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THE MAGAZINE METER – 1995: A REPORT OF THE WATCH METER SYSTEM

THE MAGAZINE METER – 1995

The problem with which this paper hopes to deal is how to measure all media, or as many as possible, with the same person over time without having to rely on a respondent to report to an interviewer. This paper will review the history of magazine metering, single source media measurement over time, and report on the status of the watch meter. It also describes why metering may become economically viable.

The premises of this paper are:

- magazines will continue to lose share of total dollars unless they can begin to compete with television on a common method;
- magazine metering may not be economically feasible unless it is part of a single source system that measures television, newspaper, radio, magazines, exposure and product movement;
- advertisers want single source measurement which is defined as measuring *multiple marketing variables over time* with the *same* person, not just the variables that are currently measured;
- the advertisers want single source measurement of media to move from the survey's dependence on human memory to measurement of actual behaviour, because it is fundamental to understand how some people interact with all media over time before purchasing products;
- single source measurement as practised by BehaviorScan is an incomplete system and produces unexplainable data because it does not

completely monitor the media and marketing variables that can impact over time.

Metering magazines was first mentioned in Montreal in 1983. The metering concept was presented in the context of a proposal to develop a method for validating Recent Reading and Through-the-Book by Clark Schiller and Robert Schreiber of Time Inc.

Proposals for a validation process followed the 1981 readership symposium which highlighted the fragile nature of magazine audience research procedures. 'Fragile', of course, because the procedure requires human respondents to recall, to a human interviewer, reading that could have occurred up to ten weeks prior to the interview.

There were two 'new methods' proposed as possible validation methodologies. The first one proposed was a 'yesterday reading procedure' using the telephone. It was proposed by Dick Lysaker of Audits & Surveys, Steve Douglas, and Wayne Eadie. The advantages of this technique was that it reduced the time between reading and the interview to twenty-four hours, but the method produced very high and different numbers validating neither of the current methodologies.

The second major validation proposal called for the use of metering magazines. This was proposed by Clark Schiller and Bob Schreiber of Time, Inc. They commissioned Stanford Research Institute to develop two methods, a radio frequency method, and an ultrasonic method. For a complete discussion, we direct you to the proceedings of the Montreal Symposium of 1983.

Metering magazines is still only a concept; however, there are three reasons to consider metering magazines in the 1990s:

– to develop a validation technique to help reconcile the differences between MRI (Recent Reading) and SMRB (Through-the-Book).

– to develop a multi-media, multi-exposure measurement system to obtain, from the same respondent his/her actual exposure to several media *over time*. This system would give a better estimate of intermedia reach and frequency and would probably alter the way media are bought. We hypothesise that such a system would demonstrate once and for all that an intermedia rather than a primary medium schedule is more efficient and effective.

– to develop a true single source measurement system defined as measuring *multiple marketing variables* over time with the same person, not just the variables that can be measured.

Let us return to these issues individually.

Validation of TTB (Through-the-Book) or RR (Recent Reading)

Is validation necessary? Yes! We need a 'gold standard' now and we will need it when we move to the electronic measurement of magazines or any other different method. You cannot address the issue of metering magazines without addressing validation of SMRB's 'Through-the-Book' and MRI's 'Recent Reading' methods; because that is why metering was originally proposed by Schiller and Schrieber.

We all know that Simmons and Mediamark Research produce surveys with different audience levels and different *reach and frequency patterns* because of different duplication.

The United States is the *only* country which uses both 'Through-the-Book' (SMRB) and 'Recent Reading' (MRI's procedure). Because these differences exist, it would seem that validation would be a necessary course for advertisers, agencies and magazines to follow. The US industry did exactly that, and that programme was covered in other papers presented at the 1985 symposium and here by Richard Lysaker.

The proposal to meter magazines was extremely interesting, but the next stage of development would cost \$300,000. That was only the ante for the hardware development phase. Time Inc did not get enough support from the other US or international publishers. Most publishers felt it was too speculative and too expensive in 1983. Also no investor thought revenue could be produced to make the project profitable.

The 1985 Symposium showed that there was no progress on metering magazines for validation, or any other purpose. However, the television peplemeter was making history on both sides of the pond and BehaviorScan held out the potential of single source (though they still only measured TV, sales movement, prices and some promotional activities).

During the period of 1984-86, the ARF Magazine Gold Standard Committee reached a conclusion that metering as a gold standard would never work, since it had different problems than Recent Reading and Through-the-Book. Further, it was far too expensive an investment for the magazine industry alone. The conclusion on cost was true then, but it will not be true in the 1990s. Already in 1988, the cost of the magazine transmitter battery is pennies, and of the watch less than \$200. By the 1990s the cost should be dramatically lower.

The ARF Magazine Validation sub-Committee is attempting to develop a 'gold standard'

methodology that illuminates as many research issues as possible. Then other methods, like TTB and RR now and magazine metering (as part of single source systems) in the future, can be compared with the 'best or truest' level of readership – a 'gold standard'.

The experience of peoplemetering in the US suggests, that when and if we change to a magazine metering system of any kind, it will be necessary to have 'gold standard' method in place. Without a 'gold standard', the evolution of readership methodologies will be more difficult and confusing.

True intermedia reach and frequency in print

The second reason for metering magazines is it measures exposures of one person over time to two or more media, with common methodology meters. In this case, of course, it would be television, radio, magazines and newspapers. The meter would provide 'true' intermedia OTS (Opportunity-to-See) for the first time – a breathtaking proposition.

The watch/TV 'Set-in-use' meter system would eliminate the need for push button peoplemeters, now in use in Germany, the United Kingdom, the United States, and other places around the world. The watch/set-in-use meter system would even eliminate the passive meter. The first generation passive meter senses when someone is in the room and reminds the viewer with a cue on the TV screen to push the button. The quest for the truly passive meter (one that requires no effort by the respondent) is still in the developmental stages at the Nielsen Company.

The true value of the intermedia system is that the media planner would be able to determine the 'true' reach and frequency for various target groups, by key demographics. If we had

this exposure data, we could begin to understand and develop norms to determine how much and which combination of print, radio, and TV would be best to maximise our exposure on an intermedia basis.

REAL SINGLE SOURCE – THE ULTIMATE DATA BASE OF THE 1990s

Listening to others describe single source makes me feel like one of the characters in *Rashoman*, the famous Japanese play where six or seven people describe the same thing differently, and from their own point of view and bias. Here are mine:

In 1979, in the US, Don McGlathery, Timothy Joyce, Colin McDonald and myself proposed a 'paper and pencil diary' to study products purchased and media exposure across four media over time with the same respondents. This diary was an extension of Joyce and MacDonald's work in the UK in the 1960s. The industry wanted the data, but they later felt the method demanded too much from the respondents. Based upon later diary experiences, that judgment was probably correct.

Bill McKenna has reported on an electronic diary at this symposium. The electronic diary accomplishes many of the goals of the pencil and paper diary proposed in 1979. But, the electronic diary requires a lot of human interaction and is a 'recall' technique. The respondent has to respond from the television set. Then using a hand held device, he/she participates in a series of surveys conducted through the television set about viewing, listening, purchasing, reading, etc. The most problematic part of this electronic diary is that it requires the respondent's time. In the United States, the time of the upper income individual, especially the working men and women, is their most precious commodity.

Over the last few years we have stated that the industry has become intrigued with 'technologies in search of problems.' The technologies we are referring to are typified by BehaviorScan which was the first to measure over time an individual's product behaviour or transactions, the prices they paid and the prices that were available for alternatives, and the respondent's household television tuning between purchase events.

The contributions of BehaviorScan, ERIM, and ScanAmerica were a tremendous and complex first step in the pursuit of true single source measurement. In the last few years industry have been spending more time *on defining the problem*. Models should be tested, technologies should be modified or, heaven forbid, designed to answer the problem(s). The ARF Workshop on July 14, 1988 was scary because major United States advertisers have very large numbers of people and computers gearing up to analyse the mountains of data produced by the current electronic systems. These systems are here to stay. We felt that the magazine industry must, based on that workshop, deal with the issue of moving to a new press negotiation index – the single source meter system.

That ARF workshop confirmed that the definition of single source, even from an advertiser market driven perspective, has become increasingly difficult and *confused*. Dr J Walker Smith of Dow Consumer Product, Inc and Martin Belinson of Bristol Myers did a terrific job of clarifying the advertiser's viewpoint at that workshop. Their papers are worth reading.

Further adding to the confusion are the purveyors of data who create an integrated data base on one medium, market or industry and call it 'single source'.

Most of you will agree that *problem definition* is the most important part of research design and

must be done first. The single source measurement goal and problem is to measure *multiple marketing variables* over time with the same person, not just the variables that can be measured.

Many of you will remember the four 'p's' from Mr McCarthy's textbook, *Basic Marketing*.

The *place* variable covers all aspects of distribution. Examples are: the number of cities and regions, the number of stores, number of facings, number of end of aisle displays, out of stock, etc.

The second variable is *price*. Collecting pricing data also involves not only prices for each product, but coupons used, etc. The importance of having these data has been documented many times in papers describing the effects of price changes and price-off promotions on the products monitored by in store scanners.

Promotion involves measuring the dollars invested (directly or cooperatively), the amount of coverage and frequency of exposures achieved by the major media: TV, magazines, newspapers, radio, outdoor, direct mail, free standing inserts, sales force size and incentive, trade promotions, and a myriad of other promotion alternatives should be tracked if true actionable single source data are going to evolve.

Finally the *product* purchase, repurchase and switching patterns must be captured over time from the same individual with different variables in flux to determine the real impact of the various elements of the marketing mix on that individual's behaviour.

Single source as we know it today (the BehaviorScan, ScanAmerica, and ERIM type) should really be called TAPS – television household exposure and products purchased at specific prices by the same person over time.

They are not single source data systems, since they do not cover all the variables. *In reality* using these data might be TAPS, for the inexperienced marketing professional's brand or career. Further, these systems are having difficulty meeting the test of predictive validity. Why do these systems seem to lack predictive validity? We have mentioned the variables that are not studied as one problem. There are other potential reasons why the system will not actually predict the outcome. For example, the differences reported by the single source systems that purport to show the effect of differing marketing or media strategies could be a function of sampling error or non response bias. In other words, we are not sure what the data are showing. In spite of these issues US corporations continue to gear up to analyse new numbers.

As an aside, the problems of sampling and non response seem to be major obstacles for systems based on fusion techniques, which are being prepared and positioned as another 'single source' data base. My definition of fusion is take any data base available, mix it with any other data base that you think gives it the *perception* of having value, apply the data to your brand, and you will have 'brand fission'.

It is easy to stand up here and point out flaws. Now to the alternative system. The watch meter system is in the design phase, but technologically feasible. The system is designed to address the whole 'single source problem' defined by product, place, price and promotion variables.

In 1985, Lee Weinblatt came to the attention of Marion Confer who was at *Family Circle* at the time. He had a watch meter. It was a wristwatch that measured magazine and television audiences with the same respondent over time. Marion introduced the authors and they have been working on and off on the meter ever since. With the demise of the Percy organisation, we have been joined by Avery Gibson who

is lending her considerable broadcast metering knowledge to this project.

The watch measures readership by recording transmissions from microchips placed in the magazines. The watch looks like an ordinary timepiece, but it is equipped with a recorder and receives the signals from a transmitter embedded in magazines. When the watch comes within seven inches of an opened magazine, it starts recording. It stops when the reader puts the magazine a distance further than seven inches away or when the magazine is closed.

A transmitter unit which includes a power source and antenna is attached in the spine or on one of the pages. The receiver, in this case a watch, detects the UPC-like code that is transmitted when the magazine is opened. The receiver unit includes circuitry responsive only to the particular signal emitted by the transmitter in the magazine. When that signal is received, the information is stored in memory regarding the occurrence of exposure of the magazine to the individual and/or the time period of exposure for analysis. The information is later retrieved.

For television, the watch solves the problem of imprecise button pushing that plagues us today. The watch system would transmit a respondent identification number to a 'set-in-use television meter' telling that meter the respondent is in the room. We would not need the interim television meter systems, such as the best sensing peplemeter or the current personal meter used by Nielsen, which require a lot of human interaction. These systems require people to push buttons whenever they enter or leave the room, as opposed to simply wearing the watch. Given a choice, one would think that getting cooperation to wear a nice looking watch would be easier than obtaining cooperation to participate as daily button pushers; especially among the active, high income individuals, teenagers and children. The watch meter system is, in

short, a more passive system than anything currently available.

The watch could also transmit a respondent number to a 'set-in-use' meter, which requires no push button or human interaction, except wearing the watch to obtain television viewing. That meter would record the number of people in the room. The same transmitter in the watch would send a signal to cash registers identifying the respondent. The cash register, as it does now, would store all of the transactions for later downloading after recording the information on products purchased on that visit using its scanner. The advantage is the respondent would not have to remember to give a plastic ID card to the cashier or to wand the products when the busy working parents get home.

This watch meter system was originally designed to transmit the respondent ID number to a radio 'set meter'. Lee has since improved upon that concept by developing and modifying the watch to receive a specially coded signal transmitted by radio stations that identify the station. This system is a simpler, less expensive and more accurate way picking up our of home radio listening. The receiver in the watch stores the information for later retrieval. It is, in principle, the same procedure as the magazines/newspaper metering system.

Further, you would have to meld into the system product availability data from the store computer records (pricing, out of stock, number of facings) and competitive spending data from Bar, Monitor Plus and LNA/Media records so that share of voice/media weight can be evaluated as a variable.

The parts of the system currently available are the set-in-use television meter, the store checking and competitive spending data, but not in exactly the correct forms. Also available is the watch – a Seiko, which already records when it is off or on your wrist, can be modified to

record the day and time and the length of time that the watch receives the UPC code which includes the name of the magazine and the issue data transmitted from a flat switch powered by a small battery inside magazines or newspapers.

In the next three to five years:

- the watch will be modified to send a signal to the set meter when the person entered or left the room (through an activator in the door jam, and/or the transmitter technology that will identify the respondent to the 'set-in-use meter').

- the cash registers will be modified to pick up the respondent number transmitted by the watch as the respondent comes within the prescribed distance of the check out counter;

- the contact or flat switch, to trigger the signal when the magazine or newspaper is opened, will have to be developed and miniaturised.

- the receiver in the watch of the special coded ultra high frequency transmissions that identify the radio stations, will have to be modified and adapted for use in the watch system.

But this is 1988, and the paper is forecasting 1998 when single source data will be used for media decisions. They will include information on all media beyond the tiring fragmenting giant – television. This system will measure behaviour, or actual exposures, of one person over time to four media with a common methodology, products purchased, while monitoring most of the known important marketing variables.

This system has potential flaws. These three have to be addressed systematically for the watch meter system to be proven viable:

- will people wear the watch?

– will magazines, newspapers and radio stations cooperate by including the chips and/or transmitting the signals?

– will the single source meter produce total audience numbers that are so far away from a magazines 'gold standard' method that they are useless or dangerous? You can bet that if a new watch/meter television system were introduced, the television numbers will have to meet the test of telephone coincidental, the 'gold standard' for television.

In short, the watch is a more passive system. You would eliminate many human problems. Even forgetting to put on the watch could be dealt with. However, no system will ever be truly passive, since we must always recruit people to participate and wear the watch.

Will it go forward? We believe so. The magazine/newspaper meter could return newspaper and magazines to the 'First World' of revenue. (The 'First World' is television, coupons/free standing inserts, in the United States.) The single source meter will make a research company that develops it a lot of money. Add these dynamics to BehaviorScan or ERIM information and the unexplained may be explained. This type of data, which is used so extensively by US advertisers, has only household television viewing data, household purchase information, and some pricing information.

The need now is for money to develop this system. Well, you might ask, why would anyone consider entering this market when recent history has shown that even the measurement of television is not for the faint of heart or shallow of pockets? AGB and Percy are out of the measurement business in the US. AC Nielsen Company had their cage rattled; but the solid citizens of Northbrook Ill responded and the industry got peplemeters earlier than AC Nielsen had planned. They will probably develop many of the devices you see today. But in

the absence of a competitive environment, the development will occur at Nielsen's own pace and at maximum profitability. We would do exactly the same if we were they.

We see an opportunity for those who like excitement. The revenue potential for the ultimate single source meter is, in my estimation, 65 to 80% of the current revenue of Nielsen television index, Nielsen food and drug index, SMRB and MRI and, Radar, and since the ultimate single source system would have a large sample, 30,000 to 50,000, it would be capable of measuring the single source activity in at least the top ten to fifteen local markets. Thus, the revenue produce from those markets by Nielsen, Birch/Scarborough, SMRB newspaper service, and Arbitron local market revenue from television, radio, and newspapers measurement would have to be included.

That is worth hundreds of millions of dollars a year. Those dollars are available to those who wish to measure how much coverage at what frequency is *enough*. Needless to say if you get the ultimate single source system operational, you could export it to many foreign countries.

That strategy is very simply to keep AC Nielsen frozen by developing a method that is too complicated for them to easily mimic while they help Dun & Bradstreet maintain a 15% net profit margin. That is the key. Nielsen will be reluctant to chase a risk taker since they have to maintain 15% margin for D & B.

Editor's Note

The copies of this paper distributed at Barcelona were supplemented by 20 closely-typed pages of patent specifications. Since, however interesting these would be to electronic engineers, they would add little to the media researcher's understanding of the concept, it has not been thought necessary to include them here.