
b) many other factors than just the advertisement influence reading and noting scores.

Hence many other factors - psychological, physiological and physical influence attention.

. The 'quality' of attention paid to media, and therefore perhaps the advertisements, is something which is not usually measured.

. Some studies on 'attention' to TV have shown that it is also influenced by the regularity,or frequency, of viewing. Someone who always watches a particular programme tends to pay more attention to it than the infrequent viewer.

For example:



4.5 Communication achieved

. Recall and comprehension surveys are the usual method of monitoring this category of objective.

. The order in which 'awareness' questions should be asked, so as to logically filter out respondents not in a position to answer later questions, is usually:

Awareness of - medium
- advertisement
- content/theme
- specific 'messages' or 'copy points'
- product, brand, service advertised

. Recall and recognition are different responses: recall is usually more difficult. Showing an advertisement, or pack, and asking if the respondent has seen it recently, and where, will usually generate higher responses.

. There is some evidence that interest in the advertised item, or the advertising itself, aids recall.

. It it particularly important to have 'benchmark' measures of awareness before advertising campaigns for new products, or indeed for new treatments of old campaigns. Typically, consumers will claim awareness of non-existant products or advertising by well known companies or products. Without a benchmark it will be impossible to establish the real increase in awareness after a campaign.

. Even if respondents comprehended and recalled the advertising, do they believe it?

The relevance and importance of this issue is more closely concerned with beliefs on influences on buyer's decision processes, which is dealt with in the next section.

. There is some evidence to suggest that:

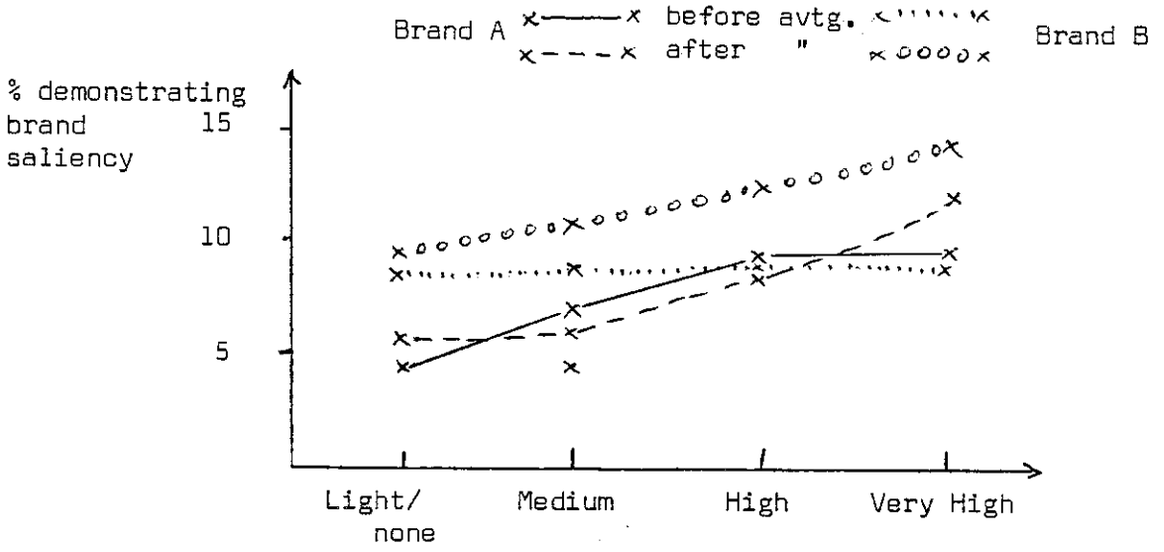
a) answers to survey questions: "what do you remember about this advertisement?" do not correlate well with subsequent behaviour, whereas
b) answers to questions : "What did it mean to you?" are more closely correlated with behaviour.

. Saliency is a commonly used parameter in awareness/recall/comprehension/communication surveys. Basically respondents are asked to recall "the first brand that comes to mind" then "the second ....." etc., and so an apparent 'ranking' is obtained. If the advertising objective for a particular brand is to cause the advertised brand to be the one that comes to mind then 'saliency' measures are appropriate.

Measures combined with media exposure

Certain types of cross-analyses between responses to advertising and media exposure can provide valuable hypotheses as to the reasons for responses. Ability to recall advertising detail can be crossed, for example, with trial, repurchase, intention-to-purchase and media exposure.

An actual example is as shown below. A population has been surveyed and the responses to a brand saliency question (the main objective) categorised according to likely exposure to the advertising (derived from questions on media exposure/consumption)



Brand A has achieved no significant increase in brand Saliency given that heavier ITV viewers were certainly aware of it already. One could surmise that both creative content and media choice should be seriously examined. Brand B has fared much better. It also shows a linear growth in response to likelihood of seeing the advertising - the more advertising seen the better the response. More advertising would certainly seem worthwhile for brand B.

4.6 Change in Information used for Decision Making

As stated at the beginning of this report, before one embarks on an advertising campaign one has beliefs about what influences customers to buy. Some of these influences are also believed to be susceptable to creation, enhancement or reinforcement through advertising. From this prior analysis and decision making are born the advertising objectives.

The stage of the advertising process dealt with in this section contains all those objectives which are usually believed to be formative in customers disposition towards buying. We are mostly dealing with the extensive area of 'attitudes' and 'images'.

. The many ways of elucidating what appears to be salient attitudes in buyers' decision processes are examined extensively in the MCRC's Reports Nos. 14 "A Handbook on Motivational and Attitudinal Research Techniques" and 15, "The Attitude- Behaviour Relationship". Suffice it to say here that an agreed way of measuring the 'attitude', that is to be the advertising objective, must be established before the advertising is undertaken.

. Another issue which must be clear is : *attitude to what* -

- the product?
- the manufacturer?
- some aspect of the advertising?
- buying the product/service?
- using/consuming the product/service?
- other people buying/consuming the product/service?

. Long held, deep-seated attitudes do not usually change quickly or by large degrees. Hence the accuracy of any surveys on these sorts of attitudes must be fine to detect any changes.

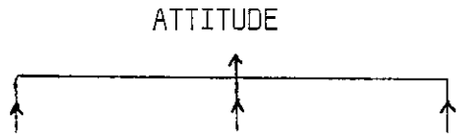
. Consumers may be found to hold a worse 'attitude' on a particular product than on rival products. Advertising may aim to correct the shortfall. This may lead this particular attitude to become no longer salient.

. The attitudes held by different segments of a target market should be examined: they may be different in level and in kind and require different measurement for change.

. The definition of an 'attitude' is still a subject of debate. We mostly attempt to measure some outward manifestation of an inner 'attitude'. We also must chose to measure what are probably components of these outward manifestations.

In this context, behaviour (purchase) could even be seen as some expression of an attitude.

However, many people agree that for pragmatic, measurement purposes an attitude can be thought of as consisting of three main components:



Cognitive	Affective	Conative
(knowledges)	(Feelings)	(Actions)
eg. Attention	Interest	Behaviour
Awareness	Evaluation	Intentions
Comprehension	Feeling	
Information	Conviction	
	Liking	

. Should one use panel or ad hoc surveys as the measuring instrument?

Firstly, there is merit in using the *same* method for measuring attitudes, or whatever, over a period of time. Among other things this allows the establishment of trends and allows real comparisons over time on a consistant basis. From a statistical point of view, if we are dealing with establishing the proportion of people holding a particular attitude or knowing/not knowing the advertising message then the panel method will give a more accurate estimate of the trend in the proportion before and after than if two independant samples were used - as long as there is a positive correlation in responses before and after. In general, if things like purchase behaviour and attitudes are being investigated in before and after studies - where changes are not expected to be great - the panel technique should be used. On the other hand where such things as awareness are being monitored and changes of large magnitude are expected it is better to use two independent samples before and after the advertising.

. Attitudes are influenced by many things besides advertising. The measurement of attitude change after an advertising campaign does not necessarily imply that advertising must be the sole cause. Measuring the change, if any, in different segments of the target audience (e.g. buyers and non-buyers) and in 'control' segments (e.g. non receivers of the advertising) should illuminate this issue.

4.7 Changes in Buyer Behaviour

. The MCRC has long counselled that changing buyer behaviour (eg. increasing sales) should not be a specific, accountable objective for advertising. This is primarily because in many circumstances it is not easy to demonstrate a cause and effect link between advertising and behaviour. Other market mix elements contribute to sales and do not necessarily stay constant while only advertising is changed, or increased. This is also strictly true of many of the components of 'attitudes' since the act of using or buying an advertised product could influence the subsequent attitudinal response to the advertising.

Ehrenberghas demonstrated the following relationships:

$$\log (1-a_R) = K \log (1-a_L) = N \log (1-a_N)$$

where a_R = proportion holding attitude 'a' among users

a_L = " " " " " lapsed users

a_N = " " " " " non-users

K & N are market constants of the order 4.3 & 2.4 respectively.

. Major advertisers are well versed in the sources of information on Buyer Behaviour. The information tends to be available in two forms:

a) Aggregated e.g. Ex-factory sales, store audits

b) Individual e.g. Home audits, diary panels, surveys using validated questions.

By 'validated questions' one means a question that has been demonstrated to gain responses on purchase that are consistent with actual behaviour. For example, asking questions about car purchase is likely to ascertain accurate information since respondents will remember such an important purchase; accurate memory on such items as confectionery is not easy for respondents.

. Aggregated data on sales volumes does not usually allow examination of responses by segments of the target audience.

. Panel data on frequently purchased goods often appears to show multiple brand purchasing by individual consumers,

e.g.	time periods:	1	2	3	4	5	6
	brands bought:	AB	AC	AB	A	ABC	A

Rather than some evidence of brand switching fairly regularly this could be just a demonstration of the different frequency with which brands are bought <u>regularly</u> (i.e. no real brand switching), reflecting different usage rates,

e.g.	time periods :	1	2	3	4	5	6
A bought	every time :	A	A	A	A	A	A
B "	every 2nd time:	B		B		B	
C "	every 3rd time:		C			C	

. In conclusion: in order to diagnose the sales effectiveness of some advertising we need data on <u>who</u> and <u>where</u> sales are from and <u>when</u> segmentation of response is important in that heavy, frequent buyers can respond more noticeably.

4.8 The Overall Process

We now reach the end of measuring spectrum by looking to detect the relationship between advertising inputs and sales or profits outputs. Can one relate measures of advertising inputs to the ultimate output, profit? The simple answer is yes; but, in many circumtances it is not possible to accomplish this easily, quickly or cheaply. Only a few companies undertake the analysis which conclusively demonstrates that part of sales, or profits, that are truly attributable to advertising.

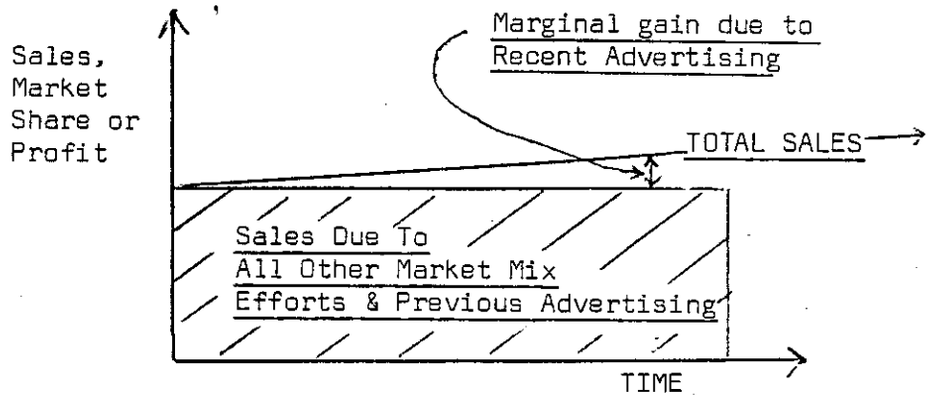
For completeness, in this section, we shall first enumerate why it is difficult to undertake the exercise of relating sales to advertising. We shall then indicate what does seem to be involved in successfully completing the exercise.

4.8.1 Why is it difficult to relate advertising sales?

For the majority of cases advertising is just one of many necessary adjuncts to the consumation of a sale by a customer. There are exceptions where advertising is the prime motivator and contributor to the purchase act; for example, direct response and some new products' advertising. Over a short period of time, for well established products, advertising is used for a *supportive* role in marketing. The bulk of custom comes from regular, and heavy, purchasers of products and services: they are encouraged in this behaviour by advertising. The new purchasers, won from other brands or even brought into the market for the first time, are the relative exceptions. Hence advertising is mostly expected to

a) support the existing sales level
b) make small gains at the margin.

This might be depicted as set out in the diagram below:



So, any total sales level that we record is achieved by the combined effect of:

the product
the price
the availability (distribution)
the promotion (below-the-line)
the sales force effort
the advertising (See 'Appendix' for further discussion)

and many more. That due to advertising is composed of two parts, is probably small anyway and one part has built up over a long time. It is important to remember that many of these factors do not work on the market *independantly*. For example, brilliant advertising for a poorly distributed product may produce poor sales results – suggesting poor advertising.

Below-the-line effort

It is also very important to remember that other promotional activities involve at least as much input as that of advertising. In the MCRC's report No. 10 it was shown that for most of the companies the expenditure on other below-the-line promotion was equal to or greater than that on advertising. Hence analyses that claim to explain sales results, over a period of time, due to advertising inputs and ignore the below-the-line effort are naive!

Measuring Inputs

How does one measure advertising 'inputs'? The usual way is in money terms. This is very crude but convenient since the figures are readily available. It can be claimed that money spent correlates highly with TVRs, OTS and audience size achieved, but this is still crude since these can be achieved in many different ways depending on the media plan.

What does one mean by advertising? Advertising is in fact a composit activity. There are many elements, all of which can be varied:

the 'creative' effect
the 'media' effects
the 'media weight' effects
the timing, frequency, threshold, diminishing returns, wearout effects.

Measuring advertising 'input' by some aggregate measure like money or gross TVRs is very crude. If one is wanting to establish that a different amount of advertising produces a different effect on sales on should really want to know that it was the same 'kind' of advertising in all cases that was being compared. This is usually ignored by those undertaking such analyses and so there is room for doubting the accuracy of their analysis by those seeking to criticise it.

Measuring Outputs

A total, aggregate sales figure includes those made by all sorts of people for different reasons. Often advertising is aimed at different segments who are thought to have different motives for buying. Aggregate sales figures do not reflect differential responses: some segments may respond quicker or more easily than others. For example, heavy and/or frequent buyers have more opportunity to respond to advertising. So, in measuring the short-term effects of advertising one is looking for the bulk of the response to come from heavy, frequent buyers. Are they going to respond easily? Have they well established habits? How influenced are they by the other market mix factors?

Long Term versus Short Term

As stated earlier, much advertising has a large component of reassurance and/or building-up images, confidences, knowledges etc. Previous advertising is remembered and consumers could be considered to mostly possess a 'stock' of advertising effect - of some form - gained by the advertiser's previous *investment* is his advertising. (See Appendix for further discussion)

Therefore any study of advertising's effects must either

a) measure only the change in effect due to some change in advertising input, or

b) if it attempts to measure the absolute effect of a particular period of advertising it must take into account, and identify, the effects of previous advertising.

Competitive Activity

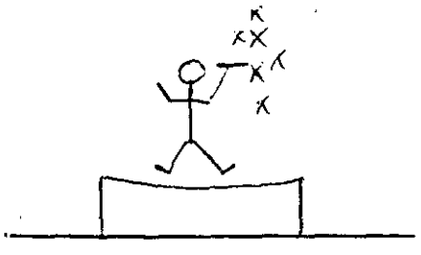
When trying to relate changes in sales levels to something like advertising one must not ignore the effects of competitors' actions . Even more importantly, one must remember that in order to use the results of our findings of our analysis we must assume that competitors' activities will remain the same in the future as in the past - will they?

Statistical/Econometric Analyses

This is not the place to examine the viability of these techniques in detail. You should always beware the limitations imposed on any analysis by such things as 'multi-collinearity' and 'auto-correlation'. Check that your statistician or econometrician knows a) what they are, and b) how to check their absence. If either is present, ask him how he has dealt with it - does this sound sensible?

One of the most basic requirements in this sort of analysis is that in order to measure the effect of something on sales, or whatever, it must *change*. Hence, if advertising levels never changed, it would be impossible to detect their effect on sales! This has been likened to a 'trampoline effect'.

If a man jumped up and down on a trampoline with a marker pen in his hand putting crosses on the wall, you could not tell the effect of the trampoline on the height of his crosses- without removing the trampoline.



There are many examples of analyses of sales versus advertising that are fallacious, or no use, because they do not include the effect of some important influencing factor that has not changed in the past and is about to.

The Difficulties - Summary

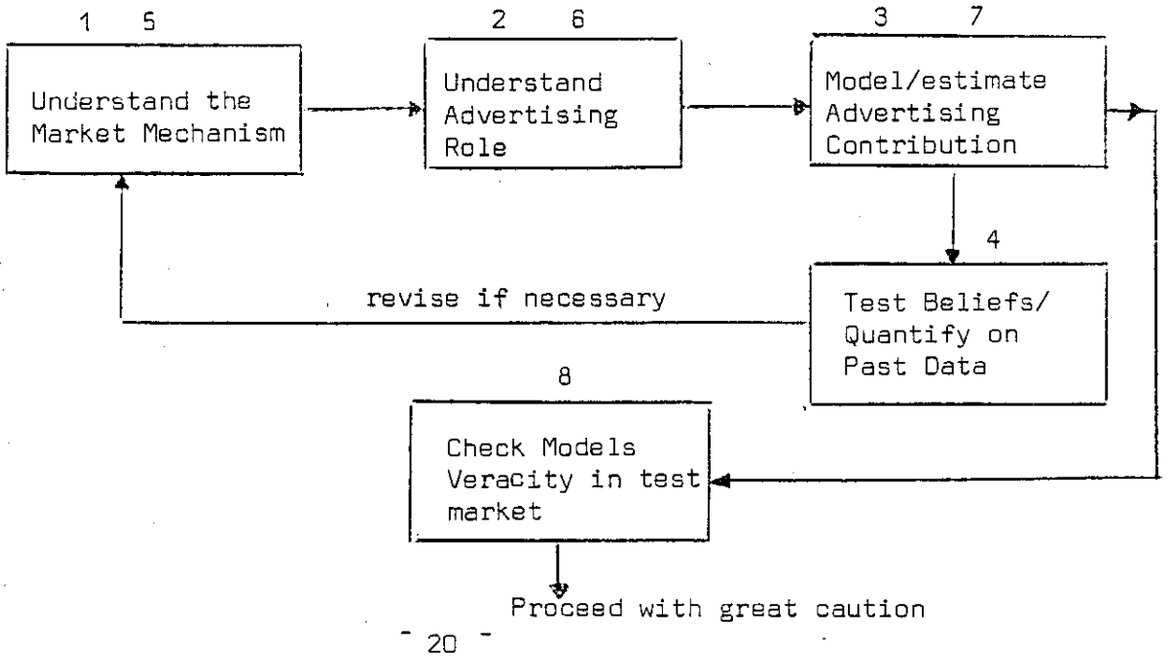
Some of the difficulties include:

1. Only a small effect usually - difficult to detect, in short term
2. Not independent of other factors
3. Other market mix factors effects
4. Below-the-line effects
5. How do you measure 'advertising'?
   - several components (creative, media, etc)
6. Can you detect response from different segments?
7. Long term and short term effects : long term effect due to many years previous investment
8. Competitive activity
9. Statistical analysis not straight forward
10. To measure the effect of something it must change.

4.8.2 How is it possible to relate sales to advertising

With great difficulty, in most cases. It is stressed, however, that it is possible. In a market where advertising is the sole, and important, promotional tool and where other market mix factors are constant over time, it would be possible to look for the effects of changes in advertising. There is still the problem of detecting the short term effects from the long term ones. If advertising is a relatively new tool there is little problem.

The advised route to establishing the sales effectiveness of advertising is:



Many people accept the findings of stage 4 as being correct if they agree with current beliefs or encourage a desired course of action. This is folly. The apparent findings should always be put to a predictive test on new data. This usually means an actual market place test. This is expensive and possibly risky in commercial terms. The MCRC's report No. 5 described how to undertake such tests. Even so, there are reasons why a model based on a set of past data will not be confirmed entirely by testing against a new set of data. Only if the new set were identical to the old set, would the same model be reproduced!

Various special forms of data collection would ease some of the analysis problems:

Individual Panel Data Analysis.

If individual respondents kept diaries of their purchase behaviour, and attendant information such as prices, offers, stores etc., and also recorded the advertising they saw, an attempt could be made to relate advertising and purchasing. At the moment such a service is not regularly provided on a large scale, although it is possible for someone to undertake it. A partial application of the technique was undertaken by McDonald at BMRB many years ago with some interesting results.

ADLABS

The facility exists in the U.S. for sending different homes different T.V. ads. either or both in terms of quantity and kind. The homes keep purchasing diaries so that advertising input can be related to purchase behaviour.

An Example of Detecting the Effects

Some years ago a confectionery company undertook an interesting experiment. After many years analysis of past data they believed they had established the relationship between advertising inputs and sales outputs, taking into account the other market factors. The relationship was put to the test comprehensively. Eight products were used in the test and 12 test areas were assembled which were combinations of the existing TV areas.

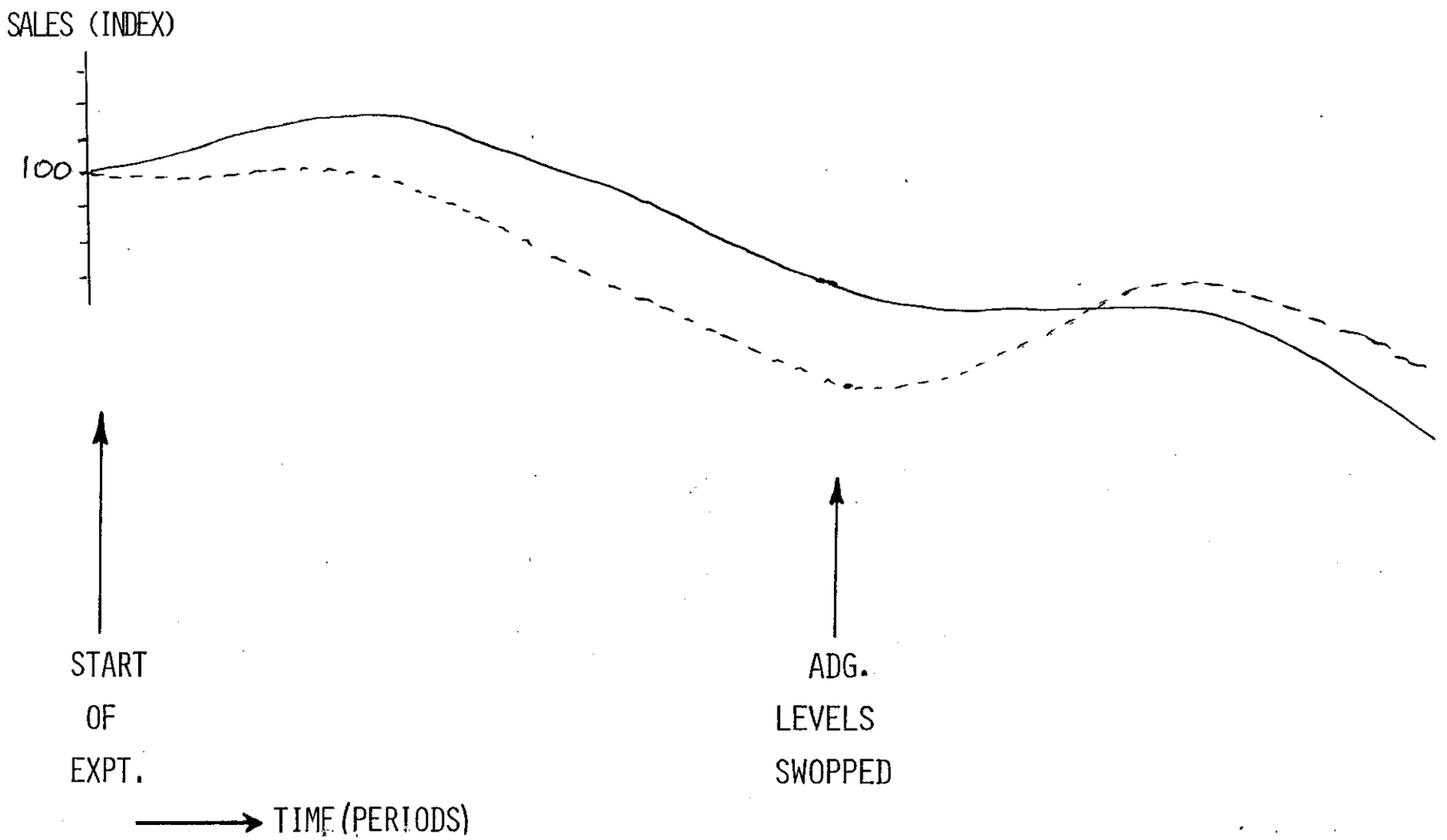
For two years a) some products in some areas were advertised at the 'normal' advertising level; b) some products in some areas were advertised at a 'high' level, and c) some products in some areas were advertised at a 'low' level.

ADVERTISING EXPERIMENT - RESULTS

4 PERIOD MOVING AVERAGE (SALES)

AVERAGE FOR 8 BRANDS 'HIGH' ADVERTISING - THEN 'LOW' ———

AVERAGE FOR 8 BRANDS 'LOW' ADVERTISING - THEN 'HIGH' – – – –



For the following two years the products advertised at the 'high' level were advertised at the 'low' level.

A depiction of the results of this experiment are shown in the chart. It can be seen that after the advertising levels were swopped it took some time for sales to respond.

This example illustrates that sales effects can be shown but that it requires a) detailed preparation b) a field test c) time d) commercial conviction and resolution.

It is believed the test confirmed the advertising-sales relationship possessed by the company and that this confirmation was commercially useful.

Testing in the Market Place

In the above example the company confirmed its knowledge of the relationship between advertising 'weight' and sales results by a careful experiment in the actual market place. As stated in section 4.8.2 this seems to route to managerially reliable information. However it is extremely difficult to undertake such experiments to give reliable data. Below are listed the 30 questions that a company should ask itself before undertaking an advertising experiment in one or several of its regional markets (taken from MCRC Report No. 5):

A Checklist For Considering Media Weight Lists

1. Objectives and purpose ?
2. Realistic goals ?
3. When are results required ?
   Sufficient time to test properly ?
4. Any previous tests give useful guidance ?
5. Will results from test allow predication ?
6. What factors measured to detect effects ?
7. How susceptible to change are these factors ?
8. What magnitude of change factors is expected in the test ?
9. What is general variability of these factors in the market ?
10. Is it feasible to accurately measure the expected degree of change ?
11. What other factors will affect the result ?
    How controllable are they ? How will they affect the outcome ?
12. Is the planned level of change in media weight really different to normal ?
13. Have any previous tests been run in the proposed area ?
14. What is known about intra-area differences ?
15. How long will test have to run to detect expected changes ?
16. Are interaction effects likely to be important ?
17. Is it important to know from where the change in the market emanates ?
18. How will competitors respond ?
    Will this invalidate the test ?
19. Is there management skill and experience to control experiment ?
20. Will company staff react and upset the test ?
21. Average areas are not necessarily best for tests
22. Consider the cost 1000 differences between areas when planning the test
23. Consider the value of replication

24. IF ADVERTISING IS INCREASED, WILL THIS NECESSITATE INCREASING THE VARIETY OF MEDIA AND OR NUMBER OF IDFFERENT ADS ?

25. DEFINE WHAT CONSTITUTES A 'NORMAL' LEVEL OR AREA

26. REMEMBER AN 'ANTI-SYNERGY' EFFECT MAY OCCUR ON IMPLEMENTATION

27. CONSIDER THE VALUE OF THE INFORMATION GAINED RELATIVE TO THE COST OF THE EXPERIMENT; COLLECT AS MUCH AS POSSIBLE SO THAT EXPERIENCE IS GAINED

28. CONSIDER THAT TESTS OR EXPERIMENTS ARE LIKELY TO BE MOST VALUABLE IF THEY ARE PART OF A LONG TERM RESEARCH PROGRAMME

29. KEEP A DIARY, OR LOG BOOK ON THE WHOLE EXERCISE

30. CHOOSE THE MOST APPROPRIATE TEST DESIGN

5. PRE-TESTING ADVERTISEMENTS

Pre-testing can provide information at two stages in the *development* of an advertisement. By 'pre-testing' one generally means the process of showing an advertisement to a sample of the potential target audience and guaging their response. The advertisement can be presented in many ways varying from a rough version shown in isolation through to a final version shown in among competitors' advertisements. There are at least 44 different ways of presenting advertisements for pre-testing (as indicated in MCRC Report No. 17). The choice of pre-testing method depends on the purpose and the objectives of the advertisement primarily.

The two stages at which pre-testing provides useful information are:-

i) when the advertisement is still being developed and different 'forms of presentation' or 'treatment' are required to be assessed for their relative capability of conveying the objectives;

ii) when the finalised advertisement needs to be checked that it is correctly conveying its intended purposes e.g. potential customers do understand, learn and feel what we want them to.

No pre-testing method can be expected to assess the sales increase likely to result from a particular advertisement's use. To ask a sample of people "will you buy it?" after they have seen a test advertisement in an artificial environment is asking them a hypothetical question which they can not accurately answer. The way to examine the real sales effectiveness of an advertisement is to conduct some form of experiment in the market place.

The sorts of measures that can be monitored at pre-testing sessions are listed below (Table 5.1). They preimarily give one feedback on 'Attention', 'Comprehension' and 'Change in information used in decision processes' types of advertising objectives, as well as other, diagnostic information.

The types of measurements undertaken are categorised under three headings: i) Physiological, ii) Verbal or written and iii) Behavioural Indicators. Few researchers in the U.K. use physiological measures for pre-testing except for special circumstances - mostly because it is not understood how to interpret the information to make managerial decisions. The third category is not used much now either although some companies have established 'norms' for their advertisements ability to shift 'preferences' at pre-testing. New advertisements are checked against these norms. However if an advertisement fails to achieve the level of preference shift expected further research is needed to a) discover why and b) discover indications of how to correct it. Therefore it would seem that such measures as the third kind should be associated with the second kind which tend to be more explanatory.

TABLE 5.1

ADVERTISING PRE-TESTING MEASURES

THE INFORMATION WHICH CAN BE MEASURED

PHYSIOLOGICAL

BASAL SKIN RESPONSE, PULSE RATE, HEART BEAT
PUPIL DILATION
EYE MOVEMENT (WITH EYE CAMERA)
PERCEPTION (WITH TACHISTOSCOPE)

VERBAL OR WRITTEN RESPONSE

ATTENTION/NOTING/AWARENESS (ADVERTISEMENT OR BRAND)
RECALL OF BRAND NAME OR COPY POINT
COMPREHENSION
OVERT BELIEF
INTEREST
LIKING
ATTITUDES TO BRAND AND BUYING/USING
INVOLVEMENT
NEED

BEHAVIOURAL INDICATORS

GIFT CHOICE OR RAFFLE PRIZE CHOICE
COUPON RESPONSE (FROM POSTAL ADVERTISEMENTS)
BUYING (E.G. MOBILE SHOP TEST)
PREFERENCE TESTING QUESTIONNAIRE
SPENDING TOKENS IN SIMULATED SHOP

6. Corporate Image Measures

A special small section has been devoted to this issue because it is felt that its difficulty usually highlights two of the crucial requirements for measuring advertising effects. One cannot measure the effects of corporate image advertising campaigns unless one:

a) defines the *objectives* of the campaign very precisely and in terms of things that advertising can be expected to achieve and

b) understands the process of corporate image formation and needs within the various target audiences.

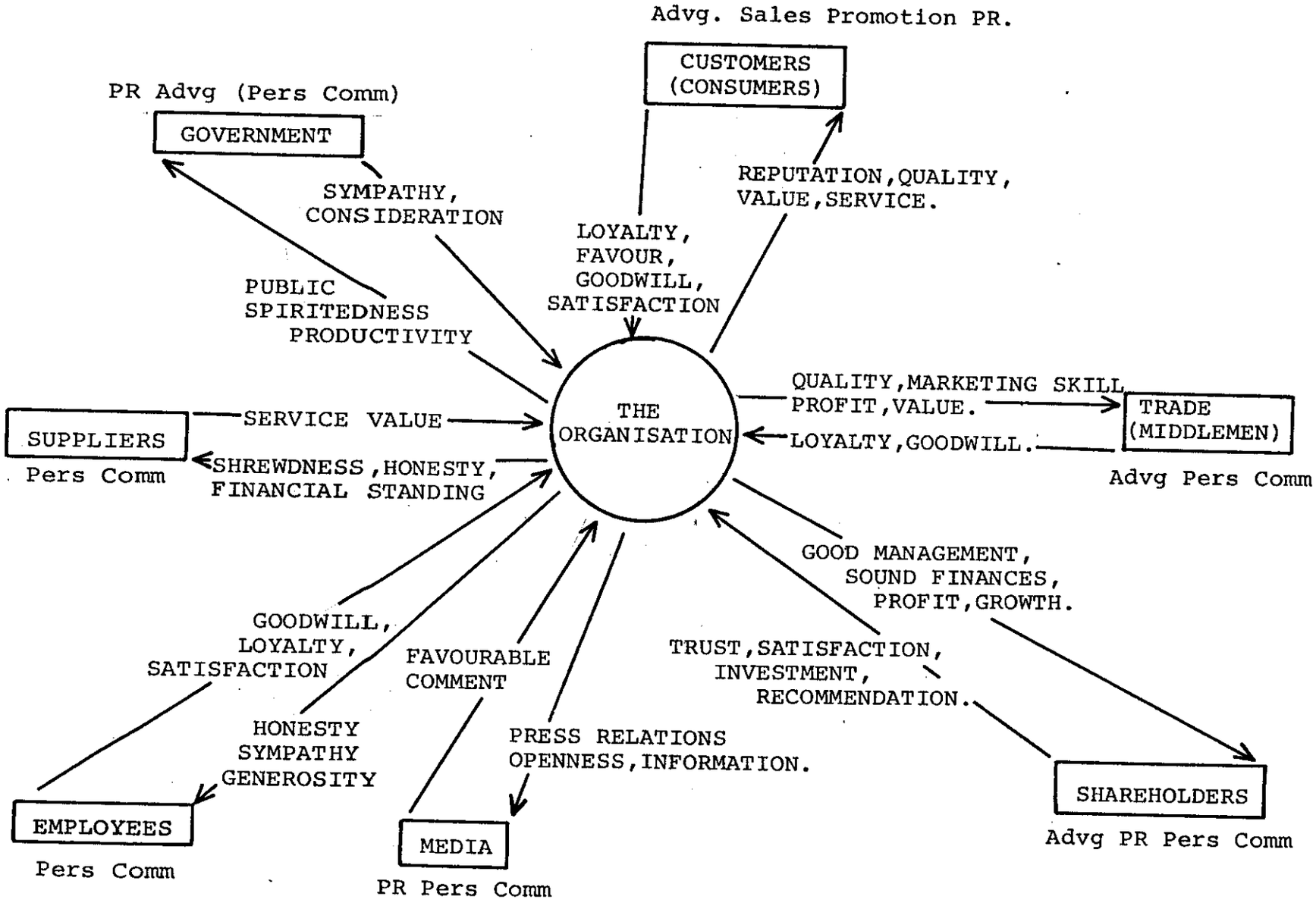
Corporate advertising campaigns often have very woolly and imprecise purposes. Phrases like 'a caring company', 'a responsible company' are often used in defining the objectives. This is not precise enough to monitor the response: we need to specify more particularly what we mean by 'caring' and 'responsible', for example.

Different audiences usually require a different message about the corporation. Sometimes the same corporate message may evoke a different response from various audiences. This latter possibility is not always allowed for in surveys connected with corporate campaign evaluation - the same questions are asked of all segments.

Diagram 6.1 illustrates the many needs and responses from and to a typical large company.

COMMUNICATIONAL RELATIONSHIPS IN ORGANISATION

DIAGRAM 6.1



7. THE VALUE OF INFORMATION

In the first two sections of this report it was stressed that before contemplating any measurement activity, or accepting the results of any measurement, one must ask:

What do I want this information for?
How accurate does it need to be?

Any information we collect must be relevant to our needs and usually the more accurate it is the more it will cost us. If the question is simply 'Do more than 50% of the population spontaneously recall our advertising?', then knowing the precise percentage who do recall, say to the nearest two percentage points, is a waste of money. In order to double the accuracy of measurements by survey, one usually has to quadruple the sample size, with attendant increases in costs.

The question that must always be asked of any market research, be it on advertising or whatever, is "How much is this information going to be worth?" Usually we are unable to specify the answer. We make the judgement that we need the information to help us make a decision : if much depends on the wisdom of our decision then we deem it is sensible to collect the information. There comes a point in the cost of collecting information beyond which it is felt not to worth it. Where is this point? How is it arrived at?

Calculating the Cost-Benefit of Information

One way of approaching this difficult topic, which will give quantified answers is to view the *purpose* of information as being to turn 'uncertainty' into quantifiable 'Risk' The notion is that it is managerially undesirable to make decisions the outcome of which you have to admit you are uncertain i.e., anything could happen. However, it is acceptable to make decisions which have risks attached to them as long as the risks are judged surmountable should they actually occur. The key to the method of calculating the worth of information lies in the notion of 'risk' and the ability to assess it via simple probability theory.

The basic principle is best illustrated by a simple example. Suppose you believed that a totally ineffective advertising campaign would lose you 10% market share in a year and that this loss of share was worth £10,000 : this amount of money is then at risk. If, however, it was going to cost £15,000 to undertake advertising research early in the campaign to establish whether it was going to be ineffective, it would not be worth spending the £15,000! You would save nothing even if it did give you the right information. In this simplified example you would lose money even if you were able

to correct the advertising and not lose any market share!

So one should calculate what is at risk and weigh up the costs of gathering information to avert the risk.

How do we do the calculation?

Again the simplified example will be used.

Let us say we wish to calculate how much we might sensibly spend on advertising research.

Firstly, we may feel fairly confident that our campaign is going to be effective but there is a chance it is not. We need to set out our degrees of confidence in its effectiveness:

Effectiveness of our Advertising Campaign	Our Estimate of the chance that the level of effect occurs
Fully	70% (0.7)
Half	20% (0.2)
Zero	10% (0.1)

Table 1

We must then estimate what would be the conequences of these various levels of advertising effectiveness, for example:

Effectivess of Advertising	Loss in Market Share	Loss in Profit (£'000)
Fully	0	0
Half	2%	4,000
Zero	10%	10,000

Table 2

With the information in tables 1 and 2 one can calculate what is at risk and what it would be worth paying in information which would help avoid the risk.

For example:

Loss in share	Profit Loss (£'000)	Chance	Loss Expectation (£'000)
0	0	0.7	0 (0.7 x0)
2	4	0.2	0.8 (0.2 x 4)
10	10	0.1	1.0 (0.1 x 10)
			1.8

The values expressed in the 'expectation' column are the sums of money that might be expected to be lost for the three possible market share results, in the long run. In other words, over a series of years you would only expect a 10% share loss rarely and so its consequences would average out at £1000.

Consequently the risk that is run overall is a loss of £1800. Therefore it is not worth spending more than £1800 on gathering information on the advertising campaign to be able to correct it if necessary and avoid some loss.

This analysis can be extended to allow for greater detail in grades of confidence ranges of market share and the fact that information is not perfectly accurate anyway.

(This type of analysis is described in 'Marketing Research' by Christopher and Elliot, published by Holt, Rinehart and Winston).

The analysis presented has examined how to calculate levels of research expenditure on advertising so as not to make an overall loss on marketing operations. The example assumed possible loss in market, share if advertising were ineffective. One could take a positive view and ask the question: how much should we spend on advertising research so as to improve market share? The same method of analysis could be used but this time one would have to place probabilities on gaining various levels of market share.

8. CONCLUSION

Different things can be measured as responses to advertising. One must therefore carefully decide what one wants to know about advertising before choosing to select a particular measure.

In order to correctly detect a *change* brought about by a change in some aspect of advertising, one must fulfill some strict requirements (set out in 'Essentials for Measurement').

The cost of measuring should always be related to the needs of the decision maker and the nature of his decision. As one goes from measurements of media exposure to sales effects, the costs, difficulties and time involved usually increase substantially.

Appendix

Some further technical issues related to detecting statistical relationships between Advertising and Sales.

Accummulated or long term effects

Statistical, or econometric models which aim to show the effects on sales usually have the general form, simplified below as:

$$S_t = K + a.A_t + b.P_t + c.C_t \pm e$$

where S_t = sales at time t

A_t = some representation of advertising inputs at time t

P_t = some representation of price factors at t

C_t = other factors, such as distribution, other promotional activity etc. at t

a, b, c = coefficients, the value of which are calculated by the analysis technique

K = constant - also calculated in the analysis

e = the error term ie., the accuracy with which the equation will predict sales for any set of A,P and C, and calculated in the analysis.

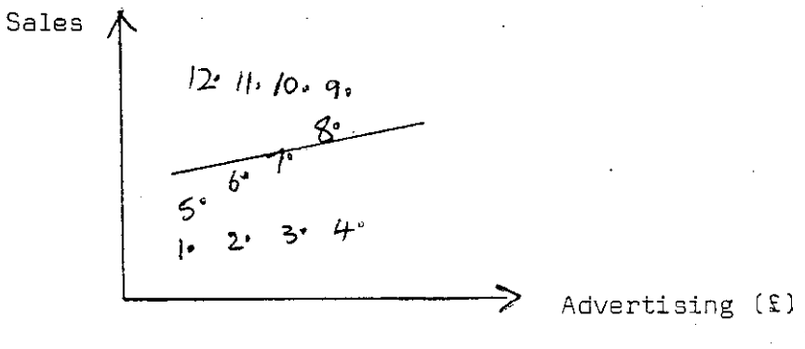
Now the constant, K represents all the accummulated effects of the previous marketing efforts- including previous advertising ie., previous to the period of analysis.

The techhique of analysis attempts to explain variations from the general level of sales, shown by the value K.

However, the technique can not predict the effect of change in advertising inputs on the value of the constant. If one changes the overall levels of the variables (advertising, price etc.) as one usually does in practice the real consequence may be that the average level of sales changes ie. the value of K changes, but one does not assess how advertising influences this

Effects of time and aggregate measures

If one plots, over time, a series of advertising inputs amd the related sales outputs on a graph one often obtains a picture like:



The analysis technique would show that there was a relationship between advertising and sales - as shown by the line. However, as can readily be appreciated, this overall relationship hides a series of very different relationships. Similarly, aggregate measures of sales can 'blur' more precise relationships that may exisin differenб segments.